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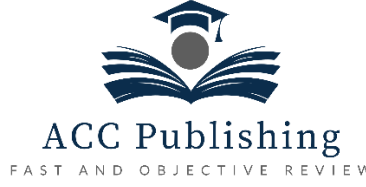
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PKP|INDEX



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## Research Articles / Araştırma Makaleleri

Kuzey Kıbrıs'ta hayat dışı sigorta şirketlerinin etkinliğinin veri zarflama analizi ile ölçülmesi Measuring the efficiency of non-life insurance companies in Northern Cyprus with data envelopment analysis Bekir Sonbaş, Bekir Kaya, Emine Öner Kaya .....	1200-1217
Cost-benefit analysis of ergonomics-sustainability projects with analytic hierarchy process Analitik hiyerarşi süreci ile ergonomi-sürdürülebilirlik projelerinin maliyet-fayda analizi Hüseyin Öner .....	1218-1227
Impact of corporate social responsibility performed by Turkish banks related to COVID-19 on customer satisfaction and loyalty Türk bankalarının COVID-19 ile ilgili yaptıkları kurumsal sosyal sorumluluk uygulamalarının müşteri tatmini ve sadakatine etkisi Sefa Emre Yılmazel, Aslı Çillioğlu Karademir .....	1228-1240
A study of factors influencing consumers' willingness to purchase functional foods (protein enriched milk): The moderating effect of consumer innovativeness Tüketicilerin fonksiyonel gıda (proteinli sütler) satın alma istekliliğini etkileyen faktörlerin incelenmesi: Tüketici yenilikçiliğinin düzenleyici etkisi Mert İnal, Burçak Başak Yiğit, Semih Okutan .....	1241-1255
İşletmelerde çatışma yönetimi: Çıkar çatışması "nitel bir araştırma" Conflict management in companies: Conflict of interest "a qualitative research" Abidin Ozan Onağ, Sibel Ünsal .....	1256-1272
Muhasebe denetiminde büyük veri analizi kullanımına yönelik güven tutumunun incelenmesi: Nitel bir araştırma Examining the attitude of trust towards the use of big data analysis in auditing: A qualitative study Merve Aygün, Nilgün Kutay .....	1273-1292
Evaluation of competition strategies applied in logistics management during the pandemic process: A research on logistics companies in Istanbul Pandemi sürecinde lojistik yönetimde uygulanan rekabet stratejilerinin değerlendirilmesi: İstanbul'daki lojistik firmaları üzerine bir araştırma Gonca Reyhan Akkartal, Candide Çulhaoğlu Uludağ.....	1293-1304

## A systematic review of e-commerce websites literature in 2010-2020 period

2010-2020 dönemi e-ticaret web siteleri literatürüne sistematik bir bakış

Kadir Özdemir, Ramazan Nacar ..... 1305-1323

## Flow experience of consumers in global coffee shops: Evidence from an emerging market

Küresel kahve dükkanlarında tüketicilerin akış deneyimi: Gelişmekte olan bir pazardan bir kanıt

Ceyda Tanrıku..... 1324-1334

## How does the construal level affect consumers' intention to adopt product ratings and individual reviews?

Zihinsel yorumlama düzeyi tüketicilerin ürün puanı ve bireysel yorumları benimseme niyetini nasıl etkiler?

Caner Çeşmeci, Şebnem Burnaz..... 1335-1353

## The mediating role of the organizational justice in the effect of the styles of manager on team performance: A research on cabin crews in the aviation sector

Yönetici tarzlarının ekip performansı üzerindeki etkisinde örgütsel adaletin aracı rolü: Havacılık sektöründe kabin ekipleri üzerinde bir araştırma

Yaprak Eroğlu, Salih Güney..... 1354-1379

## A netnography study examined consumer perception towards cryptocurrency investment during the COVID-19 pandemic

COVID-19 döneminde kripto para yatırımına karşı tüketici algısını inceleyen bir netnografi çalışması

Behiç Alp Aytekin, Taylan Ata Ulusoy ..... 1380-1396

## Yenilenebilir enerji yatırımlarının finansal belirleyicileri üzerine karşılaştırmalı bir analiz: Asya-Pasifik ve Latin Amerika ülkeleri

A comparative analysis of the financial determinants of renewable energy investments: Asia-Pacific and Latin American countries

Kenan İlarıslan, Münevvere Yıldız..... 1397-1415

## Causality test among foreign direct investment, trade openness and economic growth: recent evidence from BRICS and MINT countries

Doğrudan yabancı yatırım, ticari açıklık ve ekonomik büyüme arasında nedensellik testi: BRICS ve MINT ülkeleri

Sevilay Küçüksakarya..... 1416-1424

---

Proaktif kişilik ile örgütsel vatandaşlık davranışı arasındaki ilişkinin incelenmesi: Banka çalışanları üzerine bir araştırma Examining the relationship between proactive personality and organizational citizenship behaviour: A research on bank employees Sena Çebi, İlknur Uncuoğlu Yolcu.....	1425-1440
The relationship between external debt and growth under the structural breaks in Turkey Türkiye'nin dış borç ile büyüme arasındaki ilişkisinin yapısal kırılmalar altında incelenmesi Taner Taş, Çetin Can Ekmekçiler.....	1441-1453
Bilinçli farkındalık ve iş performansı arasındaki ilişkide öz-düzenlemenin aracı rolü The mediating role of self-regulation on the relationship between mindfulness and job performance Hülya Akdeniz Balyemezler, Mehlika Saraç.....	1454-1473
Z kuşağının sürdürülebilir tüketim davranışını etkileyen faktörlere yönelik keşifsel bir araştırma Exploratory research on the factors affecting the sustainable consumption behaviour of gen Z Oğuz Yıldız, Alpaslan Kelleci.....	1474-1491
İş yaşam kalitesi ve kurumsal sosyal sorumluluk algısının işe adanmışlık üzerindeki etkisinin incelenmesi: Zincir otel işletmeleri üzerine bir araştırma The effect of quality work life and corporate social responsibility on work engagement examination: A research on chain hotel businesses Sefa Öksüz, Eren Erkalıç.....	1492-1511
Main determinants of house prices: Effects of construction cost and house sales to foreigners Konut fiyatlarının temel belirleyicileri: İnşaat maliyeti ve yabancıya konut satışının etkileri Ufuk Alkan.....	1512-1528
İş stresinin sosyal sanal kaytarma üzerindeki etkisinde bilinçli farkındalığın moderatör rolü The moderating role of mindfulness on the effect of work stress on social cyberloafing Ezgi Fatma Erbaş Kelebek.....	1529-1544
Data mining application with machine learning algorithms to manage interest rate risk Faiz oranı riskini yönetmek için makine öğrenimi algoritmaları ile veri madenciliği uygulaması Enes Koçoğlu, Filiz Ersöz.....	1545-1564

## Review Articles / Derleme Makaleleri

Perakendecilikte akıllı uygulamalar: Sistematik literatür taraması

Smart practices in retail: A systematic literature review

Zahide Kübra Koak, Kumru Uyar ..... 1565-1582

## Kuzey Kıbrıs'ta hayat dışı sigorta şirketlerinin etkinliğinin veri zarflama analizi ile ölçülmesi<sup>1</sup>

### Measuring the efficiency of non-life insurance companies in Northern Cyprus with data envelopment analysis

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#### **Öz**

Sigorta şirketlerinin göreceli etkinliğini ölçmek amacıyla yaygın olarak kullanılan yöntemlerden biri Veri Zarflama Analizi (VZA)'dir. VZA sonuçları, analiz kapsamında yer alan her bir sigorta şirketinin girdileri çıktılara dönüştürmede analize dahil edilen diğer sigorta şirketlerine kıyasla ne kadar etkin faaliyet gösterdiğini ortaya koymaktadır. Bu çalışmanın amacı, 2019-2020 döneminde KKTC'de faaliyet gösteren hayat dışı sigorta şirketlerinin etkinliğinin veri zarflama analizi kullanılarak ölçülmesidir. Analiz girdileri hayat dışı sigorta şirketlerinin aktif büyüklüğü, ödenmiş sermayesi ve genel giderleri olarak belirlenmiştir. Çıktılar ise prim üretimi ve vergi öncesi kârdır. Analizde kullanılan değişkenlerin belirlenmesi sürecinde ilgili literatür ve veri mevcudiyeti göz önünde bulundurulmuştur. KKTC'de faaliyet gösteren 25 hayat dışı sigorta şirketinin etkinliği, ölçeğe göre sabit getiri (CRS) varsayımı altında hesaplanan CCR modeli kullanılarak ölçülmüştür. Analiz sonuçlarına göre, her iki yılda da etkin performans gösteren altı hayat dışı sigorta şirketi bulunmaktadır. Ayrıca, analiz kapsamına alınan şirketlerin 2019 ve 2020 yıllarındaki etkinlik değerlerinin ortalaması sırasıyla 0,720 ve 0,635 olarak hesaplanmıştır.

**Anahtar Kelimeler:** Hayat Dışı Sigorta Şirketleri, Etkinlik, Veri Zarflama Analizi, Kuzey Kıbrıs

**Jel Kodları:** G22, L25

#### **Abstract**

Data Envelopment Analysis (DEA) is one of the widely used methods to measure the relative efficiency of insurance companies. The findings of DEA reveal how efficiently each insurance company has operated compared to other insurance companies included in the analysis in transforming inputs to outputs. This study uses data envelopment analysis to measure the efficiency of non-life insurance companies operating in the TRNC for the 2019-2020 period. The inputs of the analysis were determined as the assets, paid-in capital and general expenses of non-life insurance companies. The outputs of the analysis are insurance premiums and profit before tax. The relevant literature and data availability were considered in determining the variables used in the analysis. The efficiency of 25 non-life insurance companies operating in the TRNC was measured using the CCR model calculated under the constant return to scale (CRS) assumption. According to the results of the analysis, there are six companies that perform efficiently in both years. In addition, the mean efficiency scores for the companies included in the analysis in 2019 and 2020 were obtained as 0.720 and 0.635, respectively.

**Keywords:** Non-Life Insurance Companies, Efficiency, Data Envelopment Analysis, Northern Cyprus

**Jel Codes:** G22, L25



## Extended Abstract

### Measuring the efficiency of non-life insurance companies in Northern Cyprus with data envelopment analysis

#### Literature

Numerous studies have been conducted to measure the efficiency of insurance companies. Because the efficiency of insurance companies affects shareholders, company management, potential investors, employees, policyholders, insurance regulators and all other interested parties. Another reason why the efficiency of insurance companies attracts the attention of many researchers is the insurance sector's contribution to the development process of countries. Among the various approaches to measuring efficiency, Data Envelopment Analysis (DEA) is one of the most commonly used methods to evaluate the efficiency of insurance companies. However, examining the literature, it has been determined that studies on the insurance sector in Northern Cyprus are limited. To the authors' best knowledge, no study has yet been found which measures the efficiency of non-life insurance companies in the Turkish Republic of Northern Cyprus (TRNC) using DEA, and it is expected that this study will contribute to the relevant literature. Therefore, this study uses data envelopment analysis to measure the efficiency of non-life insurance companies operating in the TRNC for the 2019-2020 period.

#### Design and method

One of the most important stages in implementing DEA to measure efficiency is the selection of inputs and outputs. In this study, the value-added approach was used to determine the outputs. Accordingly, insurance premiums and profit before tax were used as the data envelopment analysis outputs. The inputs of the analysis were determined as the assets, paid-in capital and general expenses of non-life insurance companies. The relevant literature and data availability were considered in determining the variables used in the analysis.

According to TRNC Ministry of Finance - Department of Exchange and Growth Fund data, 33 insurance companies operate in the TRNC insurance sector. Thirty of these companies are non-life insurance companies. The other 3 are life insurance companies. Among the non-life insurance companies operating in 2019 and 2020, 25 non-life insurance companies (decision-making units - DMUs) that did not have missing data and did not contain negative values for inputs and outputs were included in the scope of the analysis. As of 2020, the premium product of the insurance companies included in the analysis constitutes approximately 94% of the total premium production of the TRNC non-life insurance sector.

In this study, the CCR model, one of the most basic DEA models initially proposed by Charnes, Cooper and Rhodes in 1978, was employed. There are two choices of orientation in DEA modelling: input orientation and output orientation. The efficiency of 25 non-life insurance companies operating in the TRNC was measured using the CCR model calculated under the assumption of constant return to scale (CRS) with output orientation. The data for 2019 and 2020 used in the study were analysed through the Deap 2.1 software.

#### Findings and discussion

According to the analysis results, the mean efficiency scores for the companies included in the analysis in 2019 and 2020 were obtained as 0.720 and 0.635, respectively. According to the efficiency scores measured under the CRS assumption, 44% of non-life insurance companies are below the mean of the efficiency scores both in 2019 and 2020. In addition, five non-life insurance companies (DMU1, DMU3, DMU10, DMU23, and DMU24) performed efficiently in 2019 and 2020. While DMU7 was fully efficient in 2019, a slight decline was observed in its efficiency score in 2020. On the other hand, it has been determined that DMU6, which was not fully efficient in 2019, became fully efficient in 2020. In summary, there are six DMUs, which perform efficiently in both years.

#### Conclusion, recommendations and constraints

Although the insurance sector is small in Northern Cyprus, there are a large number of insurers operating in the non-life insurance sector. This situation can be interpreted as intense competition in the non-life insurance sector. Increasing competitive pressures force non-life insurance companies to reduce inefficiencies to maintain their existence. Accordingly, using data envelopment analysis, this study aimed to measure the relative efficiency in the TRNC non-life insurance sector. The results obtained in this study depend on the period covered and the inputs and outputs selected for analysis. The availability of data on the TRNC insurance sector has been an important determinant in selecting the inputs and outputs used in the analysis. Furthermore, it should be taken into account that the efficiency values of the decision-making units may also change when the analysed period is changed, when the analysis is performed with different inputs and/or outputs, or when the number of inputs and/or outputs is changed.

## **Giriş**

Etkinlik, bir şirketin kaynaklarının doğru kullanımını belirtmek için kullanılan temel bir kavramdır (Zakery ve Afraze, 2015, s. 619). Sigorta şirketlerinin etkinliğini ölçmeye yönelik çok sayıda araştırma yapılmıştır. Bu durumun nedenlerinden biri, sigorta şirketlerinin etkinliğinin pay sahiplerini, şirket yönetimini, potansiyel yatırımcıları, çalışanları, poliçe sahiplerini, sigorta düzenleyicilerini ve diğer ilgili tüm tarafları etkiliyor olmasıdır. Sigorta şirketlerinin etkinliğinin çok sayıda araştırmacının dikkatini çekmesinin bir diğer nedeni ise, sigorta sektörünün ülkelerin kalkınma sürecine verdiği katkıdır.

Etkinliği ölçmeye yönelik çeşitli yaklaşımlar arasında, Veri Zarflama Analizi (VZA), sigorta şirketlerinin etkinliğini değerlendirmek için yaygın olarak kullanılan yöntemlerden biridir (Kaffash, Azizi, Huang ve Zhu, 2020, s. 801). Literatür incelendiğinde, Kuzey Kıbrıs Türk Cumhuriyeti (KKTC) sigorta sektörü ile ilgili çalışmaların sınırlı olduğu tespit edilmiştir. KKTC’de faaliyet gösteren hayat dışı sigorta şirketlerinin etkinliğinin veri zarflama analizi ile ölçüldüğü bir çalışmaya ise, yazarların bilgisi dahilinde henüz rastlanmamıştır. Dolayısıyla çalışmanın konuyla ilgili literatüre katkı sağlaması beklenmektedir.

Bu çalışmada, KKTC’de faaliyet gösteren hayat dışı sigorta şirketlerinin etkinliğinin veri zarflama analizi ile ölçülmesi amaçlanmaktadır. Bu doğrultuda, çalışma, altı kısımdan oluşmaktadır. Giriş bölümünün ardından, KKTC sigorta sektörüne ilişkin temel göstergelere (aktif büyüklüğü, prim üretimi, sigorta yaygınlığı ve sigorta yoğunluğu) yer verilmektedir. Literatür incelemesi kısmında, veri zarflama analizi ile sigorta şirketlerinin etkinliğinin ölçüldüğü önceki çalışmalar incelenmektedir. Veri ve yöntem kısmında, analizde kullanılan veri seti tanıtılmakta ve veri zarflama analizi yönteminin uygulanışı anlatılmaktadır. Bulgular kısmında, analiz sonuçları ele alınmakta ve son kısım ise sonuç ve değerlendirmelere yer verilmektedir.

## **Kuzey Kıbrıs’ta hayat dışı sigorta sektörü**

KKTC’de sigortacılık faaliyetleri, Türkiye Cumhuriyeti’nde faaliyet gösteren sigorta şirketlerinin acenteleri şeklinde 1950’li yıllarda başlamış olup, uzun yıllar bu şekilde devam etmiştir (KKSRSB, 2022). 1993 yılında hazırlanan ve 1996 yılında yürürlüğe giren 39/1993 sayılı Sigorta Hizmetleri (Düzenleme ve Denetim) Yasası, KKTC sigorta sektörü açısından bir dönüm noktası olmuştur. 39/1993 sayılı yasa ile birlikte KKTC’de yerli sigorta şirketleri kurulmaya ve bu şirketler kendi acente ağlarını oluşturarak faaliyet göstermeye başlamıştır (KKSRSB, 2022). Küresel sigorta sektöründe yaşanan gelişmelere bağlı olarak 39/1993 sayılı yasanın zaman içinde yetersiz kalması sebebiyle 60/2010 sayılı Sigorta Hizmetleri (Düzenleme ve Denetim) Yasası 2010 yılı sonunda yürürlüğe girmiştir (Hoca, 2017, s. 22).

60/2010 sayılı yasa gereği, KKTC’de sigorta sözleşmeleri, hayat sigortaları ve hayat dışı sigortalar olmak üzere iki gruba ayrılmakta ve sigorta şirketleri bu gruplardan yalnızca birinde faaliyet gösterebilmektedir. KKTC Maliye Bakanlığı Para Kambiyo ve İnkişaf Sandığı İşleri Dairesi verilerine göre, KKTC sigorta sektöründe faaliyet gösteren 33 sigorta şirketi bulunmaktadır. Bu şirketlerden 30’u hayat dışı, 3’ü ise hayat sigorta şirkettir (KKTC Maliye Bakanlığı Para Kambiyo ve İnkişaf Sandığı İşleri Dairesi, 2022a). KKTC sigorta sektörünün bir diğer önemli unsuru sigorta acenteleridir. Ağustos 2022 itibarıyla KKTC sigorta sektöründe 263 sigorta acentesi (gerçek kişi sigorta acenteleri, tüzel kişi sigorta acenteleri, banka sigorta acenteleri ve kooperatif sigorta acenteleri dahil) faaliyet göstermektedir (KKTC Maliye Bakanlığı Para Kambiyo ve İnkişaf Sandığı İşleri Dairesi, 2022b).

KKTC’de bankacılık sektörü, sigorta sektörü, uluslararası bankacılık birimleri, kooperatifler ve döviz bürolarından oluşan finans sektörüne (KKTC Merkez Bankası, 2022a), aktif büyüklüğü açısından değerlendirildiğinde, bankacılık sektörünün hakim durumda olduğunu ifade etmek mümkündür (Bkz. Tablo 1).

**Tablo 1:** KKTC Finans Sektörü Aktif Büyüklüğü

	2015	2016	2017	2018	2019	2020
<b>Bankacılık Sektörü (milyon TL)</b>	17.366,7	21.137,7	26.115,3	32.980,2	40.748,5	50.601,3
<b>Uluslararası Bankacılık Birimleri (milyon ABD doları)</b>	410	427,9	543	554,4	345,9	383,6
<b>Kooperatifler</b>	1.123,4	1.081,4	1.054,6	1.768,2	1.954,2	2.380,9
<b>Sigorta Sektörü (milyon TL)</b>	451,6	495,3	568,3	711,7	855,8	1.045,9
- Hayat dışı (milyon TL)	271,6	299,7	347,7	451,2	524,2	675,4
- Hayat (milyon TL)	180,0	195,6	220,6	260,5	331,6	370,5
<b>Döviz Büroları (milyon TL)</b>	24,3	28	37,4	35,4	41,3	54,4

**Kaynak:** KKTC Merkez Bankası, 2022a; KKTC Merkez Bankası, 2022b; KKTC Maliye Bakanlığı Para Kambiyo ve İnkişaf Sandığı İşleri Dairesi (2022c).

Tablo 1 incelendiğinde, bankacılık sektörü aktif büyüklüğü ile kıyaslandığında, sigorta sektörü aktif büyüklüğünün oldukça küçük olduğu dikkat çekmektedir. Hayat ve hayat dışı sigorta sektörü açısından bakıldığında, incelenen tüm yıllarda, sigorta sektörü aktif büyüklüğünün yaklaşık %60'lık kısmını hayat dışı sigorta sektörü oluşturmaktadır.

Sigorta sektörüne ilişkin en önemli göstergelerden biri, prim üretimidir. KKTC sigorta sektörünün konsolide teknik kâr-zarar tablolarından elde edilen veriler doğrultusunda, 2020 yılı hayat dışı sigorta şirketleri toplam prim üretimi 461,19 milyon TL, hayat dalı sigorta şirketlerinin toplam prim üretimi ise 77,09 milyon TL olarak gerçekleşmiştir (KKTC Maliye Bakanlığı Para Kambiyo ve İnkişaf Sandığı İşleri Dairesi, 2022c). KKTC sigorta sektörünün 2015-2020 dönemine ilişkin prim üretimi verileri Tablo 2'de sunulmaktadır.

**Tablo 2:** KKTC Sigorta Sektörü Prim Üretimi

Prim Üretimi (bin TL)	2015	2016	2017	2018	2019	2020
<b>Hayat dışı</b>	166.829,9	194.693,8	240.157,5	313.449,9	419.118,0	461.191,7
<b>Hayat</b>	30.407,5	27.934,1	30.416,7	36.271,3	55.048,1	77.090,7
<b>Toplam</b>	<b>197.237,5</b>	<b>222.627,8</b>	<b>270.574,2</b>	<b>349.721,3</b>	<b>474.166,2</b>	<b>538.282,5</b>

**Kaynak:** KKTC Maliye Bakanlığı Para Kambiyo ve İnkişaf Sandığı İşleri Dairesi (2022c).

Yıllar itibarıyla KKTC sigorta sektörü prim üretimi verileri incelendiğinde, sektörün hayat dışı sigortacılık alanında yoğunlaştığını ifade etmek mümkündür. İncelenen tüm yıllarda hayat dışı sigorta şirketlerinin prim üretiminin toplam prim üretimi içindeki payı %80'in üzerindedir ve 2020 yılı itibarıyla yaklaşık %85 olarak gerçekleşmiştir.

Sigorta sektörünün değerlendirilmesinde göz önünde bulundurulacak bir diğer gösterge, prim üretiminin gayrisafi yurt içi hasılaya oranı (sigorta yaygınlığı/penetrasyonu)'dır. 2015-2020 dönemi için KKTC'de sigorta sektörü prim üretiminin gayrisafi yurt içi hasılaya oranı Tablo 3'te yer almaktadır.

**Tablo 3:** KKTC Sigorta Sektörü Yaygınlığı

	2015	2016	2017	2018	2019	2020
<b>GSYİH (milyon TL)</b>	10.222,50	11.601,20	14.544,80	18.324,20	21.395,40	21.407,4
<b>Toplam Prim / GSYİH</b>	0,0193	0,0192	0,0186	0,0190	0,0221	0,0251
<b>Hayat Dışı Prim / GSYİH</b>	0,0163	0,0168	0,0165	0,0171	0,0195	0,0215
<b>Hayat Prim / GSYİH</b>	0,0030	0,0024	0,0021	0,0019	0,0025	0,0036

**Kaynak:** KKTC Maliye Bakanlığı Para Kambiyo ve İnkişaf Sandığı İşleri Dairesi (2022c); KKTC İstatistik Kurumu (2022a).

Tablo 3'te hesaplanan veriler doğrultusunda, 2020 yılında toplam prim üretiminin ve hayat dışı prim üretiminin gayrisafi yurt içi hasıla içindeki payının sırasıyla %2,5 ile %2,1 olduğu görülmektedir. Ayrıca hem toplam hem de hayat dışı prim üretiminin payının 2017 yılından bu yana sürekli arttığı dikkat çekmektedir. Hayat dalı prim üretiminin payı ise incelenen dönemde dalgalı bir seyir izlemiştir.

Sigorta sektörüne ilişkin bir diğer önemli gösterge sigorta yoğunluğu olup, kişi başına düşen prim tutarı olarak ifade edilmektedir. 2015-2020 döneminde KKTC için hesaplanan sigorta yoğunluğu verileri Tablo 4'te gösterilmektedir.

**Tablo 4:** KKTC Sigorta Sektörü Yoğunluğu

	2015	2016	2017	2018	2019	2020
<b>Kurumsal olmayan sivil nüfus (kişi)</b>	299.514	307.255	314.169	347.340	357.216	382.836*
<b>Kişi başına prim tutarı (TL)</b>	658,5	724,6	861,2	1.006,85	1.327,39	1.406,03
<b>Hayat dışı - Kişi başına prim tutarı (TL)</b>	557,0	633,7	764,4	902,43	1.173,29	1.204,67
<b>Hayat - Kişi başına prim tutarı (TL)</b>	101,5	90,9	96,8	104,42	154,10	201,36

\*2015-2019 yıllarına ilişkin kurumsal olmayan sivil nüfus verisi, KKTC İstatistik Kurumu Hanehalkı İşgücü Anket Sonuçları'ndan, 2020 yılı Yıl Sonu Toplam Nüfus verisi KKTC İstatistik Kurumu 2020 İstatistik Yılı'ndan temin edilmiştir.

**Kaynak:** KKTC İstatistik Kurumu (2022b); KKTC İstatistik Kurumu (2021).

Tablo 4 incelendiğinde, KKTC'de kişi başına prim üretiminin hem hayat hem de hayat dışı sigortalarda 2015-2020 döneminde artış gösterdiği görülmektedir. Sadece 2016 yılında hayat dalı prim üretiminde yaşanan düşüşe bağlı olarak kişi başına düşen prim tutarında da bir önceki yıla göre düşüş yaşandığı dikkat çekmektedir.

## Literatür incelemesi

VZA'nın çok sayıda uygulaması, sigorta şirketlerinin performansını ölçmeye yönelik literatürde yer almıştır. Sigorta sektöründe VZA uygulamalarına yönelik ilginin özellikle 2010 yılından sonra artış gösterdiğini ifade etmek mümkündür (Kaffash vd., 2020, s. 803). Çalışmalardan bazılarında hayat, bazılarında hayat dışı, bazılarında ise hem hayat hem de hayat dışı sigorta şirketlerinin etkinliğinin analiz edildiği görülmektedir. Cummins, Tennyson ve Weiss (1999), Kılıçkaplan ve Karpaz (2004), Chen ve Chang (2010), Bertoni ve Croce (2011) ile Eling ve Schaper (2017) hayat sigortası şirketlerinden oluşan veri setlerine veri zarflama analizi uygulayan çalışmalar arasında yer almaktadır. Hwang ve Kao (2006), Kao ve Hwang (2008), Dalkılıç (2012), Huang ve Eling (2013), Alhassan ve Biekpe (2015), Külekçi ve Saldanlı (2018) ile İlyas ve Rajasekaran (2019) hayat dışı sigorta şirketlerinin etkinliğini araştıran çalışmalardan bazılarıdır. Veri setinde hem hayat hem de hayat dışı sigorta şirketlerine yer veren çalışmalara ise, Fecher, Kessler, Perelman ve Pestieau (1993), Shujie, Zhongwei ve Genfu (2007), Eling ve Luhn (2010a) ile Eling ve Jia (2019) örnek verilebilir. Ayrıca sadece belirli bir sigorta türünün etkinliğini araştıran çalışmalar da bulunmaktadır. Örneğin, Turchetti ve Daraio (2004), 1982-2000 döneminde 45 sigorta şirketinin verilerini kullanarak İtalyan motor sigortası sektöründe etkinliği incelemiştir. Segovia-Gonzalez, Contreras ve Mar-Molinero (2009), bir İspanyol sigorta şirketi tarafından 2002 yılında düzenlenen 80.000 araba sigorta poliçesinin analizini gerçekleştirmiştir. Naldöken ve Kaya (2020), Türkiye'de sağlık sigortacılığı alanında faaliyet gösteren 20 sigorta şirketinin 2016, 2017 ve 2018 yıllarındaki etkinliğini incelemiştir. Gülay ve Attila (2021) tarafından yapılan çalışmada, Türkiye'de faaliyet gösteren 31 sigorta şirketinin 2017, 2018 ve 2019 yıllarında hastalık/sağlık branşındaki etkinlikleri analiz edilmiştir. Siddiqui (2022) ise, veri zarflama analizinin aylak temelli ölçüm araçlarını (SBM) kullanarak 2015-2019 döneminde Hindistan'da 27 sağlık sigortası şirketinin etkinliğini analiz etmiştir.

Bazı çalışmalarda tek bir ülkede faaliyet gösteren sigorta şirketlerinin etkinliğine odaklanılırken, bazı çalışmalarda ise çok sayıda ülke analiz kapsamına dahil edilmiştir. Farklı ülkelerdeki sigorta şirketlerinin performansı hakkında bilgiler sunan ülkeler arası etkinlik karşılaştırmalarına Donni ve Fecher (1997), Eling ve Luhn (2010a), Bertoni ve Croce (2011), Medved ve Kavčić (2012), Huang ve Eling (2013) ve Shaddady (2022) tarafından yapılan çalışmalar örnek gösterilebilir. Fransa'da Fecher vd. (1993), Almanya'da Luhn (2009), Yunanistan'da Barros, Nektarios ve Assaf (2010), Gana'da Ansa-Adu, Andoh ve Abor (2012), Hırvatistan'da Jurčević ve Žaja (2013), İran'da Rahmani, Barati, Majazi Dalfard ve Hatami-Shirkouhi (2014), Sırbistan'da Knežević, Marković ve Brown (2015), Brezilya'da Wanke ve Barros (2016), Suudi Arabistan'da Akhtar (2018) ve Türkiye'de Kılıçkaplan ve Hayırsever Baştürk (2004), Başkaya ve Akar (2005), Salimi Altan (2010), Dalkılıç (2012), Özüdoğru (2017), Külekçi ve Saldanlı (2018) ile Şahin ve Akkoyuncu (2019) etkinlik karşılaştırması için belirli bir ülkedeki sigorta şirketlerine odaklanan çalışmalar arasında yer almaktadır.

Bazı çalışmalarda bir ya da bir kaç yıla ilişkin verilerin analizi gerçekleştirilirken (örneğin Kılıçkaplan ve Hayırsever Baştürk, 2004; Hwang ve Kao, 2006; Salimi Altan, 2010; Knežević vd., 2015; Abidin, Prabantarikso, Fahmy ve Farhan, 2022; Omrani, Emrouznejad, Shamsi ve Fahimi, 2022), bazı

çalışmalarda ise uzun bir dönemin analiz kapsamına alındığı görülmektedir (örneğin Turgutlu, Kök ve Kasman, 2007; Luhnen, 2009; Barros vd., 2010; Chen ve Chang, 2010; Cummins ve Xie, 2013; Biener, Eling ve Wirfs, 2016; Eling ve Jia, 2019; Ilyas ve Rajasekaran, 2019; Ekinci, 2021).

Bazı çalışmalarda sigorta şirketlerinin üretim süreci, girdilerin çıktılara dönüştürüldüğü tek bir aşama olarak dikkate alınırken, bazı çalışmalarda ise girdiler ve çıktılar yanı sıra alt aşamaları birbirine bağlayan ara çıktılar da göz önünde bulundurulduğu iki ya da daha çok aşamalı network VZA (NVZA) modelleri uygulanmıştır. Örneğin iki alt aşamadan oluşan modelde, birinci üretim sürecinin çıktıları, ikinci üretim sürecinin girdileri olarak alınmaktadır. Sigorta alanında network VZA'yı uygulayan ilk çalışma Hwang ve Kao (2006) tarafından gerçekleştirilmiştir (Kaffash vd., 2020, s. 808-809). Üretim sürecinin iki alt aşamaya bölündüğü çalışmada, Tayvan'daki 24 hayat dışı sigorta şirketinin performansı değerlendirilmiştir. Performans ilk aşamada pazarlanabilirlik (sigorta hizmetinin pazarlanmasındaki performans), ikinci aşamada ise kârlılık (primlerden kâr elde etme performansı) ile ölçülmüştür. Daha sonra, Kao ve Hwang (2008) Tayvan'daki sigorta şirketlerinin etkinliğini tüm süreç içindeki iki alt sürecin ilişkisini dikkate alarak incelemiştir. Kao ve Hwang (2008)'ın ölçeğe göre sabit getiri varsayımı altında teknik etkinliği tahmin eden iki aşamalı VZA modelini takip ederek, Eling ve Jia (2019), 2003 ve 2013 yılları arasında (her yıl için ayrı ayrı) 5000'den fazla sigorta şirketinden oluşan küresel bir veri seti kullanarak hayat ve hayat dışı sigorta şirketleri için ayrı ayrı etkinlik tahmini gerçekleştirmiştir. Nourani, Devadason, Kweh ve Lu (2017), 2008-2012 döneminde Malezya'daki sigorta şirketlerinin yönetsel etkinliğini ve risk yönetimi faaliyetlerinin etkinlik ölçümüne dahil edildiği değer yaratma etkinliğini değerlendirmek için bir network veri zarflama analizi modeli uygulamıştır. Omrani vd. (2022) ise, İran'da 22 sigorta şirketinin 2009 yılı verilerini kullanarak iki aşamalı veri zarflama analizini negatif veriler ve istenmeyen çıktılarla genişleterek uygulamıştır.

KKTC sigorta sektöründe etkinliğin veri zarflama analizi ile ölçüldüğü bir çalışmaya, yazarların bilgisi dahilinde henüz rastlanmadığından, KKTC'de faaliyet gösteren hayat dışı sigorta şirketlerinin etkinliğini ölçmeyi amaçlayan bu çalışmanın konuyla ilgili literatüre katkı sağlaması beklenmektedir.

## **Veri ve yöntem**

Çalışmanın bu kısmında, analizde kullanılan girdi ve çıktı değişkenleri, değişkenlere ilişkin verilerin temin edildiği kaynaklar ve etkinliğin ölçülmesi amacıyla kullanılan veri zarflama analizi incelenmektedir.

### **Veri**

Veri zarflama analizi için gerekli olan çıktıların belirlenmesi, diğer pek çok hizmet sektöründe olduğu gibi, sigorta sektöründe de zor bir süreçtir (Huang ve Eling, 2013, s. 581). Berger ve Humphrey (1992) finansal hizmetler sektöründe çıktıların seçimi için varlık (aracılık) yaklaşımı, kullanıcı-maliyet yaklaşımı ve katma değer yaklaşımı olmak üzere üç temel yaklaşımı ele almaktadır. Sigorta sektöründe çıktıların belirlenmesi sürecinde yaygın olarak kullanılan yaklaşımların başında katma değer yaklaşımı gelmektedir (Eling ve Luhnen, 2010b, s. 218). Katma değer yaklaşımına göre, sigorta şirketleri risk havuzlama ve risk taşıma hizmetleri, aracılık hizmetleri ve sigortalı kayıplarla ilgili "gerçek" finansal hizmetler olmak üzere üç temel hizmet sunmaktadır (Cummins, Turchetti ve Weiss, 1996, s. 17). Sigorta şirketlerinin prim üretimi, risk havuzlama ve risk taşıma hizmetlerini temsil etmek üzere yaygın olarak kullanılan çıktılardan biridir. Aracılık hizmetlerini temsil etmek üzere ise yatırılan varlıklar, yatırım gelirleri ya da yatırımların getirisi değişkenleri çıktı olarak kullanılmaktadır. Hem primler hem de yatırılan varlıklar/yatırım gelirleri, sigorta şirketlerinin sunduğu üçüncü temel hizmet olan sigortalı kayıplarla ilgili finansal hizmetlerle de ilişkilidir (Huang ve Eling, 2013, s. 581)

Etkinliği ölçmek amacıyla VZA'nın kullanılması sürecinde en önemli aşamalardan biri, girdi ve çıktıların seçimidir. Bu çalışmada, çıktıların belirlenmesi sürecinde katma değer yaklaşımı benimsenmiş olup, veri zarflama analizinin çıktıları olarak prim (Bertoni ve Croce, 2011; Medved ve Kavčič, 2012; Huang ve Eling, 2013; Jurčević ve Žaja, 2013; Wanke ve Barros, 2016; Duramaz, 2021) ve vergi öncesi kâr (Salimi Altan, 2010; Ansah-Adu vd., 2012; Knežević vd., 2015; Eling ve Jia, 2019; Duramaz, 2021) değişkenleri kullanılmıştır. İlgili literatür doğrultusunda, prim değişkeninin sigorta şirketlerinin sunduğu risk havuzlama ve risk taşıma hizmetleri ile sigortalı kayıplarla ilgili finansal hizmetleri temsil ettiği ifade edilebilir. Vergi öncesi kâr/zarar ise, KKTC'de faaliyet gösteren hayat dışı sigorta şirketlerinin hem temel sigortacılık faaliyetleri ile ilgili teknik gelir ve giderleri, hem de yatırım faaliyeti ile ilgili mali gelir ve giderleri dikkate alarak hesaplandığından, sigorta şirketlerinin sunduğu üç temel hizmeti (risk havuzlama ve risk taşıma, aracılık ve sigortalı kayıplarla ilgili finansal hizmetleri) de temsil ettiği ifade edilebilir.



Sigorta sektöründe veri zarflama analizi için gerekli olan girdilerin belirlenmesi konusunda da literatürde genel bir fikir birliđi olduđu ifade edilebilir (Huang ve Eling, 2013, s. 581). Yaygın olarak kullanılan sigorta girdileri arasında emek, özsermaye ve sabit varlıklar (sabit sermaye) yer almakta olup, söz konusu deđişkenler Cummins vd. (1996, s. 18-19) tarafından sigorta şirketleri için üretim faktörleri olarak ifade edilmektedir. Bu çalışmada, ilgili literatür takip edilerek, analiz girdileri hayat dışı sigorta şirketlerinin aktif büyüklüğü (Rahmani vd., 2014; Knežević vd., 2015; Davarciođlu Özaktař, 2017), ödenmiş sermayesi (Salimi Altan, 2010; Davarciođlu Özaktař, 2017; řahin ve Akkoyuncu, 2019) ve genel giderleri (Jalali Naini ve Nouralizadeh, 2012; Zakery ve Afrazeh, 2015; Akhtar, 2018) olarak belirlenmiştir. Aktif toplamı, KKTC’de faaliyet gösteren hayat dışı sigorta şirketlerinin sabit deđerlerini de içermektedir. Ödenmiş sermaye, sigorta şirketi ortaklarının finansal tablo tarihinde şirkete yapmış oldukları sermaye yatırımlarının tutarını göstermektedir. Genel giderler ise, başta personel giderleri olmak üzere, genel idare giderleri, amortisman giderleri, karşılık giderleri ve diđer giderleri kapsamaktadır. Analizde kullanılan deđişkenlerin belirlenmesi sürecinde ilgili literatür yanı sıra veri mevcudiyeti de göz önünde bulundurulmuştur.

**Tablo 5:** Analizde Kullanılan Girdi ve Çıktılar

Girdiler	Çıktılar
Varlıklar (I1)	Primler (O1)
Genel giderler (I2)	Vergi öncesi kâr (O2)
Ödenmiş sermaye (I3)	

Analizde kullanılan deđişkenlere ilişkin veriler, KKTC Maliye Bakanlığı Para Kambiyo ve İnkiřaf Sandıđı İşleri Dairesi tarafından sigorta şirketlerinin bađımsız dış denetimden geçmiş olarak sunduđu finansal tablolara dayalı olarak hazırlanan ve yayımlanan istatistiki verilerden temin edilmiştir (KKTC Maliye Bakanlığı Para Kambiyo ve İnkiřaf Sandıđı İşleri Dairesi, 2022c). Analizde kullanılan girdi ve çıktı verileri Ek 1’de sunulmaktadır.

Daha önce de ifade edildiđi üzere, KKTC Maliye Bakanlığı Para Kambiyo ve İnkiřaf Sandıđı İşleri Dairesi verilerine göre, KKTC sigorta sektöründe faaliyet gösteren 30 hayat dışı sigorta şirketi bulunmaktadır. 2019 ve 2020 yıllarında faaliyet gösteren, eksik verisi bulunmayan ve analiz girdi ve çıktılarına ilişkin verileri sıfır ve negatif deđerler içermeyen 25 hayat dışı sigorta şirketi analiz kapsamına dahil edilmiştir (Bkz. Tablo 6). Analize dahil edilen 25 hayat dışı sigorta şirketinin toplam prim üretimi, 2020 yılı itibarıyla KKTC hayat dışı sigorta sektörünün toplam prim üretiminin yaklaşık %94’ünü oluşturduğundan, analize dahil edilen şirketlerin KKTC hayat dışı sigorta sektörünü temsil ettiđi ifade edilebilir.

**Tablo 6:** Çalışmada Etkinlikleri Analiz Edilen Karar Verme Birimleri

KVB1 Anadolu Anonim Türk Sigorta řti.	KVB14 Commercial Insurance Ltd.
KVB2 Kıbrıs Kapital Insurance Ltd.	KVB15 Türk Sigorta Ltd.
KVB3 Groupama Sigorta A.ř.	KVB16 As-Can Sigorta řti. Ltd.
KVB4 Güven Sigorta (Kıbrıs) řti. Ltd.	KVB17 Kıbrıs İktisat Sigorta Ltd.
KVB5 řeker Sigorta (Kıbrıs) Ltd.	KVB18 Can Sigorta Ltd.
KVB6 Limasol Sigorta Ltd.	KVB19 Gulf Sigorta A.ř.
KVB7 Türkiye Sigorta A.ř.	KVB20 Akfinans Sigorta Ltd.
KVB8 Kıbrıs Sigorta řti.Ltd.	KVB21 Segure Insurance Ltd.
KVB9 Dađlı Sigorta Ltd.	KVB22 Eurocity Insurance Co.Ltd.
KVB10 Creditwest Insurance Ltd.	KVB23 Axa Sigorta A.ř.
KVB11 Zirve Sigorta Ltd.	KVB24 Mapfree Insurance Co. Ltd.
KVB12 Northprime Insurance Ltd.	KVB25 Tower Insurance Ltd.
KVB13 Zürih Sigorta A.ř.	

Analize dahil edilen şirketler arasında Kuzey Kıbrıs Türk Cumhuriyeti’nde kurulmuş sigorta şirketleri ile yabancı ülkelerdeki sigorta şirketlerinin Kuzey Kıbrıs Türk Cumhuriyeti’ndeki şubeleri yer almaktadır. KKTC’de kurulmuş sigorta şirketleri yanı sıra yabancı sigorta şirketlerinin KKTC’deki şubelerinin de, 60/2010 sayılı Sigorta Hizmetleri (Düzenleme ve Denetim) Yasası’nun 44. maddesi geređi yıllık bilanço ile kâr ve zarar cetvellerini bađımsız denetçilere denetletmesi ve ilan ettirmesi zorunludur. KKTC’de şube açmak suretiyle faaliyette bulunan sigorta şirketlerinin, KKTC’deki faaliyetlerine ait bilançoları ile kâr ve zarar hesapları, KKTC’deki merkez olarak gösterilen şube tarafından

düzenlenmekte ve ana merkezlerinin son bilanço ve kâr zarar hesapları ile birlikte KKTC'deki yetkili makamlara sunulmaktadır (60/2010 sayılı Yasa, md. 44).

Çalışmada sadece hayat dışı sigorta sektörüne odaklanılması, düzenleyici ve sektörel etkilere ilişkin heterojenliğin kontrol edilmesine imkân sağlamaktadır (Nourani vd., 2017, s. 886). Ayrıca çalışmada VZA yaklaşımının bir diğer gerekliliği olan, karar verme birimleri (KVB)'nin sayısının (bu çalışmada hayat dışı sigorta şirketlerinin sayısı) girdi ve çıktı sayısı toplamının en az iki katı olması (Golany ve Roll, 1989, s. 239) şartı da karşılanmaktadır. Yani analize dahil edilen KVB sayısı 25 olup, üç girdi ve iki çıktı toplamının (3+2 = 5) iki katından daha fazladır.

### Veri zarflama analizi

Farrell (1957)'in çalışmasına dayalı olarak Charnes, Cooper ve Rhodes (1978) tarafından önerilen VZA, etkin sınırı belirlemek için kullanılan parametrik olmayan bir yaklaşımdır (Kaffash vd., 2020, s. 801). VZA, ağırlıklı çıktı toplamının ağırlıklı girdi toplamına oranını maksimize ederek benzer KVB'lerin göreceli etkinliğini tahmin etmektedir (Charnes vd., 1978, s. 430; Knežević vd., 2015, s. 95). Analiz sonuçları, her bir KVB'nin girdileri çıktılara dönüştürmede diğer KVB'lere kıyasla ne kadar etkin performans gösterdiğini ortaya koymaktadır (Kao ve Hwang, 2008, s. 418). VZA ile etkinlik hesaplamaya yönelik temel formül aşağıdaki gibidir (Knežević vd., 2015, s. 95):

$$Etkinlik = \frac{\text{çıkıtların ağırlıklı toplamı}}{\text{girdilerin ağırlıklı toplamı}} \quad (1)$$

Etkinlik, 0 ile 1 arasında değer alabilmektedir ve 1 olması ilgili KVB'nin etkin olduğunu, 1'den küçük olması ise etkinsizliği göstermektedir. Bir karar verme biriminin, herhangi bir girdisini artırmadan ve herhangi bir çıktısını azaltmadan, başka bir çıktısını artırması mümkünse, bu KVB etkin değildir. Benzer bir şekilde, bir KVB'nin herhangi bir girdisini artırmadan ve herhangi bir çıktısını azaltmadan başka bir girdisini azaltması mümkünse, bu KVB etkin değildir (Charnes, Cooper ve Rhodes, 1981, s. 669).

Charnes vd. (1978)'nin ölçeğe göre sabit getiri (constant returns to scale - CRS) varsayımı üzerine kurulu olan CCR (Charnes, Cooper ve Rhodes) modelini önermesinden bu yana, VZA üzerinde çalışılmaya devam edilmiş ve etkinlik ölçümüne yönelik çeşitli VZA modelleri geliştirilmiştir (Cook ve Seiford, 2009, s. 2). Bunların başında Charnes vd. (1978)'nin çalışmasını genişleterek Banker, Charnes ve Cooper (1984) tarafından önerilen ve BCC (Banker, Charnes ve Cooper) modeli olarak adlandırılan ölçeğe göre değişken getiri (VRS) yaklaşımı yer almaktadır. Bu çalışmada Charnes vd. (1978) tarafından önerilen en temel VZA modellerinden biri olan CCR modeli kullanılmaktadır. Bu modele göre, bir karar verme birimi için etkinlik, aşağıdaki denklemin çözümü ile elde edilmektedir (Charnes vd., 1978, s. 430; Charnes vd., 1981, s. 671; Kao ve Hwang, 2008, s. 419-420; Cook ve Seiford, 2009, s. 2; Cooper, Seiford ve Zhu, 2011, s. 9):

$$h_0 = \max \sum_{r=1}^s u_r y_{r0} / \sum_{i=1}^m v_i x_{i0} \quad (2)$$

Kısıtlar:

$$\sum_{r=1}^s u_r y_{rj} / \sum_{i=1}^m v_i x_{ij} \leq 1; \quad j = 1, \dots, n;$$

$$u_r, v_i \geq \varepsilon > 0 \quad r = 1, \dots, s; \quad i = 1, \dots, m.$$

Denklem (2)'de  $y_{rj}$  ve  $x_{ij}$ ,  $j$ . karar verme biriminin sırasıyla  $r$ . çıktısı ve  $i$ . girdisi olup  $u_r, v_i \geq \varepsilon$  bu denklemin çözülmesiyle belirlenecek olan değişken ağırlıklarıdır. Burada,  $\varepsilon$ , arşimedgil olmayan çok küçük bir değerdir (Kao ve Hwang, 2008, s. 420; Cook ve Seiford, 2009, s. 2). Her bir karar verme birimi  $s$  çıktı üretmek için  $m$  girdi kullanılmaktadır. Charnes ve Cooper (1962)'in kesirli programlama teorisi uygulanarak, Denklem (2), doğrusal programlama modeline dönüştürülebilir (Ahn, Charnes ve Cooper, 1988, s. 251; Cook ve Seiford, 2009, s. 2; Cooper vd., 2011, s. 10):

$$h_0 = \max \sum_{r=1}^s \mu_r y_{r0} \quad (3)$$

Kısıtlar:

$$\sum_{i=1}^m v_i x_{i0} = 1$$

$$\sum_{r=1}^s \mu_r y_{rj} - \sum_{i=1}^m v_i x_{ij} \leq 0; \quad j = 1, \dots, n;$$

$$\mu_r, v_i \geq \varepsilon > 0 \quad r = 1, \dots, s; \quad i = 1, \dots, m.$$

Veri Zarflama Analizi adının ortaya çıkmasını sağlayan, duali alınmış denklem ise aşağıdaki gibidir (Ahn vd., 1988, s. 251; Cook ve Seiford, 2009, s. 2; Cooper vd., 2011, s. 11):

$$\min \theta_0 - \varepsilon \left( \sum_{r=1}^s s_r^+ + \sum_{i=1}^m s_i^- \right) \tag{4}$$

Kısıtlar:

$$\sum_{j=1}^n \lambda_j x_{ij} + s_i^- = \theta_0 x_{i0}; \quad i = 1, \dots, m;$$

$$\sum_{j=1}^n \lambda_j y_{rj} - s_r^+ = y_{r0}; \quad r = 1, \dots, s;$$

$$\lambda_j \geq 0; \quad j = 1, \dots, n; \quad i = 1, \dots, m; \quad r = 1, \dots, s.$$

VZA modellemesinde, girdi yönelimli ve çıktı yönelimli olmak üzere iki yaklaşım bulunmaktadır. Girdi yönelimli durumda, çıktılar sabit kalırken girdiler orantılı olarak azaltılmakta, çıktı yönelimli durumda ise, girdiler sabit tutulurken çıktılar orantılı olarak artırılmaktadır (Cook ve Seiford, 2009, s. 4). Çıktıların girdilere oranını içeren model (Denklem (2)), girdi yönelimli model olarak ifade edilmektedir; girdi yönelimli bu oran tersine çevrilebilmekte ve böylelikle çıktı yönelimli minimizasyon problemi çözülebilmektedir (Cook ve Seiford, 2009, s. 2; Cooper vd., 2011, s. 12):

$$\min \sum_{i=1}^m v_i x_{i0} / \sum_{r=1}^s u_r y_{r0} \tag{5}$$

Kısıtlar:

$$\sum_{i=1}^m v_i x_{ij} / \sum_{r=1}^s u_r y_{rj} \geq 1; \quad j = 1, \dots, n;$$

$$u_r, v_i \geq \varepsilon > 0 \quad r = 1, \dots, s; \quad i = 1, \dots, m.$$

Benzer bir şekilde, doğrusal kesirli programlama için Charnes ve Cooper (1962) dönüşümü Denklem (5)'e uygulandığında, aşağıdaki model elde edilmektedir (Cooper vd., 2011, s. 12):

$$\min \sum_{i=1}^m v_i x_{i0} \tag{6}$$

Kısıtlar:

$$\sum_{r=1}^s \mu_r y_{r0} = 1$$

$$\sum_{i=1}^m v_i x_{ij} - \sum_{r=1}^s \mu_r y_{rj} \geq 0; \quad j = 1, \dots, n;$$

$$\mu_r, v_i \geq \varepsilon > 0 \quad r = 1, \dots, s; \quad i = 1, \dots, m.$$

Bu durumda zarflama modeli ise aşağıdaki gibidir (Cooper vd., 2011, s. 12):

$$\max \varphi_0 + \varepsilon \left( \sum_{r=1}^s s_r^+ + \sum_{i=1}^m s_i^- \right) \tag{7}$$

Kısıtlar:

$$\sum_{j=1}^n \lambda_j x_{ij} + s_i^- = x_{i0}; \quad i = 1, \dots, m;$$

$$\sum_{j=1}^n \lambda_j y_{rj} - s_r^+ = \varphi_0 y_{r0}; \quad r = 1, \dots, s;$$

$$\lambda_j \geq 0; \quad j = 1, \dots, n.$$

Tablo 7’de girdi ve çıktı yönelimli CCR modelleri sunulmaktadır.

**Tablo 7:** CCR VZA Modelleri

Girdi Yönelimli	
Zarflama Modeli	Çarpan Modeli
$\min \theta_0 - \varepsilon \left( \sum_{r=1}^s s_r^+ + \sum_{i=1}^m s_i^- \right)$ <p>Kısıtlar:</p> $\sum_{j=1}^n \lambda_j x_{ij} + s_i^- = \theta_0 x_{i0}; \quad i = 1, \dots, m;$ $\sum_{j=1}^n \lambda_j y_{rj} - s_r^+ = y_{r0}; \quad r = 1, \dots, s;$ $\lambda_j \geq 0; \quad j = 1, \dots, n.$	$\max \sum_{r=1}^s \mu_r y_{r0}$ <p>Kısıtlar:</p> $\sum_{i=1}^m v_i x_{i0} = 1$ $\sum_{r=1}^s \mu_r y_{rj} - \sum_{i=1}^m v_i x_{ij} \leq 0; \quad j = 1, \dots, n;$ $\mu_r, v_i \geq \varepsilon > 0 \quad r = 1, \dots, s; \quad i = 1, \dots, m.$
Çıktı Yönelimli	
Zarflama Modeli	Çarpan Modeli
$\max \varphi_0 + \varepsilon \left( \sum_{r=1}^s s_r^+ + \sum_{i=1}^m s_i^- \right)$ <p>Kısıtlar:</p> $\sum_{j=1}^n \lambda_j x_{ij} + s_i^- = x_{i0}; \quad i = 1, \dots, m;$ $\sum_{j=1}^n \lambda_j y_{rj} - s_r^+ = \varphi_0 y_{r0}; \quad r = 1, \dots, s;$ $\lambda_j \geq 0; \quad j = 1, \dots, n.$	$\min \sum_{i=1}^m v_i x_{i0}$ <p>Kısıtlar:</p> $\sum_{r=1}^s \mu_r y_{r0} = 1$ $\sum_{i=1}^m v_i x_{ij} - \sum_{r=1}^s \mu_r y_{rj} \geq 0; \quad j = 1, \dots, n;$ $\mu_r, v_i \geq \varepsilon > 0 \quad r = 1, \dots, s; \quad i = 1, \dots, m.$

**Kaynak:** Cooper vd. (2011, s. 13).

Borges, Nektarios ve Barros (2008), girdi yönelimli veya çıktı yönelimli VZA seçiminin, sigorta şirketlerinin faaliyet gösterdiği piyasanın koşullarına bağlı olduğunu ifade etmektedir. Genel bir kural olarak, rekabetçi piyasalarda, KVB’lerin çıktı odaklı olduğu kabul edilmektedir (Borges vd., 2008; Wanke ve Barros, 2016). Çünkü girdilerin, çıktılarını piyasa talebine bağlı olarak (KVB’nin kontrolü dışında olan bir şey) maksimize etmeyi amaçlayan KVB’nin kontrolü altında olduğu varsayılmaktadır. Öte yandan, tekelci piyasalarda, analiz edilen birimlerin (KVB) girdi odaklı olduğu kabul edilmektedir, çünkü bu piyasada çıktı içseldir, girdi ise dışsaldır (Borges vd., 2008; Wanke ve Barros, 2016).

KKTC sigorta sektörü nispeten küçük ölçekli bir yapıya sahip olmasına rağmen, özellikle hayat dışı sigortacılık alanında faaliyet gösteren çok sayıda şirket olması, hayat dışı sigorta sektöründe rekabetin yoğun olduğu şeklinde yorumlanabilir. Rekabetçi bir piyasada KKTC’deki hayat dışı sigorta şirketlerinin temel amacının mevcut girdilerini kullanarak çıktılarını en üst düzeye çıkarmak olduğu varsayılmakta ve çıktı yönelimli modelin tahmin edilmesinin uygun olduğu kabul edilmektedir (Borges vd., 2008; Wanke ve Barros, 2016). Dolayısıyla çalışmada çıktı yönelimli ölçeğe göre sabit getiri (CRS) varsayımı altında hesaplanan CCR modeli temel alınmaktadır. Analizlerde kullanılan 2019 ve 2020 yıllarına ait veriler, Deap 2.1 yazılımı aracılığıyla analiz edilmiştir.

## Bulgular

KKTC sigorta sektöründe faaliyet gösteren 25 hayat dışı sigorta şirketinin 2019 ve 2020 yılı verileri kullanılarak CRS varsayımı altında hesaplanan CCR modeli etkinlik değerleri Tablo 8’de sunulmaktadır.

**Tablo 8:** 2019 ve 2020 Yıllarına Ait Etkinlik Deęerleri

KVB	2019	2020	KVB	2019	2020
KVB1	1	1	KVB14	0,509	0,426
KVB2	0,862	0,639	KVB15	0,744	0,462
KVB3	1	1	KVB16	0,549	0,58
KVB4	0,806	0,793	KVB17	0,246	0,181
KVB5	0,792	0,682	KVB18	0,57	0,172
KVB6	0,923	1	KVB19	0,305	0,562
KVB7	1	0,971	KVB20	0,384	0,253
KVB8	0,624	0,696	KVB21	0,284	0,188
KVB9	0,767	0,635	KVB22	0,527	0,427
KVB10	1	1	KVB23	1	1
KVB11	0,995	0,649	KVB24	1	1
KVB12	0,557	0,408	KVB25	0,933	0,338
KVB13	0,631	0,815	<b>Ortalama</b>	<b>0,72</b>	<b>0,635</b>

**Kaynak:** Etkinlik deęerleri, Deap 2.1 yazılımı kullanılarak elde edilmiřtir.

Tablo 8’de yer alan, belirlenen girdi ve ıktılar ile CRS varsayımı altında hesaplanan CCR modeli etkinlik deęerleri, KVB1, KVB3, KVB10, KVB23 ve KVB24’ün hem 2019 hem de 2020 yıllarında etkin olduęunu göstermektedir. KVB7 ise 2019 yılında tam etkin iken, 2020 yılında etkinlik deęerinde küçük bir düşme gözlenmektedir. Öte yandan KVB6’nın 2020 yılında tam etkin hale geldięi görülmektedir. Analize dahil edilen 25 KVB’nin 2019 yılı ortalama etkinlik deęeri 0,72 iken, 2020 yılında bu deęer 0,635’e gerilemiřtir. CRS varsayımı altında ölçülen etkinlik deęerlerine göre, hem 2019 yılında hem de 2020 yılında hayat dıřı sigorta řirketlerinin %44’ü sektör ortalama etkinlik deęerinin altında kalmaktadır.

Etkin olmayan karar verme birimlerinin etkin sınıra ulařabilmeleri için etkinsizlięe sebep olan faktörlerin belirlenmesi önem arz etmektedir. VZA, etkin olmayan birimler için mümkün olan iyileřtirmeleri de göstermektedir. Etkin olmayan hayat dıřı sigorta řirketlerinin etkin sınıra ulařabilmeleri için, potansiyel iyileřtirmeleri gösteren ıktı yönelimli CCR modeli sonuçlarına Tablo 9’da yer verilmektedir. Buna göre, etkin olmayan her bir karar verme biriminin mevcut deęerleri, hedef deęerleri ve referans alabileceęi řirketler ile aęırlıkları Tablo 9’da sunulmaktadır.



**Tablo 9:** Çıktı Yönelimli CCR Modeline Göre 2020 Yılına İlişkin Potansiyel İyileştirme Tablosu

KBV		I1	I2	I3	O1	O2	Referans KVB'ler ve Ağırlıkları
KVB2	Gerçekleşen	37.934.211	2.554.492	10.000.000	23.451.940	1.591.054	3 (0,827), 1 (0,136)
	Hedef	37.934.211	2.554.492	7.272.103	<b>36.711.308</b>	<b>3.395.535</b>	
KVB4	Gerçekleşen	52.825.297	4.812.989	9.000.000	32.608.546	6.114.879	1 (0,395), 10 (0,454), 23 (1,248)
	Hedef	43.708.731	4.812.989	9.000.000	<b>41.108.045</b>	<b>7.708.738</b>	
KVB5	Gerçekleşen	51.869.755	5.877.860	12.000.000	29.819.580	7.438.994	24 (0,185), 23 (1,822), 1 (0,224), 10 (0,689)
	Hedef	51.869.755	5.877.860	12.000.000	<b>43.741.365</b>	<b>10.912.017</b>	
KVB7	Gerçekleşen	42.432.018	2.462.537	8.941.550	22.764.803	7.466.942	1 (0,137), 10 (0,069), 23 (2,125)
	Hedef	31.928.958	2.462.537	8.941.550	<b>23.454.706</b>	<b>7.693.233</b>	
KVB8	Gerçekleşen	32.177.930	5.177.002	9.439.413	21.064.236	4.544.762	10 (0,268), 24 (0,609), 23 (1,291)
	Hedef	32.177.930	3.932.983	9.439.413	<b>30.272.314</b>	<b>6.531.472</b>	
KVB9	Gerçekleşen	30.025.307	5.251.919	7.000.000	19.949.754	3.272.287	23 (0,116), 10 (0,660), 24 (0,656)
	Hedef	30.025.307	4.911.260	7.000.000	<b>31.435.521</b>	<b>5.156.256</b>	
KVB11	Gerçekleşen	27.358.150	4.143.359	5.500.000	17.695.708	3.074.398	23 (0,138), 10 (0,605), 24 (0,322), 1 (0,097)
	Hedef	27.358.150	4.143.359	5.500.000	<b>27.263.848</b>	<b>4.736.737</b>	
KVB12	Gerçekleşen	30.506.438	3.687.832	5.000.000	14.706.452	1.293.323	10 (0,241), 23 (0,218), 1 (0,483), 24 (0,004)
	Hedef	30.506.438	3.687.832	5.000.000	<b>36.012.535</b>	<b>3.167.034</b>	
KVB13	Gerçekleşen	26.015.203	1.493.659	5.050.000	13.765.720	3.062.246	1 (0,117), 3 (0,103), 23 (0,954)
	Hedef	19.956.859	1.493.659	5.050.000	<b>16.888.460</b>	<b>3.756.914</b>	
KVB14	Gerçekleşen	25.613.052	5.167.112	6.000.000	13.459.638	1.307.618	10 (0,353), 1 (0,120), 24 (0,631)
	Hedef	25.613.052	4.097.900	6.000.000	<b>31.627.647</b>	<b>3.072.659</b>	
KVB15	Gerçekleşen	22.585.180	2.454.942	16.275.056	8.198.053	2.530.858	23 (1,581), 24 (0,273)
	Hedef	22.585.180	1.950.698	7.408.271	<b>17.745.736</b>	<b>5.478.367</b>	
KVB16	Gerçekleşen	10.912.121	1.883.931	3.500.000	6.608.398	1.153.842	10 (0,031), 24 (0,283), 23 (0,459)
	Hedef	10.912.121	1.340.955	3.500.000	<b>11.394.179</b>	<b>1.989.451</b>	
KVB17	Gerçekleşen	18.543.888	2.124.033	6.000.000	4.593.108	124.508	3 (0,015), 1 (0,401)
	Hedef	18.543.888	2.124.033	2.784.257	<b>25.354.614</b>	<b>839.623</b>	
KVB18	Gerçekleşen	14.249.931	2.575.326	4.200.560	3.773.634	107.060	24 (0,608), 1 (0,082)
	Hedef	14.249.931	2.354.460	4.200.560	<b>21.962.112</b>	<b>775.128</b>	
KVB19	Gerçekleşen	6.891.739	650.542	3.550.000	1.451.381	1.128.323	23 (0,610)
	Hedef	6.891.739	419.631	2.228.117	<b>3.930.180</b>	<b>2.009.402</b>	
KVB20	Gerçekleşen	4.974.295	999.744	2.900.000	1.680.320	146.975	24 (0,214), 23 (0,111)
	Hedef	4.974.295	754.403	1.691.699	<b>6.654.381</b>	<b>582.048</b>	
KVB21	Gerçekleşen	13.348.745	1.592.783	5.200.000	3.500.994	85.070	24 (0,035), 1 (0,285)
	Hedef	13.348.745	1.592.783	2.101.436	<b>18.584.767</b>	<b>590.487</b>	
KVB22	Gerçekleşen	22.943.026	3.958.742	7.000.000	15.201.404	178.823	24 (1,049), 1 (0,106)
	Hedef	22.943.026	3.869.966	7.000.000	<b>35.616.915</b>	<b>1.265.514</b>	
KVB25	Gerçekleşen	6.160.188	3.225.774	3.336.000	3.319.467	55.311	24 (0,355)
	Hedef	6.160.188	1.122.761	2.129.866	<b>9.834.649</b>	<b>358.309</b>	

**Not:** Son sütunda referans ağırlıkları parantez içinde yer almaktadır. I1: Varlıklar; I2: Genel giderler; I3: Ödenmiş sermaye; O1: Primler; O2: Vergi öncesi kâr; KVB: Hayat dışı sigorta şirketleri.

**Kaynak:** Sonuçlar, Deap 2.1 yazılımı kullanılarak elde edilmiştir.

Etkin olmayan hayat dışı sigorta şirketlerinin Tablo 9'da yer alan hedef değerlere yaklaşmaya yönelik iyileştirmeler yapmaları, etkin sınıra da yaklaşmalarına olanak sağlayacaktır. Etkin olmayan her bir hayat dışı sigorta şirketi için potansiyel iyileştirme değerlerine ilişkin açıklamalar birbirine benzer olacağından ve her birini açıklamak oldukça uzun süreceğinden, burada örnek olarak sadece bir KVB'nin değerlerinin açıklanması tercih edilmektedir. Örneğin KVB5'in 2020 yılı verilerine ilişkin çıktı yönelimli CCR modeli potansiyel iyileştirme değerlerine göre, prim üretimini 13.921.785 TL ve vergi öncesi kârını 3.473.023 TL artırması durumunda etkin hale gelmesi beklenmektedir.

## Sonuç

KKTC sigorta sektöründe artan rekabetçi baskılar, sigorta şirketlerinin bir yandan hizmet kalitelerini artırırken bir yandan da varlıklarını sürdürülebilmek için etkinliklerini gözden geçirmelerini gerekli

kılmaktadır. Bu çalışmada, KKTC hayat dışı sigorta sektöründe veri zarflama analizi kullanılarak görelî etkinliđin ölçülmesi amaçlanmıştır. Birden çok girdi ve çıktının dikkate alınmasına izin veren veri zarflama analizi, sigorta şirketlerinin etkinliklerinin ölçülmesinde kullanılan en yaygın yöntemlerden biridir. Analiz kapsamına 25 hayat dışı sigorta şirketi dahil edilmiş olup, bu şirketlerin 2020 yılı toplam prim üretimi, KKTC hayat dışı sigorta sektörü toplam prim üretiminin yaklaşık %94'ünü oluşturmaktadır. Varlıklar (I1), genel giderler (I2) ve ödenmiş sermaye (I3) olmak üzere üç girdi ile primler (O1) ve vergi öncesi kâr (O2) olmak üzere iki çıktı kullanılarak kurulan ölçeđe göre sabit getiri varsayımı altında hesaplanan CCR modeli ile 25 KVB'nin 2019 ve 2020 yıllarına ilişkin etkinlik değerleri belirlenmiştir.

Analiz neticesinde 2019 yılı ortalama etkinlik değeri 0,72; 2020 yılı ortalama etkinlik değeri ise 0,635 olarak hesaplanmıştır. Her iki yılda da analize dahil edilen sigorta şirketlerinin %44'ünün ortalama etkinlik değerinin altında kaldığı belirlenmiştir. Anadolu Anonim Türk Sigorta Şti. (KVB1), Groupama Sigorta A.Ş. (KVB3), Creditwest Insurance Ltd. (KVB10), Axa Sigorta A.Ş. (KVB23) ve Mapfree Insurance Co. Ltd. (KVB24)'nin hem 2019 hem de 2020 yıllarında etkin olduğu, Türkiye Sigorta A.Ş. (KVB7) ile Limasol Sigorta Ltd (KVB6)'nin ise sırasıyla 2019 ve 2020 yılında etkin olduğu tespit edilmiştir.

Veri zarflama analizinde en önemli aşamalardan biri, daha önce de ifade edildiđi üzere, girdi ve çıktıların belirlenmesidir. Bu çalışmada elde edilen sonuçlar da, kapsanan döneme ve seçilen girdi ve çıktılarına bađlıdır. Analizde kullanılan girdi ve çıktıların belirlenmesi sürecinde veri mevcudiyeti önemli bir belirleyici olmuştur. Analiz edilen dönem deđiştirildiđinde, farklı girdi ve/veya çıktıları ile analiz gerçekleştirildiđinde ya da girdi ve/veya çıktı sayısı deđiştirildiđinde, karar verme birimlerinin etkinlik değerlerinin de deđişebileceđi göz önünde bulundurulmalıdır.

KKTC sigorta sektörü ile ilgili daha fazla araştırmaya ihtiyaç olduđu düşünölmekte ve yapılan araştırmaların artmasının sektörün gelişimine katkı vermesi beklenmektedir. Bu doğrultuda gelecek çalışmalarda daha geniş bir veri seti kullanılarak, farklı girdi ve çıktı deđişkenleri kullanılarak ve/veya farklı VZA modelleri kullanılarak KKTC'de faaliyet gösteren sigorta şirketlerinin etkinliđinin deđerlendirilmesinin hem konu ile ilgili literatüre hem de KKTC sigorta sektörüne katkı sağlaması beklenmektedir.

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## Appendix (Ekler)

## Appendix 1: (Ek 1.) Analizde kullanılan girdi ve çıktı verileri

KBV	Yıl	I1	I2	I3	O1	O2
KVB1	2020	44.766.667	5.208.768	6.650.000	61.895.300	1.950.875
	2019	37.599.784	4.647.441	6.650.000	51.734.042	2.728.987
KVB2	2020	37.934.211	2.554.492	10.000.000	23.451.940	1.591.054
	2019	25.814.866	2.233.837	5.000.000	23.629.170	1.490.182
KVB3	2020	38.506.711	2.231.706	7.700.000	34.206.941	3.785.403
	2019	29.768.662	2.356.514	6.400.000	30.480.309	2.086.516
KVB4	2020	52.825.297	4.812.989	9.000.000	32.608.546	6.114.879
	2019	31.890.044	3.272.427	6.000.000	25.736.520	3.173.547
KVB5	2020	51.869.755	5.877.860	12.000.000	29.819.580	7.438.994
	2019	34.560.574	4.687.147	6.000.000	24.536.716	5.019.205
KVB6	2020	29.700.827	5.915.989	3.967.300	28.419.072	3.659.650
	2019	23.228.569	5.234.332	3.967.300	24.618.932	2.653.362
KVB7	2020	42.432.018	2.462.537	8.941.550	22.764.803	7.466.942
	2019	33.045.542	2.107.674	8.941.550	18.538.768	7.306.045
KVB8	2020	32.177.930	5.177.002	9.439.413	21.064.236	4.544.762
	2019	26.301.253	4.642.034	6.258.267	17.715.810	3.007.758
KVB9	2020	30.025.307	5.251.919	7.000.000	19.949.754	3.272.287
	2019	21.424.124	4.947.363	6.000.000	17.511.272	3.162.540
KVB10	2020	26.260.602	4.176.228	4.000.000	18.953.068	6.232.608
	2019	22.010.280	3.644.048	4.000.000	17.799.963	5.593.038
KVB11	2020	27.358.150	4.143.359	5.500.000	17.695.708	3.074.398
	2019	22.476.960	5.161.301	3.400.000	19.451.399	3.422.653
KVB12	2020	30.506.438	3.687.832	5.000.000	14.706.452	1.293.323
	2019	21.174.216	2.321.182	2.942.000	12.756.443	334.699
KVB13	2020	26.015.203	1.493.659	5.050.000	13.765.720	3.062.246
	2019	19.854.414	1.186.132	3.650.000	9.278.133	933.018
KVB14	2020	25.613.052	5.167.112	6.000.000	13.459.638	1.307.618
	2019	19.679.341	2.909.280	4.553.000	11.949.772	1.366.234
KVB15	2020	22.585.180	2.454.942	16.275.056	8.198.053	2.530.858
	2019	20.744.199	2.183.562	13.562.476	8.490.163	3.620.527
KVB16	2020	10.912.121	1.883.931	3.500.000	6.608.398	1.153.842
	2019	10.039.504	1.687.624	3.500.000	6.552.551	816.931
KVB17	2020	18.543.888	2.124.033	6.000.000	4.593.108	124.508
	2019	12.877.915	1.609.244	6.000.000	4.149.584	286.490
KVB18	2020	14.249.931	2.575.326	4.200.560	3.773.634	107.060
	2019	15.326.185	2.460.874	2.575.600	11.413.795	584.336
KVB19	2020	6.891.739	650.542	3.550.000	1.451.381	1.128.323
	2019	6.716.165	488.229	3.550.000	1.801.880	221.003
KVB20	2020	4.974.295	999.744	2.900.000	1.680.320	146.975
	2019	4.884.377	1.020.383	2.900.000	2.416.598	262.281
KVB21	2020	13.348.745	1.592.783	5.200.000	3.500.994	85.070
	2019	9.392.865	1.281.048	4.300.000	3.764.915	68.109
KVB22	2020	22.943.026	3.958.742	7.000.000	15.201.404	178.823
	2019	21.148.885	3.834.800	5.000.000	17.192.313	96.245
KVB23	2020	11.289.733	687.420	3.650.000	6.438.242	3.291.711
	2019	9.494.535	637.245	3.650.000	6.420.565	1.859.290
KVB24	2020	17.368.198	3.165.543	6.005.000	27.728.072	1.010.227
	2019	11.704.983	2.872.156	3.005.000	20.214.369	407.203
KVB25	2020	6.160.188	3.225.774	3.336.000	3.319.467	55.311
	2019	7.763.160	5.517.716	3.336.000	12.506.198	151.935

Kaynak: KKTC Maliye Bakanlığı Para Kambiyo ve İnkiřaş Sandığı İşleri Dairesi (2022c)

## Cost-benefit analysis of ergonomics-sustainability projects with analytic hierarchy process

### Analitik hiyerarşi süreci ile ergonomi-sürdürülebilirlik projelerinin maliyet-fayda analizi

Hüseyin Yener<sup>1</sup> 

#### Abstract

Today, sustainability gets a top priority on the agenda of the shortage of natural resources and regulations. Managers seek how to give minimum damage to the environment while keeping productivity. Ergonomics has an answer to trying to smooth the relationships between man and the elements of a system to optimize the whole system's performance and human satisfaction. Ergonomics and sustainability have common areas of interest in putting a man into the centre. Managers always seek ways to improve productivity but investing in employee wellness is often ignored. They are hesitant to fund projects like ergonomics and environmental until savings are proven. The proposed model in this study using Cost-Benefit Analysis (CBA) and Analytic Hierarchy Process (AHP) together may convince the decision makers to approve the ergonomics or environmental projects easily, which are seen as a pure expense at first.

**Keywords:** Cost-Benefit Analysis, Analytic Hierarchy Process, Project Evaluation

**Jel Codes:** D61, H43, M10

#### Öz

Günümüzde, doğal kaynakların ve düzenlemelerin yetersizliği nedeniyle sürdürülebilirlik gündemin en üst sıralarında yer almaktadır. Yöneticiler, üretkenliği korurken çevreye nasıl daha az zarar verebileceğini sorguluyorlar. Ergonominin, bütün sistem performansını ve insan memnuniyetini optimize etmek için insan ve sistemin öğeleri arasındaki ilişkileri uyumlaştırmaya çalışan bir cevabı vardır. Ergonomi ve sürdürülebilirliğin, insanı merkeze alma konusunda ortak ilgi alanlarına sahiptir. Yöneticiler her zaman üretkenliği artırmanın yollarını arar, ancak çalışanların iyiliğine yatırım yapmayı genellikle göz ardı ederler. Projede tasarruf kanıtlanana kadar ergonomi ve çevre gibi projeleri finanse etmekte tereddüt ederler. Maliyet-Fayda Analizi (MFA) ve Analitik Hiyerarşi Sürecinin (AHS) birlikte kullanıldığı bu çalışmada önerilen model, karar vericileri, başta tamamen ilave harcama olarak görülen ergonomi veya çevre projelerini kolayca onaylamaya ikna edebilir.

**Anahtar Kelimeler:** Fayda-Maliyet Analizi, Analitik Hiyerarşi Süreci, Proje Değerlendirme

**JEL Kodları:** D61, H43, M10

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## Introduction

Sustainability refers to the continuation of human life while ensuring production and diversity. People's lives are based on natural resources. However, the natural resources our lives depend on do not have an infinite feature. The importance of sustainability means ensuring sustainability and aiming to build a balance between nature and humans (Johnston, Everard, Santillo & Robèrt., 2007). Sustainability encourages decision-makers to take long-term actions in environmental, social, and human issues rather than short-term gains.

Ergonomics as a tool to support sustainability is a way of designing work systems to accommodate the capabilities of workers. Human well-being and overall system performance emerge as the common goals of sustainability and ergonomics. Ergonomics projects have a beneficial impact on building a sustainable working environment, reducing the probability of injury or accident, turnover rate and absenteeism while improving workers' productivity and morale (Pavlovic-Veselinovic, 2014). Ergonomics is an effective tool for improving sustainability while reducing the negative effects of industry on the ecosystem.

A workplace injury in business must be taken as a warning sign that one or more factors are deficient. The cost of a workplace injury can be direct or indirect. Medical expenses and worker's compensation payments are examples of direct costs. Decreasing work time, productivity, work quality and morale constitute indirect costs.

Ergonomics is used to redesign a working system in a business to improve productivity and safety. That kind of intervention needs investing funds, and to justify the expense, it must be clarified about returning benefits of the program to be funded. The question to be answered is, is it a worthwhile investment for organizations? Does it pay off?

Evaluating the costs of ergonomics projects is easier than the benefits because many cost factors are ready in the organization (Hendrick, 2003). However, Hendrick (1997) stated in his study, "at first glance, it appears that a conflict exists in organizational practice between the requirements of an ergonomic approach and the consideration of economic conditions and that therefore both perspectives are only to be reconciled via a trade-off".

Ergonomic programs are not a cost for organizations; rather, they reduce costs over time dramatically. But at the very first step, funding is seen as barrier organizations have faced in managing ergonomic programs. So to get decision-makers approval for ergonomics programs, a detailed feasibility report must be prepared and presented while requesting and receiving funding approval.

Cost-Benefit Analysis (CBA) is one of the most commonly used techniques in financial evaluating projects in business. On the other hand, it will be helpful to use Analytic Hierarchy Process (AHP) to elevate subjective parts of projects and give more realistic decisions. AHP will enable decision-makers to set priorities and evaluate the projects according to conditions. This article constitutes a unique study combining ergonomics, sustainability, CBA and AHP and leads to a clear picture of the project evaluating process in business.

In the literature review section, detailed information was given about the sub-topics of the study sustainability, project evaluation, ergonomics, CBA and AHP, respectively. Then, in the application and results section, CBA and AHP were applied to two sample ergonomics projects, and all iterations were illustrated step by step. Finally, in the conclusion section, the results were interpreted and discussed.

## Literature review

The literature has not encountered a study proposing a model using AHP and CBA together on sustainability and ergonomics. However, there are studies covering two or three subjects partially.

There are very few studies on ergonomics and sustainability. One of them is Haslam & Waterson (2013) stated that before 2000, ergonomics was assumed to be an interdisciplinary science symbolizing western liberal capitalism, just focusing on productivity issues and disregarding planet interactions. However, when the world encounters fatal environmental implications, classical productivity studies began addressing global ergonomics with sustainable development.

There are considerably more studies on sustainability or ergonomics issues using AHP or CBA technique. For AHP methodology, Taha, Abdul Salaam, Sin Ye, Tuan, & Mohamad (2015) studied material design to support sustainability with AHP using three criteria: production costs, carbon emission rate and ergonomic evaluation, to find the best possible decision according to the given criteria. Waris, Panigrahi, Mengal, Soomro, Mirjat, Ullah, Azlan, & Khan (2019) developed a framework

with AHP on sustainable procurement to take a more sensible decision with six criteria: environmental impact, life cycle cost, social benefits procurement, performance, system capability and operational convenience. Jayawickrama, Kulatunga & Mathavan (2016) studied plant sustainability by fuzzy AHP and proposed a sustainability evaluation tool. Mani, Rajat & Vinay (2014) researched social sustainability using the AHP methodology. The study results guided managers to integrate many dimensions, such as health, equity, safety, wages and education, into the supply chain management system.

For CBA methodology, Soderqvist, Brinkhoff, Norberg, Rosen, Back & Norrman (2015) made a CBA as a part of sustainability assessment and guided decision makers on investment decisions of contaminated areas. Goggins, Spielholz & Nothstein (2008) made a case study on estimating the effectiveness of ergonomics programs with CBA. The results showed that the main benefits of ergonomic programs were positive, and the payback period was less than one year.

### **Sustainability and ergonomics**

Sustainability is a comprehensive approach considering the ecological, social and economic factors. Sustainable development is a social justice project that focuses on equitable development to meet human needs and emphasizes the need to protect natural resources to meet these needs (Johnston et al. 2007). Sustainability is the concept that products must be designed to be recycled, remanufactured and reused to build stability among environmental, economic and sociocultural factors (Pavlovic-Veselinovic, 2014).

Aksoy (2013) stated in his thesis the reasons why sustainable development is so important for businesses today as;

- The growth of businesses has brought environmental responsibilities.
- Investors are now taking into account the environment for the entire supply chain line,
- Consumers are becoming more conscious of environmental issues,
- Climate changes force companies to be sensitive to these issues.

Ergonomics is the scientific discipline concerned with understanding interactions among humans and other elements of a system and the profession that applies theory, principles, data, and methods to design to optimize human well-being and overall system performance (IEA, 2020).

The new trend in ergonomics is called green ergonomics, which refers to supplying human and natural system balance by comprehending their mutual relationships. According to this ergonomics approach, sustainable human welfare and effectiveness cannot be mentioned when the natural environment is spoiled and exhausted. Therefore, it aims to reduce man's negative effects on the ecosystem through ergonomic and sustainable interventions. Furthermore, it examines ways to cope with nature's healing and original features in the design of workplaces, cities, etc. According to Thatcher (2013), the topics of this new approach of ergonomics are; less resource-consuming job design (green work), design of systems and products consuming fewer resources (green systems and green products) and studies to increase environmental awareness.

The intersection of sustainability and ergonomics is the social goal (human well-being) and economic goal (overall system performance). Sustainable economic growth is viable if it pushes forward the quality of life, which is also the common aim of ergonomics and sustainability. So ergonomics is closely related to sustainability.

### **Project evaluation**

Project management (PM) uses knowledge, abilities, tools, and techniques to supply the project requirements. PM steps are; initiating, planning, executing, monitoring and controlling and closing (Darnall & Preston, 2012).

Initiating step is the first step and describes the goals and feasibility of the project. Project evaluation is done in this step. Frechtling (2002) stated in his handbook that "evaluation of the project involves an assessment of the project, policy, program or investments, taking into account all its stages: planning, implementation, and monitoring of results. At the end of the evaluation phase, the decision makers will make a yes/no meeting to continue the project or reject it. If the decision is continued, the other project management steps will be conducted". As the focus of this article is project evaluation of ergonomics projects, the details of project evaluation are explained next while masking the other project management steps.

To give a realistic, cost-effective allocation decision, managers should evaluate the feasibility of project alternatives according to their priorities, such as cost, benefit, ease of use, legal requirements etc. In the literature, there are two project evaluation methods which, one is static methods, and another one is dynamic methods.

Static project evaluation methods are simple and easy to use from the calculation point because their principle is based on the acting year effects, neglecting the time as a factor. Frequently used static methods are; CBA, the payback period and the rate of return on investment (ROI). On the other hand, dynamic project evaluation methods are used in more complex projects as a second classification. The most frequently used methods are; net present value (NPV), internal rate of return (IRR), modified internal rate of return (MIRR) and annuity method of depreciation. In this study, CBA is selected as a financial project evaluation method because of its simplicity and ease of use. Detailed information about CBA is given next section.

### **CBA**

CBA is simply adding the benefits and subtracting the costs of a project (Zavitz, 2019). In other words, CBA is a systematic approach to estimating alternatives' strengths and weaknesses to determine options that provide the best decision (David, Ngulube, & Dube, 2013; Mommoh, 2018). The purpose of CBA is to present a systemic approach to calculate the pluses and minuses of a project. Then, it gives you options and offers the best alternative to your aim according to your priorities.

Hendrick (2003) lists the costs of ergonomics projects as personnel, equipment and materials, and overhead.

- Personnel costs include external consultants, internal personnel and employee downtime.
- Equipment and materials costs are equipment, and materials are purchased or produced internally.
- Overhead costs are the other costs, including maintenance, rent, and general administrative expenses. Generally, ergonomics applications will reduce overhead costs.

Hendrick (2003) lists the benefits of ergonomics projects as personnel, equipment and materials, and intangible benefits.

- Personnel-related benefits are increasing the output, reducing the error rate, reducing accidents and injuries, reducing training requirements, reducing skill requirements, reducing maintenance, reducing absenteeism and reducing turnover rate.
- Equipment and materials benefits are reduced scrap, equipment savings, reduced maintenance and reduced equipment damage.
- Intangible benefits are such as increasing labour commitment and improving corporate image.

### **AHP**

Mammoth (2018) describes AHP as structuring the decision hierarchically to reduce complexity and show relationships between criteria and alternatives. It also includes intangibles such as experience, preferences etc.

AHP is a problem-solving tool having three levels. The first level describes the problem encountered, and the second level depicts the alternative solutions to the problem. The third level is the parameters used to evaluate the solutions. Several criteria may exist, but each may have a different level of importance (Saaty & Luis, 2012; Saaty, 2001).

Managers need to measure tangible and intangible aspects of the problems or projects. The AHP is a method that can fill up this area by evaluating measures in both the tangible and intangible aspects of the problem.

Mu & Pereyra-Rojas (2016) proposed six steps to analyse the decision-making using the AHP as;

Step1. Develop a model by breaking down the decision into a hierarchy of goals, criteria, and alternatives,

Step 2. Derive priorities (weights) for the criteria,

Step 3. Derive local priorities (preferences) for the alternatives,

Step 4. Derive overall priorities (model synthesis),

Step 5. Perform sensitivity analysis

Step 6. Make a final decision.

**Methodology**

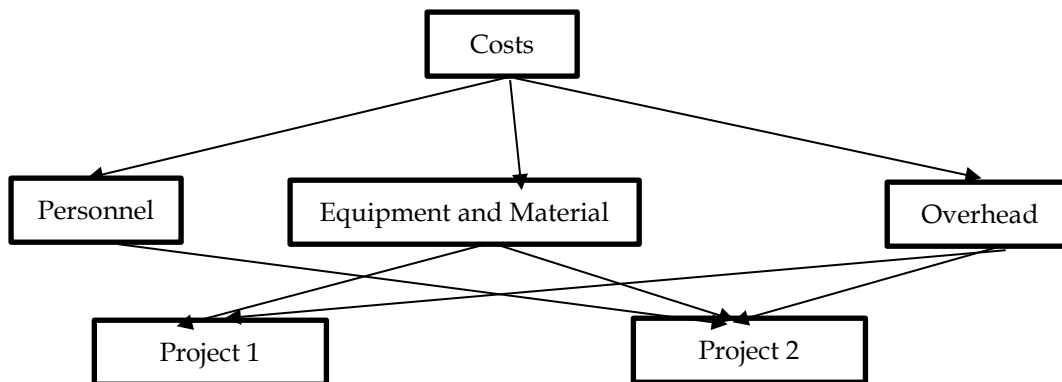
In this study, it is given two sample ergonomics projects for an organization to be evaluated financially. The main properties of the projects are as Table 1.

**Table 1:** Cost and Benefit Properties of Projects

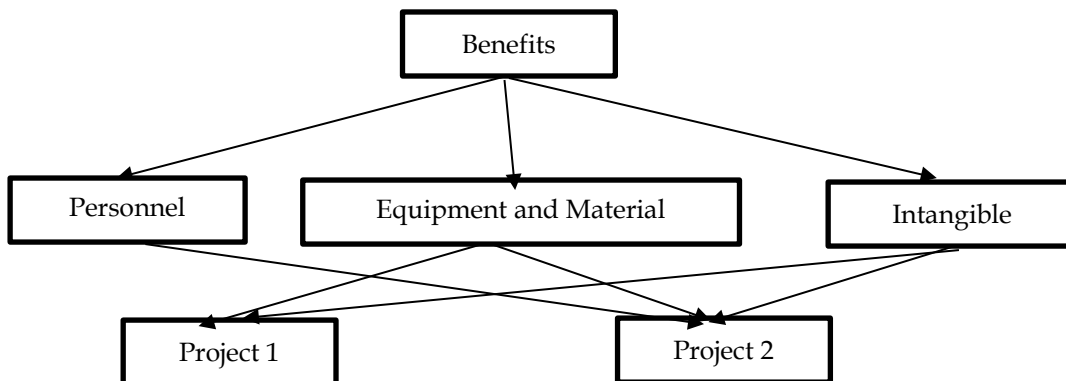
Properties	Projects 1	Projects 2
<b>Costs</b>		
Personnel	High	Moderate
Equipment and material	Low	Moderate
Overhead	Moderate	High
<b>Benefits</b>		
Personnel	High	Moderate
Equipment and material	Moderate	Low
Intangible benefits	High	Low

**Model derivation**

In the AHP model, the first level is the goal, the second level is the criteria, and the third is the alternatives. According to the properties given in Table 1 for two sample projects, AHP models of the project's costs and benefits are constructed in Figures 1 and 2 as follows.



**Figure 1:** Cost Benefit Analysis AHP Model Projects (Costs)



**Figure 2:** Cost Benefit Analysis AHP Model Projects (Benefits)

Properties of projects determined by decision-makers in Table 1 will be converted to numerical values using the scale in Table 2.

**Table 2:** Pairwise Comparison Scale

Verbal judgment	Numeric value
Extremely important	8,9
Very Strongly more important	6,7
Strongly more important	4,5
Moderately more important	2,3
Equally important	1

Note. Saaty, T. (1980). The Analytic Hierarchy Process. McGraw-Hill, New York., 1980

It is assumed that the evaluating committee made judgements for cost and benefit factors as below:

- Personnel cost is strongly more important,
- Personnel cost is very strongly more important than overhead cost,
- Equipment and material cost is strongly more important than overhead cost.
- Personnel benefit is moderately more important than equipment and material benefit,
- Personnel benefit is very strongly more important than intangible benefit,
- Equipment and material benefit are strongly more important than intangible benefits.

## Results

### Calculations

Normalization of values is calculated by dividing every cell by the total row of Table 3.

**Table 3:** Pairwise Comparison Matrix of Costs and Benefits

Costs	Personnel	Equipment and material	Overhead
Personnel	1	5	7
Equipment and material	1/5	1	5
Overhead	1/7	1/5	1
Total	1.343	6.200	13
Benefits	Personnel	Equipment and material	Intangible benefits
Personnel	1	3	7
Equipment and material	1/3	1	5
Intangible benefits	1/7	1/5	1
Total	1.476	4.200	13

Priority values are calculated simply by taking the average of each row.

**Table 4:** Normalized Comparison Matrix of Costs and Benefits

Costs	Personnel	Equipment and material	Overhead	Priority
Personnel	0.745	0.806	0.538	<b>0.696</b>
Equipment and material	0.149	0.161	0.385	<b>0.232</b>
Overhead	0.106	0.033	0.077	<b>0.072</b>
Benefits	Personnel	Equipment and material	Intangible benefits	Priority
Personnel	0.678	0.714	0.538	<b>0.643</b>
Equipment and material	0.226	0.238	0.385	<b>0.283</b>
Intangible benefits	0.096	0.048	0.077	<b>0.074</b>

According to the results of Table 3 and Table 4, it can be understood that personnel cost and personnel benefits are the most important factors. The priorities are determined according to the judgments and



preferences in Table 1. In Table 4, it can be interpreted that personnel cost has 69.6 % of the real importance of the cost while personnel benefit has 64.3 % of the real importance of the benefit respectively. The other important values can be seen in the “priority column” of Table 4.

**Consistency computation**

It is impossible to get rid of inconsistencies completely because the numeric values are taken from the subjective judgements of managers. According to Mu & Pereyra-Rojas (2016) and Saaty & Luis (2012), AHP calculates a consistency ratio (CR) comparing the consistency index (CI) of the matrix in question (the one with our judgments) versus the consistency index of a random-like matrix (RI). RI value for matrices having three criteria is 0.58, and the CR formula is defined as

$$CR = CI/RI \tag{1}$$

If the CR value in equation (1) is 0.10 or less, then it is acceptable to continue with the analysis. Otherwise, it is necessary to make revisions to the analysis.

**Table 5:** Priorities as Factors and Weighted Sum

Cost	Personnel	Equipment and material	Overhead	Weighted sum
Personnel	0.696	1.160	0.216	<b>2.072</b>
Equipment and material	0.139	0.232	0.360	<b>0.731</b>
Overhead	0.099	0.046	0.072	<b>0.217</b>
Benefit	Personnel	Equipment and material	Intangible benefits	Weighted sum
Personnel	0.643	0.849	0.518	<b>2.010</b>
Equipment and material	0.214	0.283	0.370	<b>0.867</b>
Intangible benefits	0.092	0.056	0.074	<b>0.222</b>

Priorities as factors can be calculated simply by multiplying each row element of Table 5 with the original judgement from Table 3. by priority number (i.e., 1x0.696=0.696, 0.200x0.696=1.139). The weighted sum is equal to adding all cost row elements together. Then the weighted sum of each cost row will be divided by priorities of each column as 2.072/0.696= 2.977, 0.731/0.232= 3.150 and 0.217/0.072=3.013, respectively.

$\lambda_{max}$  is calculated by adding up all three resulting numbers and dividing by three, which makes 3.047. CI is found by using the equation (2) where n=3

$$CI = (\lambda_{max} - n)/(n - 1) - 1 \tag{2}$$

and  $CI = (3.047-3)/2=0.023$ . CR for cost factor is found using equation (1) as  $(0.023/0.58) = 0.039$ .

When the same procedure is applied to benefit factors, the results are calculated as:  $2.010/0.643=3.125$ ,  $0.867/0.283= 3.063$  and  $0.222/0.074 = 3.000$ . Then, CI for benefit is found as  $(3.062-3)/2=0.020$  and CR for benefit as  $(0.020/0.58) = 0.034$ . Since these values of 0.039 and 0.034 for CR are smaller than 0.10, it can be assumed that calculations are reasonable, which means AHP models are verified.

**Deriving local preferences between projects**

In a model having two alternatives (Project 1 and Project 2), one comparison is needed. According to Table 6:

- If personnel cost were the only criterion, then Project 1 would be the best option (priority = 0.833),
- If the only criterion were equipment and material cost, then the best choice would be Project 2,
- If the only criterion were overhead cost, then the best option would be Project 2,
- If the only criterion were personnel benefit, Project 1 would be the best choice (priority = 0.833),
- If the only criterion were equipment and material benefit, the best choice would be Project 1,
- and finally, if the only criterion were an intangible benefit, the best choice would be Project 1.

**Table 6:** The Results of Local Preferences

Cost	Personnel	Equipment and material	Overhead
Project 1	0.833	0.167	0.125
Project 2	0.167	0.833	0.875
Benefit	Personnel	Equipment and material	Intangible
Project 1	0.833	0.750	0.875
Project 2	0.167	0.250	0.125

### Model synthesis

Local priorities show the preferred project according to each criterion. Model synthesis calculates each alternative's "overall priority" (Mommoh, 2018). According to Table 7, for cost criteria, Project 1 is preferable ("overall priority" = 0.812) compared to Project 2 ("overall priority" = 0.188). Similarly, benefit criteria (personnel, equipment and material, and intangible, again Project 1 is preferable ("overall priority" = 0.628) compared to Project 2 ("overall priority" = 0.372).

**Table 7:** The Results of Overall Priority

Cost	Personnel	Equipment and material	Overhead	
Criteria weights	0.643	0.283	0.074	<b>Overall priority</b>
Project 1	0.535	0.212	0.065	<b>0.812</b>
Project 2	0.107	0.071	0.009	<b>0.188</b>
Benefit	Personnel	Equipment and material	Intangible	
Criteria weights	0.696	0.232	0.072	<b>Overall priority</b>
Project 1	0.580	0.039	0.009	<b>0.628</b>
Project 2	0.116	0.193	0.063	<b>0.372</b>

As a result of all calculations, it is clear that Project 1 is eligible to be selected according to cost and benefit criteria. Next, sensitivity analysis will be applied to make the final decision.

### Sensitivity analysis

The "overall priorities" will be influenced by the "importance weights" given to each criterion. Hendrick (2003) defined sensitivity analysis as a what-if analysis to see how the final results would have changed if the criteria weights had been different. No final decision should be made without performing a sensitivity analysis. According to Mommoh (2018), the questions should be What would be the best alternative if we change the importance of the criteria? To make a sensitivity analysis, change the "weights of each criterion" and test how they impact the "overall priorities" of the alternatives.

There will be two scenarios for the evaluation process of the study:

- Scenario 1: original overall priorities reached by previous calculations in Table 5.
- Scenario 2: it is given the same value for all criteria (each factor has 0.333 weight)

In scenario one, the results were found for the cost factor for Project 1=0.812 and Project 2=0.188, for the benefit factor for Project 1=0.628 and Project 2=0.372. Similarly, in scenario two, the results for cost factor were found for Project 1=0.375 and Project 2=0.625, for the benefit factor for Project 1=0.818 and Project 2=0.182.

It is now possible to make a final decision. This is the last step of the study. The resulting ratio for Project 1 for scenario 1 is  $0.812/0.628=1.292$  and for Project 2 is  $0.188/0.372=0.505$ . This result shows project 1 is a better option than project 2 in scenario one according to all computations.

Likewise, Project 1 for scenario 2 is  $0.375/0.818=0.458$  and Project 2 is  $0.625/0.182=3.434$ . This result shows project 2 is a better option than project 1 in scenario two according to all computations.

### Conclusion

Ergonomics and sustainability are closely related fields that mutually support each other (Haslam & Waterson, 2013). For example, ergonomics applications help sustainability by improving human

resources sustainability, such as increasing motivation, improving safety in workstations, decreasing absenteeism, and decreasing accidents and injuries. Besides, it contributes to sustainability by decreasing scrap and waste. On the other hand, sustainability awareness and consciousness encourage using ergonomics programs in organizations (Pavlovic-Veselinovic, 2014).

At first, ergonomics and environmental projects may easily be seen as a pure expense. This study proposed a model that AHP and CBA will be used together to overcome this illusion. It is concluded that CBA gives a very well-structured framework for complex projects in business, including tangible and intangible costs and benefits in the project evaluation process (Goggins et al., 2008). On the other hand, AHP contributes to forming a hierarchal model from the designing phase of the project evaluation procedure through the end of giving the final decision. Besides, AHP elevates the subjective preferences of human interventions to the project evaluation process by several computations and gives very well-structured guidance along with the evaluation process. Therefore, using both methodologies together will make the decision-making process more realistic and concrete.

It is important to state that the calculations made in this study do not determine the decision itself but guide the final decision. These mathematical methodologies help decision-makers make more realistic decisions by distancing their intuitive beliefs and judgements in business life. The methodologies applied in this study are just means of shaving the prejudices and subjective thoughts of decision-makers, restricting them from reaching a more sensible decision.

Eventually, this study proposed a mixed CBA and AHP methodology to make the decision makers make more realistic decisions about big projects like environmental and ergonomics programs, which can be seen as a pure expense at first. This methodology will help to convince the decision-making committee to approve the projects more easily. But, of course, the decision makers can make decisions contradictory to the results of calculations in the project management process. In other words, the methodologies applied in this study allow them to give strong structured guidance in decision-making processes of complex projects like ergonomics programs or environmental projects especially seen as a pure expense at first in business.

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#### **Conflict of interests:**

The author has no conflict of interest to declare.

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## Impact of corporate social responsibility performed by Turkish banks related to COVID-19 on customer satisfaction and loyalty

### Türk bankalarının COVID-19 ile ilgili yaptıkları kurumsal sosyal sorumluluk uygulamalarının müşteri tatmini ve sadakatine etkisi

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#### Abstract

The study aims to evaluate the support provided by banks in the COVID-19 era and to investigate the effect on consumer preferences. In this direction, the effects of CSR variables (economic, legal, ethical, philanthropic) and corporate interactions (corporate image, CSR trust, corporate evaluation) on consumer preferences (customer satisfaction, customer loyalty) were investigated. The study collected data from bank customers who showed corporate social responsibility practices; in total, 346 data were collected in Turkey. Confirmatory factor analysis and path analysis were performed in the Amos 22.0 program. The results of this study demonstrated that the impact of CSR variables on corporate image, trust and evaluation had been proven. While economic and ethical responsibilities positively affect the corporate image, legal and philanthropic responsibilities increase consumers' trust. In addition, legal responsibilities positively affect consumers' evaluation of the banks. The results also confirm that corporate image, trust and evaluation affect customer satisfaction and loyalty. With this study, it will be possible to improve the behaviour of banks in this direction in times of crisis by revealing the preferences of bank customers for corporate social responsibility components.

**Keywords:** Corporate Social Responsibility, COVID-19, Corporate Image, Corporate Evaluation, Customer Satisfaction, Customer Loyalty

**Jel Codes:** M10, M14, M31

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#### Öz

Çalışmanın amacı, COVID-19 döneminde bankaların sağladığı destekleri değerlendirmek ve tüketici tercihlerine etkisini araştırmaktır. Bu doğrultuda KSS değişkenlerinin (ekonomik, yasal, etik, hayırsever) ve kurumsal etkileşimlerin (kurumsal imaj, KSS güveni, kurumsal değerlendirme) tüketici tercihleri (müşteri memnuniyeti, müşteri sadakati) üzerindeki etkileri araştırılmıştır. Araştırmada kurumsal sosyal sorumluluk uygulamaları gösteren banka müşterilerinden veriler toplanmıştır. Türkiye'de toplam 346 veri toplanmıştır. Amos 22.0 programında doğrulayıcı faktör analizi ve yol analizi yapılmıştır. Bu çalışmanın sonuçları, KSS değişkenlerinin kurumsal imaj, güven ve değerlendirme üzerindeki etkisinin kanıtlandığını göstermiştir. Ekonomik ve etik sorumluluklar kurum imajını olumlu etkilerken, yasal ve hayırsever sorumluluklar tüketicilerin güvenini artırmaktadır. Ayrıca yasal sorumluluklar tüketicilerin bankaları değerlendirmesini olumlu yönde etkilemektedir. Sonuçlar ayrıca kurumsal imaj, güven ve değerlendirmenin müşteri memnuniyetini ve sadakatini etkilediğini doğrulamaktadır. Bu çalışma ile banka müşterilerinin kurumsal sosyal sorumluluk bileşenlerine yönelik tercihlerini ortaya koyarak, kriz zamanlarında bankaların bu yöndeki davranışlarını iyileştirmek mümkün olacaktır.

**Anahtar Kelimeler:** Kurumsal Sosyal Sorumluluk, COVID-19, Kurumsal İmaj, Kurumsal Değerlendirme, Müşteri Memnuniyeti, Müşteri Sadakati

**JEL Kodları:** M10, M14, M31

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## Introduction

During the coronavirus pandemic, significant challenges have arisen for individuals, companies, and governments. (Manuel and Herron, 2020). While individuals are trying to protect their health and work, companies have tried to find help for their closed businesses. On the other hand, governments have tried to support their citizens economically and in terms of health. In addition, successful companies supported the citizens in this process. Companies are performing various CSR activities, such as product donations, cash grants, and discounted products, to reduce the pandemic's impact (Yoo and Lee, 2018). Banks also saw this as a corporate social responsibility opportunity and offered appropriate loans to citizens. Because during the pandemic, many people were unemployed and could not work temporarily or continue their work due to illness. Hence, they needed economic aid. Many countries (such as the USA, Germany, Japan, etc.) provided direct assistance to their citizens during this period (Lentner, Szegedi, Tatay, 2015). On the other hand, banks offered suitable loan opportunities to show that they were on the side of those countries. Public and private banks in Turkey have similarly supported the citizens. The study tried to reveal how consumers evaluated these aids made by banks during the COVID-19 period.

When the studies in the literature are examined (Palacios-Florencio, Junco, Castellanos and Diaz, 2018; Cha and Jo, 2019), it is seen that corporate social responsibility is not studied enough related to crisis times. Very few CSR studies conducted with crisis (Lentner, Szegedi and Tatay, 2015; Manuel and Herron, 2020) were found. The separation of COVID-19 from other crises, as it is a health-related crisis, and Turkish banks seeing it as a CSR opportunity, has been an important source of motivation for this study. In this direction, the study aims to evaluate the support provided by banks in the COVID-19 era and to investigate the effect on consumer preferences. This study will make three important contributions to the literature. First, it will be revealed how the consumer meets these CSR practices of banks. Thus, it will be possible to reveal whether banks should increase their CSR applications in times of crisis. Secondly, the banks' support's economic, legal, ethical and philanthropic effects will be revealed. Thus, the general point of view of consumers on banks' CSR practices will be evaluated, and corrections can be made accordingly. Third, corporate and CSR components that increase consumer satisfaction and loyalty will be identified. Thus, consumers' perspectives on the bank will be removed from being only 'financial', and an emotional bond will be established.

## Literature review

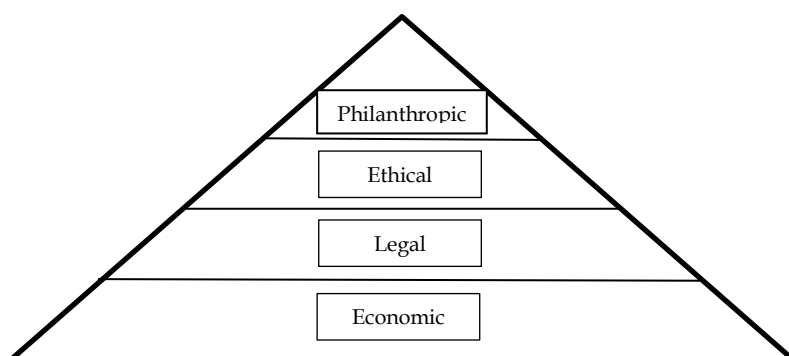
### Corporate social responsibility (CSR)

Archie B. Carroll, who introduced the CSR pyramid to the field, is one of the first to define the concept of CSR. According to Carroll (1999: 271), social responsibility corresponds to behaviours and decisions outside the economic interests of institutions. The stronger the companies, give to higher the importance of social responsibility. In this context, there is a relationship between the concepts of power and social responsibility. Corporate social responsibility (CSR) continues to gain importance by advancing as a global power both in the world and in Turkey. Today's companies and organizations have to act by considering the welfare and quality of society, apart from their economic interests (Chen and Huang, 2018). For this reason, corporate social responsibility is extremely important for companies and organizations that are more accountable, aiming for mutual benefit through transparent and honest communication (Kim and Thapa, 2018).

Social responsibility campaigns, institutions and organizations or brands can be defined as strategic tools to provide mutual benefit to the target audience. Corporate social responsibility activities contribute to the reputation of companies, increase brand awareness and accelerate sales (Virvilaite and Daubaraite, 2011). Thus, it brings many benefits by attracting the attention of the media. Social responsibility campaigns can raise the position of many brands in the fastest and most economical way if they are done sincerely. Today, brands must develop a successful communication strategy to persuade consumers (Fida, Ahmad, Balushi and Singh, 2020). Brands have to keep the bond with the consumer warm. The abstract meaning of the brand will keep this bond warm. According to Freeman (1984), "stakeholders of a firm are individuals or groups that are affected by or influence the process of achieving the objectives of the business. His view bases that the responsibility of the business on its shareholders and owners has been changed and expanded to the direction that the responsibility of the business is to all relevant stakeholders (Singh and Mishra 2021). Stakeholder theory is based on determining who will be the groups that businesses should be responsible for in the marketplace. In the study, the support activities of banks during the COVID-19 period were examined, taking into account Freeman's stakeholder theory and the components that Carroll mentioned in the last three steps (that most often use CSR in the literature).

## Corporate social responsibility dimensions

According to Carroll (1991), the Corporate Social Responsibility Pyramid was examined in four dimensions. These are economic, legal, ethical and philanthropic responsibilities (Figure1).



**Figure 1:** Corporate Social Responsibility Pyramid

Source: Carroll, 1991

Economic responsibilities are seen as the foundation responsibility in the pyramid (Lentner et al. 2015). If a company achieves the first step efficiently, it can move on to the next. In order to ensure the continuity of commercial enterprises, they must meet economic expectations in the first step. They can then move on to the second step by complying with the laws and obligations. In the third step, it is not enough to comply with the law. It is also necessary to comply with the ethical rules. In the last step, responsibility must be taken for the well-being of society. Economic responsibility is seen as increasing the owners' welfare, ensuring profitability and growth and the obligation of a business organization to make money (Carroll, 1991). Examining the studies in this area, Virvilaite and Daubaraite (2011) confirmed the effect of economic responsibilities on the corporate image in their studies. Pratihari and Uzma (2018) found a relationship between economic responsibility, corporate brand evaluation and brand loyalty in their studies. Archimi, Reynaud, Yasin and Bhatti (2018) stated that economic responsibility positively affects corporate trust. Cha and Jo (2019) found that economic responsibility is effective in their research on corporate image and behavioural intention in coffee shops operating with the franchising method. Nengsih et al. (2021), in their study on banks, revealed that corporate social responsibility is effective on image and trust. In line with the relevant literature, the first three hypotheses are based on the effects of economic responsibility;

**Hypothesis 1:** Economic responsibilities positively and significantly affects the corporate image.

**Hypothesis 2:** Economic responsibilities positively and significantly affects CSR trust.

**Hypothesis 3:** Economic responsibilities positively and significantly affects corporate evaluation.

Legal responsibility is seen as companies must respect local, state, federal, and international laws and regulations (Chen et al. 2020). Companies that act following the law will be able to make a favourable contribution to the whole economy and society. If a company engages in tax evasion, money laundering activities or even manufactures a toxic product, and it is unreasonable to think that it shares CSR values (Ghaderi et al. 2019). When the studies on legal responsibilities are examined, Irshad et al. (2017) stated that CSR effectively affects the corporate image. In addition, it has been seen that CSR plays a role as a corporate image tool in its impact on customer satisfaction and customer loyalty. Zhang and Cui (2020) stated in their research on the fashion industry that CSR components (economic, legal) affect purchase intention through the corporate image. However, the effect of ethical and philanthropic responsibilities on the corporate image could not be confirmed. Archimi et al. (2018) proved in their studies that legal responsibilities significantly affect organizational trust. Also, Ghaderi et al. (2019) found that CSR positively affected customers' hotel evaluations. Chen et al. (2020) examined the effect of four dimensions of CSR on corporate image and trust in the hotel industry. As a result of the study, they found that economic, legal, and ethical CSR is effective on corporate image. Also, economic, legal and philanthropic CSR is affected consumer trust. Accordingly, the second three hypotheses are based on the effects of legal responsibility;

**Hypothesis 4:** Legal responsibilities positively and significantly affect the corporate image.

**Hypothesis 5:** Legal responsibilities positively and significantly affect CSR trust.

**Hypothesis 6:** Legal responsibilities positively and significantly affect corporate evaluation.



Ethical responsibility requires the business to do the right things voluntarily, not by the force of law (Kim and Thapa, 2018). Since banks often have strict legal controls, they must comply with many ethical rules. However, although the credit card fee can be legally charged, banks that do not will have done a better job ethically. Because that's what society expects, or if banks give priority to the elderly and disabled in the queue waiting, it will be appreciated by society. When the studies on ethical responsibility are evaluated, Chung et al. (2015) revealed that economic, legal, ethical and philanthropic responsibilities affect customer loyalty. In addition, corporate image moderated this relationship. Palacios-Florencio et al. (2018) revealed in their research in the hotel industry that ethical CSR affects image and loyalty through trust. In their research, Kim and Thapa (2018) stated that CSR practices are effective in corporate performance and evaluation. Ali, Sial, Brugni, Hwang, Khuong and Khanh (2019) obtained that corporate image and customer satisfaction mediated the relationship between corporate social responsibility (legal, ethical, discretionary) and firm performance. Also, Nengsih, Nafrianto and Uriawan (2021) demonstrated the effect of CSR on trust and image. In addition, Singh and Mishra (2021) revealed that corporate social responsibility effectively evaluates the company through corporate reputation. Consequently, the third three hypotheses are based on the effects of ethical responsibility;

**Hypothesis 7:** Ethical responsibilities positively and significantly affects the corporate image.

**Hypothesis 8:** Ethical responsibilities positively and significantly affects CSR trust.

**Hypothesis 9:** Ethical responsibilities positively and significantly affects corporate evaluation.

Philanthropic responsibility is pure giving for society's interest. In short, it includes activities that are done only for the benefit of society, not for any legal regulation or ethical concern (Latif, Bunce and Ahmad 2021). Banks sponsoring sports organizations, supporting environmental activities, etc., are examples of this. The important point is that it is outside of its own business and is done for society's benefit. Chen and Huang (2018) revealed in their research that CSR is effective on corporate trustworthiness and evaluation when the studies on this term are examined. Boronat-Navarro and Perez-Aranda (2019) stated in their study that CSR components (economic, legal, ethical, philanthropic) are effective on corporate reputation and evaluation of the institution. In their study of citizenship behaviours, Kim et al. (2020) found that philanthropic responsibilities affect the corporate image. Latif et al. (2021) showed the effect of CSR variables (ethical, philanthropic) on satisfaction, trust and loyalty in universities. Thus, the fourth three hypotheses are based on the effects of philanthropic responsibility;

**Hypothesis 10:** Philanthropic responsibilities positively and significantly affects the corporate image.

**Hypothesis 11:** Philanthropic responsibilities positively and significantly affects CSR trust.

**Hypothesis 12:** Philanthropic responsibilities positively and significantly affects corporate evaluation.

### **Corporate image**

Company image can be defined as the picture of the organization in the minds of its target audiences. In other words, it is the set of judgments about the adjective attributed to the corporate identity in the minds of the target audiences (Emmanuel and Priscilla, 2022). Brand image, trust, evaluation, and satisfying relationships have been well-established and studied for various sectors (Ariani, Firdaus and Hairudinor, 2019; Yu et al., 2020; Emmanuel and Priscilla, 2022). From these studies, Ariani et al. (2019) revealed in their mobile sector research that corporate image and trust positively affect customer satisfaction. Similarly, Chien and Chi (2019) found that corporate image positively affects customer satisfaction in their research on four different sectors. Yu, Jiang, Zhuang, Na and Cui (2020) found that corporate and CSR image affect consumers' trust. Purwanto, Deviny and Mutahar (2020), in their research evaluating the millennial generation's view on the banking sector, found that corporate image affects trust. In addition, the corporate image also affects customer loyalty through trust. Hence, the fifth three hypotheses are based on the effects of corporate image;

**Hypothesis 13:** Corporate image significantly affects CSR trust.

**Hypothesis 14:** Corporate image significantly affects corporate evaluation.

**Hypothesis 15:** Corporate image significantly affects customer satisfaction.

### **CSR trust**

Trust is a dimension that determines the degree of belief that one party in a relationship feels that the promises made by the other party will be fulfilled (Palacios-Florencio et al., 2018). CSR applications are important to increase the trust in banks. This situation is seen more clearly in studies (Park, Kim and Kwon 2017; Palacios-Florencio et al. 2018; Hoang and Nguyen 2019; Geebren, Jabbar and Luo 2021) conducted in this field. Park et al. (2017) proved that corporate social responsibility commitment



significantly affects trust and satisfaction. In addition, the effect of trust on satisfaction and loyalty was also confirmed. Palacios-Florencia et al. (2018) found that corporate social responsibility affected consumers' trust. In addition, consumers' trust affects corporate image and loyalty. Pasharibu, Paramita and Febrianto (2018) stated that consumer trust affects satisfaction in their study transportation. Hoang and Nguyen (2019) proved in their research in the field of banking that consumer confidence affects consumer satisfaction. In addition, consumer trust affects consumer loyalty through satisfaction. Likewise, Geebren et al. (2021), in their research in the banking field, found that trust is effective on consumer satisfaction. In line with the relevant literature, the next hypotheses are based on the effect of CSR trust;

**Hypothesis 16:** CSR trust positively and significantly affects customer satisfaction.

### **Corporate evaluation**

Previous studies (Lentner et al., 2015; Yoo and Lee, 2018) suggested that consumers' CSR practices can positively impact their company evaluation. According to the memory integration effect (Chen and Huang, 2018), if consumers have a positive impression/impact on businesses, they tend to rate it better. One of the important components that can create this positive effect is CSR applications. By using these applications, banks will be able to enable consumers to remember themselves positively. When the studies carried out in this direction are examined, Lentner et al. (2015) found a significant relationship between CSR support and institutional evaluation in their study. Similarly, Yoo and Lee (2018) found a significant relationship between CSR support and corporate evaluation. Wedysiage et al. (2021) stated in their research that corporate social responsibility practices positively affect competitive advantage through customer satisfaction. In addition, Emmanuel and Priscilla (2022) stated that CSR practices will positively affect customer evaluations and may impact corporate image and satisfaction. Thereby, the next hypotheses are based on the effect of corporate evaluation;

**Hypothesis 17:** Corporate evaluation positively and significantly affects customer satisfaction.

### **Customer satisfaction**

Customer satisfaction is based on customers' overall evaluation of given service by companies. Customer satisfaction; is associated with many important concepts, such as service quality (Chung, Yu, Choi and Shin 2015), trust (Hoang and Nguyen 2019) and loyalty (Park et al. 2017). In addition, the importance given to corporate social responsibility by the companies is one of the variables that can affect customer satisfaction. Latif et al. (2020) proved that consumers' perceived corporate social responsibility affected customer satisfaction. Moreover, many countries and industries have confirmed the relationship between customer satisfaction and customer loyalty. These include the banking sector (Famiyeh, Asante and Kwarteng 2018; Fida et al. 2020). Famiyeh et al. (2018) found that customer satisfaction effectively affects loyalty in the banking sector. Similarly, Fida et al. (2020) confirmed customer satisfaction's effects on customer loyalty. Therefore, the next hypotheses are based on the effect of customer satisfaction;

**Hypothesis 18:** Customer satisfaction positively and significantly affects customer satisfaction.

### **Customer loyalty**

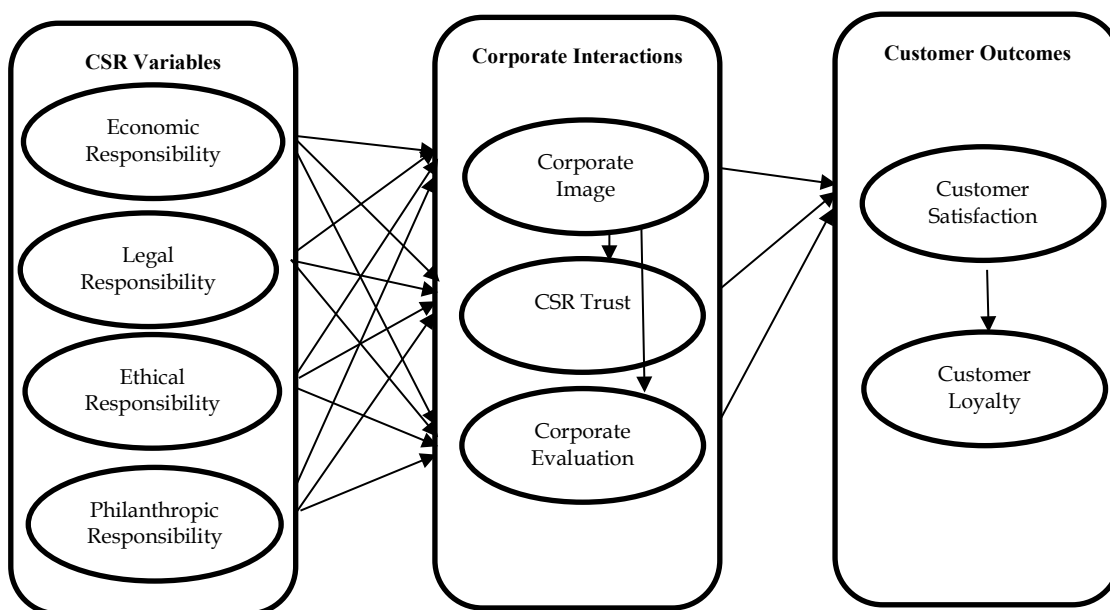
Customer loyalty is one of the important elements that companies will want to create customer lifetime value. When the studies on this subject are examined, the influence of satisfaction on loyalty has been confirmed for a range of sectors (Ali et al., 2019; Lu et al., 2020; Muflih, 2021). In their research, Akbari et al. (2019) found that corporate social responsibility affects customer trust and satisfaction. It also revealed that customer trust and satisfaction directly affect loyalty. Lu et al. (2020) showed in their research that CSR initiatives significantly and positively affect image and loyalty. Ali et al. (2019) also show the effect of perceived CSR on satisfaction and loyalty in the fast food sector. Finally, Muflih (2021) investigated the relationship between corporate social responsibility and loyalty in the banking sector. As a result of the study, it was revealed that CSR variables affect consumer loyalty through image, reputation and satisfaction. In this direction, variables that can increase the satisfaction and loyalty of bank customers will be investigated in this study.

## **Data and method**

### **Methodology**

The study aims to evaluate the support provided by banks in the COVID-19 era and to investigate the effect on consumer preferences. In this direction, consumers who received service from banks were to watch the support ads made by the banks during the COVID-19 period, and their reactions to the CSR variables (economic, legal, ethical, philanthropic) were measured. Moreover, the effects of consumers'

reactions to corporate social responsibility components on their preferences were investigated by measuring the corporate image of consumers towards the bank they use, their trust in CSR and evaluation of the banks, customer satisfaction and loyalty components (Figure 2). In addition, Pratihari and Uzma (2018) corporate social responsibility components; Kim, Song, Lee, Lee (2017) corporate image; Tian, Wang, Yang (2011) CSR trust and corporate evaluation; Leninkumar (2017) customer satisfaction and Abbas, Gao, Shah (2018) studies were used to measure customer loyalty.



**Figure 2:** Research Model

### Measures and data collection

The study was carried out in Turkey using an online questionnaire (google forms). In the research, only data were collected from bank customers to investigate the model and the relationship between the variables. Tabachnik and Fidell's (2001, p.117) formula was used to determine the sample size for multiple regression analysis. According to the formula, 122 data must be reached in the study. The data were collected via the internet and face-to-face survey method. A total of 346 data suitable for analysis were collected. All items, which constitute the nine latent variables, were measured on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

The economic responsibility scale includes the items 'honesty', 'customer needs', 'customer benefits', 'individual attention', 'pleasant banking environment', and 'feel safe'; legal responsibility includes 'safety measurement', 'respect regulations', 'legal certificate'. The ethical responsibility scale includes 'know right', 'ethical principle', 'treats fairly', 'never misbehave', and 'special provision'; and philanthropic responsibility includes 'charity', 'green environment', 'supports child', and 'sponsor events' items. The corporate image scale includes the items 'fair', 'right', 'good impression', 'good image', and 'service high'; CSR trust includes 'contribute society', 'socially responsible', 'substantial contribution'; corporate evaluation includes 'successful', 'trustworthy', 'honourable' items. Customer satisfaction includes 'satisfied', 'wise choice', 'right thing', 'very good', and 'overall satisfaction', and customer loyalty includes 'first choice', 'costly end', 'main bank', 'recommend' items.

### Preliminary analysis

In this study, the questionnaire consisted of three sections and 44 items. Consumers were asked to evaluate banks' CSR (Corporate Social Responsibility) items in the first part. In the second part, the image of the bank they use, trust, corporate evaluation, customer satisfaction and loyalty items were evaluated. Finally, in the third part, there are demographic questions. The Cronbach alpha, C.R., AVE, and correlation coefficients of the items in the first two sections are presented in Table 1.

Cronbach's alpha (C.A.) was used to calculate the homogeneity coefficient. The coefficient should be 0.70 to be accepted (Nunnally, 1978). Since all the variables are above for composite reliability and Cronbach alpha, the values were above .70, and it was accepted that the data was reliable. Furthermore,

C.R.>.70 and AVE>.50 were examined for convergent validity and found within the recommended values (Hair et al., 2014). Also, Table II shows that discriminant validity was achieved for every construct (Fornell and Larcker, 1981). Before testing the 346 data obtained in the study in structural equation modelling, elements such as normal distribution in the data, no multicollinearity problem, and the assumption of linearity (Tabachnick, Fidell 2013) were provided. The skewness and kurtosis coefficients for the normal distribution are within the limits of  $\pm 1$ . To test whether there is a multicollinearity problem in the data, the correlation between the independent variables should not be above .70 (Afthanorhan, 2013). The correlation between independent variables in the study was found below .70 (Table 2). Also, the variance inflation factor (VIF) coefficient was examined to examine whether there was a multicollinearity problem in the data. It was found to be less than 5 for the components (Hair et al., 2010).

**Table 1:** C.A., C.R., AVE and Correlations Between Variables

	C.A.	CR	AVE	1	2	3	4	5	6	7	8	9
1	0.88	0.88	0.66	1								
2	0.94	0.94	0.84	0.31	1							
3	0.80	0.81	0.53	0.16	0.02	1						
4	0.70	0.72	0.50	0.07	0.13	0.30	1					
5	0.86	0.86	0.84	0.14	0.07	0.13	0.01	1				
6	0.93	0.94	0.81	0.06	0.16	0.01	0.30	0.26	1			
7	0.93	0.92	0.57	0.10	0.15	0.10	0.04	0.32	0.02	1		
8	0.85	0.86	0.56	0.07	0.15	0.05	0.22	0.28	0.19	0.28	1	
9	0.79	0.80	0.51	0.02	0.11	0.05	0.19	0.11	0.04	0.13	0.27	1

Variables: 1-Economic responsibility, 2-Legal responsibility, 3-Ethical responsibility, 4- Philanthropic Responsibility, 5-Corporate image, 6-CSR Trust, 7-Corporate evaluation, 8-Customer satisfaction, 9-Customer Loyalty

## Results

This study first applied confirmatory factor analysis for construct and discriminant validity. Afterwards, the model test revealed in theory by path analysis was carried out with the AMOS 22 program.

### Confirmatory factor analysis

Confirmatory factor analysis was performed using the model's nine latent and thirty-nine observed variables. As a result of confirmatory factor analysis; CMIN= 950.208,  $\chi^2/df$ :1.427, RMSEA:0.04, TLI:0.95, CFI:0.96, SRMR:0.02 and GFI: 0.87 has been obtained. The standardized factor loadings ranged from 0.53 to 0.95. According to the suggestion of Afthanorhan (2013), standardised factor values were excluded from the study, two items in economic responsibility, one in ethical responsibility, and one in philanthropic responsibility, which is shared with other factors. According to Byrne (2013), covariance can be assigned between the margins of error of the variables in the same structure in the modification proposals. Consequently, covariance is assigned between two customer satisfaction variables' errors. As the modified factor analysis results showed excellent fit values, path analysis was started (CMIN= 651.652,  $\chi^2/df$ :1.246, CFI:0.98, RMSEA:0.03 and GFI:0.90).

### Results of the proposed model

In order to investigate the preferences of consumers by evaluating the aid provided by banks, in the AMOS 22 program, with the corporate social responsibility variables (economic, legal, ethical, philanthropic), corporate image, corporate evaluation, CSR trust, customer satisfaction, customer loyalty, path analysis was carried out. The related variables were converted from the latent variable to the observed variable and analyzed (Bryne, 2013). The model prepared in line with the studies in the literature was tested in the program, and the results are presented in Table 2. As a result of the path analysis, the fit values of the model were found as  $\chi^2 /df$ :1.798, RMSEA:0.05, CFI:0.96, SRMR:0.01, IFI:0.96, GFI:0.98, AGFI:0.95. The results are within perfect agreement levels (Kline, 2015). Therefore, it was accepted without the need for any modifications.

**Table 2:** Model Fit Indexes

Model	$\chi^2/df$	RMSEA	SRMR	CFI	GFI	AGFI
Model Fit Indexes*	<5.0	<0.07	<0.08	>0.95	>0.90	>0.90
CFA	1.246	0.03	0.02	0.98	0.90	0.90
Hypothesized model	1.798	0.02	0.01	0.96	0.98	0.95

\*Bryne (2011) model fit indexes

As a result of the analysis with SEM coefficients (Table 3), it was found that economic responsibility has a significant and positive effect on the corporate image ( $\beta = .09$ ;  $p < .001$ ). However, economic responsibility did not affect CSR trust ( $\beta = .03$ ) and corporate evaluation ( $\beta = .02$ ) ( $p > .005$ ). While the effect of legal responsibility on the corporate image ( $\beta = .03$ ,  $p > .005$ ) was not seen, there was a positive and significant effect on CSR trust ( $\beta = .15$ ;  $p < .001$ ) and corporate evaluation ( $\beta = .12$ ;  $p < .001$ ). Ethical responsibility positively and significantly affects corporate image ( $\beta = .12$ ;  $p < .001$ ), while CSR trust ( $\beta = .06$ ,  $p > .005$ ) and corporate evaluation ( $\beta = .07$ ,  $p > .005$ ) no effect was found. Philanthropic responsibility, on the other hand, had a positive and significant effect on CSR trust ( $\beta = .28$ ;  $p < .001$ ) but not on the corporate image ( $\beta = .01$ ) and corporate evaluation ( $\beta = .02$ ) ( $p > .005$ ). In addition, the corporate image has a positive and significant effect on CSR trust ( $\beta = .36$ ;  $p < .001$ ), corporate evaluation ( $\beta = .35$ ;  $p < .001$ ) and customer satisfaction ( $\beta = .32$ ;  $p < .001$ ). Moreover, CSR trust ( $\beta = .23$ ;  $p < .001$ ) and corporate evaluation ( $\beta = .17$ ;  $p < .001$ ) significantly and positively affect customer satisfaction. Also, it was found that customer satisfaction affected customer loyalty ( $\beta = .22$ ;  $p < .001$ ) in a significant and positive way.

**Table 3:** Variables and Direction of Relationship

Variables	Standard Error	$\beta^*$	Explained Variance ( $R^2$ )	P	Supported/Not supported
Economic r. → Corporate image	0,050	0,095	0,009	<,005	Supported
Legal r. → Corporate image	0,049	0,033	0,001	>,05	Not supported
Ethical r. → Corporate image	0,060	0,125	0,015	<,005	Supported
Philanthropic r. → Corporate image	0,042	0,009	0,000	>,05	Not supported
Economic r. → CSR trust	0,059	0,031	0,001	>,05	Not supported
Legal r. → CSR trust	0,058	0,154	0,023	<,001	Supported
Ethical r. → CSR trust	0,071	0,065	0,004	>,05	Not supported
Philanthropic r. → CSR trust	0,049	0,283	0,080	<,001	Supported
Economic r. → Corporate evaluation	0,056	0,021	0,000	>,05	Not supported
Legal r. → Corporate evaluation	0,055	0,121	0,014	<,005	Supported
Ethical r. → Corporate evaluation	0,068	0,069	0,004	>,05	Not supported
Philanthropic r. → Corporate evaluation	0,047	0,021	0,000	>,05	Not supported
Corporate Image → CSR trust	0,063	0,362	0,131	<,001	Supported
Corporate Image → Corporate evaluation	0,060	0,351	0,123	<,001	Supported
Corporate Image → Customer satisfaction	0,056	0,318	0,101	<,001	Supported
CSR trust → Customer satisfaction	0,042	0,233	0,054	<,001	Supported
Corporate evaluation → Customer satisfaction	0,046	0,174	0,030	<,001	Supported
Customer satisfaction → Customer loyalty	0,042	0,224	0,050	<,001	Supported

If the study results are summarized, components of corporate social responsibility, the impact of economic and ethical responsibility on corporate image, legal responsibility and philanthropic responsibility on CSR trust, and legal responsibility on corporate evaluation have been verified. However, the impact of legal and philanthropic responsibility on corporate image and economic and ethical responsibility on CSR trust could not be verified. Also, economic, ethical and philanthropic responsibility was not found to be effective in corporate evaluation. In addition, the effect of corporate image on CSR trust (H4), corporate evaluation (H5), and customer satisfaction (H6) have been proven. Furthermore, the CSR trust effect on customer satisfaction (H7) and corporate evaluation effect on

customer satisfaction (H8) is also confirmed. Finally, the effect of corporate evaluation on customer satisfaction (H9) and customer satisfaction on customer loyalty (H10) has been verified.

## **Discussion**

### **Theoretical implications**

As a result of the study, it was seen that as economic responsibility, one of the components of corporate social responsibility, increased, the corporate image also increased. However, no impact of economic responsibility on CSR trust and corporate evaluation was found. It can be deduced that economic responsibility does not affect CSR trust and corporate evaluation, and consumers think that the support given by the banks during the COVID-19 period is for the banks' benefit rather than society's benefit. No effect of legal responsibility on the corporate image was found. However, its impact on CSR trust and corporate evaluation has been confirmed. This result was supported by Archimi et al. (2018) and Chen et al. (2020) studies. It is thought that the ineffectiveness of legal responsibility on the corporate image is because consumers see it as a basic condition. While ethical responsibility affects the corporate image, it does not affect CSR trust and corporate evaluation. This result was supported by Chung et al. (2015) and Palacios-Florenco et al. (2018). Philanthropic responsibility, one of the components of corporate social responsibility, was effective in CSR trust but not in corporate image and evaluation. This result was supported by Chen and Huang's (2018) and Latif et al. (2021) studies. Therefore, the impact of corporate social responsibility variables (economic, legal, ethical, philanthropic) on corporate (image, trust, evaluation) components has been proven.

In the second part of the study, the effect of corporate components (image, trust, evaluation) on consumer preferences (satisfaction, loyalty) has been verified. It has been seen that corporate image is effective in CSR trust, evaluation and customer satisfaction. This result was supported by Yu et al. (2020) study. Furthermore, increasing CSR trust and corporate evaluation scores are also important in increasing customer satisfaction. This result parallels Pasharibu et al. (2018). Finally, to increase customer loyalty, customer satisfaction should be increased (Fida et al. 2020). Therefore, it is necessary to attach importance to the variables of corporate social responsibility to increase customer satisfaction and loyalty.

### **Managerial implications**

During the COVID-19 period, many of the banks (state-private) in Turkey stated that they were with the consumers during the COVID-19 process (with commercials), and they offered low-interest loans (home-car-needs) and support to consumers. In the study, these supports were evaluated within the framework of corporate social responsibility studies, and their effects on consumer preferences were investigated. As a result of the study, it has been seen that the supports given affect the corporate image within the framework of economic and ethical corporate responsibility. Therefore, companies that want to increase their corporate image in the eyes of consumers can take steps to support the economy of consumers. For example, during the COVID-19 pandemic period, while banks offer low-interest loans, retailers can provide this by offering discounts on basic nutrients and hygiene products. In addition, in the study, it was seen that legal and philanthropic responsibility affect CSR trust. In this direction, it is recommended that companies give importance to legal security practices (in face-to-face and online trade) and not only profit-oriented to ensure consumer trust. (Lin, Wan, Hajli, 2019). For example, increasing measures to prevent data theft in electronic applications or increasing the company's visibility in charity events may increase consumers' trust. Moreover, in the study, it was seen that legal responsibility affects the evaluation of the bank. Therefore, adherence to legal regulations in banking practices is very important for consumers. In this direction, banks must act in line with banking rules and increase transparency.

In addition, it has been found that corporate image affects CSR trust, corporate evaluation and customer satisfaction. Therefore, it is very important to increase the corporate image of banks. Correct advertising communication, colour and logo selection, a correct reflection of the vision and mission of the institution, public relations studies, and increasing customer satisfaction could increase the corporate image (Kim, Yin, Lee, 2020). In addition, it was seen in the study that trust in corporate social responsibility and corporate evaluation can increase customer satisfaction. For this reason, banking applications should be aimed at increasing trust and increasing positive evaluation by giving priority to applications that can benefit society. Thus, the satisfaction and loyalty of consumers will be increased. In this sense, banks need to increase their corporate social responsibility efforts and support their corporate image in this direction to gain a competitive advantage in the COVID-19 period or crisis times.

### **Limitations and suggestions for future research**

There are two main limitations in the study. First, a specific segment was chosen for this study. Because the opinions of non-bank users would affect the validity of the data, a comparative study of the opinions of consumers, who are and are not bank users, will produce more generalizable results. Second, purposive convenience sampling was used. It will increase the generalizability of the research if it can be applied with one of the random sampling methods. Future research and future continue to measure the Thus, more in-depth information can be obtained.

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Externally peer-reviewed

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### **Author Contributions:**

Idea/Concept/Design: **S.E.Y, A.Ç.K.**, Data Collection and/or Processing: **S.E.Y, A.Ç.K.**, Analysis and/or Interpretation: **S.E.Y, A.Ç.K.**, Literature Review: **S.E.Y, A.Ç.K.**, Writing the Article: **S.E.Y, A.Ç.K.**, Critical Review: **S.E.Y, A.Ç.K.**, Approval: **S.E.Y, A.Ç.K.**

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## A study of factors influencing consumers' willingness to purchase functional foods (protein enriched milk): The moderating effect of consumer innovativeness

### Tüketicilerin fonksiyonel gıda (proteinli sütler) satın alma istekliliğini etkileyen faktörlerin incelenmesi: Tüketici yenilikçiliğinin düzenleyici etkisi

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#### Abstract

Functional foods are food products that provide new benefits to consumers in addition to nutritional benefits and promote a healthy lifestyle by modifying or enriching the content of various food items. Even though the functional food market is quickly expanding due to its highly dynamic and inventive structure, research on consumer expectations and needs in this subject is still restricted. Accordingly, the purpose of this study is to determine the variables that affect consumers' willingness to purchase functional foods, as well as to examine the moderating effect of consumer innovativeness. Protein-enriched milk products were chosen as the functional food category in the study. The descriptive research approach was employed to reveal the variables' relations. The questionnaire form, which was produced as a result of a literature study to determine the suitable variables and scales, was administered to 420 participants living in Turkey between May and August 2021. The participants were selected using a convenience sampling technique. The Smart PLS 3.3.2 software and least squares path analysis (PLS-SEM) was used to assess the research hypothesis. According to the findings, the propensity to live a healthy lifestyle and consumer innovativeness significantly and positively affect various dimensions of functional food purchase willingness. On the other hand, consumer innovativeness appears to have a moderating effect on the relationship between the propensity to live a healthy lifestyle and the trust in functional food sub-dimensions, as well as the relationship between the propensity to live a healthy lifestyle and the need for functional food sub-dimensions.

**Keywords:** Functional Foods, Protein Enriched Milks, Consumer Innovativeness

**Jel Codes:** M31

#### Öz

Fonksiyonel gıdalar, gıda ürünlerinin çeşitli özelliklerini değiştirerek ya da zenginleştirerek tüketicilere beslenme faydasının ötesinde yeni faydalar sunmayı ve sağlıklı yaşamı desteklemeye çalışan gıda ürünleridir. Fonksiyonel gıda pazarı hızla büyüyen, oldukça dinamik ve yenilikçi bir pazar olmasına rağmen bu alanda tüketici ihtiyaçları ve beklentilerine ilişkin çalışmalar kısıtlı sayıdadır. Bu çalışmanın amacı, tüketicilerin fonksiyonel gıda satın alma istekliliklerini etkileyen faktörleri ortaya koymak ve tüketici yenilikçiliğinin düzenleyici etkisini incelemektir. Araştırmada fonksiyonel gıda kategorisi olarak proteini zenginleştirilmiş süt seçilmiştir. Araştırma, değişkenler arasındaki ilişkileri ortaya çıkarmak amacıyla betimsel araştırma yaklaşımına göre tasarlanmıştır. Literatür taraması ile uygun değişken ve ölçeklerin belirlenmesi sonucunda geliştirilen anket formu, pilot çalışmalar neticesinde Mayıs 2021-Ağustos 2021 tarihleri arasında Türkiye'de yaşayan 420 katılımcı üzerinde uygulanmıştır. Katılımcılar kolayda örnekleme tekniği ile seçilmiştir. Araştırma hipotezlerini test etmek amacıyla Smart PLS 3.3.2 programı kullanılmış ve en küçük kareler yol analizi (PLS-SEM) uygulanmıştır. Analiz sonuçlarına göre sağlıklı yaşam tarzına sahip olma eğiliminin ve tüketici yenilikçiliğinin fonksiyonel gıda satın alma istekliliğine ilişkin bazı boyutlar üzerinde pozitif ve anlamlı etkileri tespit edilmiştir. Öte yandan tüketici yenilikçiliği, sağlıklı yaşam tarzı ile güven alt boyutu arasındaki ilişkide ve sağlıklı yaşam tarzı ile ihtiyaç alt boyutu arasındaki ilişkide düzenleyici bir etkiye sahiptir.

**Anahtar Kelimeler:** Fonksiyonel Gıda, Proteini Zenginleştirilmiş Sütler, Tüketici Yenilikçiliği

**JEL Kodları:** M31

## Introduction

Alongside organic products, the functional food category has emerged as one of the most notable categories in today's consumer food consumption habits. The functional food market, which has been functioning in the food sector since the 1980s, rises by roughly 10% per year with its added benefits in addition to the benefits derived from the nutrients themselves and is a market that has become more significant for food-related companies (Cebeci and Mankan, 2022). The global functional food market is predicted to develop from \$180.58 billion in 2021 to \$191.68 billion in 2022. Furthermore, the market is expected to reach 243.83 billion dollars in 2026 (Functional Foods Global Market Report, 2022). In keeping with the global trend, Turkey's functional food market has been steadily growing since 2015. Turkey had the highest growth rates among all global markets between 2012 and 2017, with a 52 per cent increase in functional food sales volume, from \$303 million to \$461 million (Z Raporu, 2021). This growth enables new inquiries concerning customer attitudes and behaviours toward functional food.

Although the relationship between nutrition and physical health has been known for centuries, the rise in the living standards and the health awareness of modern consumers, as well as the increasing health costs, has meant a growing understanding of the importance of functional foods, leading to a surge in demand to these products (Roberfroid, 2002; Ali and Rahut, 2019). Functional foods or dietary components provide additional benefits to human physiology and metabolism and provide the body's required nutrients, making them beneficial in illness prevention and living a healthy life (Karaduman, 2011). Functional foods resemble traditional foods in appearance and are intended to be consumed as part of a regular diet. Still, they have been changed to perform physiological tasks besides meeting basic nutrient requirements (Frewer, Scholderer and Lambert, 2003).

Designer foods, dietary supplements, and fortified foods are functional foods often high in health-promoting minerals and vitamins. Thus, functional foods provide fundamental nutritional needs (Macaluso et al., 2020; Rajasekaran and Kalaivani, 2020). In addition, they are used for various functions, including weight control, immune and digestive system support, and athlete health, by enhancing the content of numerous food products such as bakery, baby food, dairy products, eggs, and meat.

The primary objective of this study is to examine the factors affecting consumers' willingness to purchase functional foods. For this purpose, protein-enriched milk products were selected in the dairy products category since Gök and Ulu (2018) stated as it is Turkey's most preferred functional food category. Protein-enriched dairy products allow the body to absorb more protein, particularly in sports and activities involving hard exercise. They are accessible to customers from a variety of brands on the market. The functional product industry is innovative and characterized by dynamic growth, and new products are constantly being introduced (Plasek, Lakner, Kasza and Temesi, 2020). Therefore, another purpose of the study is to reveal how innovative tendencies affect consumers' preferences in this relatively new product category. Therefore, the study's findings are expected to contribute to the developing functional food sector by exposing customer preferences.

## Literature review

The literature on functional foods, health awareness, healthy lifestyles, and consumer innovativeness is evaluated in this study section.

### Functional foods

Functional foods are not clearly defined in the literature. Various products are described as functional foods, and some are labelled as nutrients. They reduce the disease risk and have various components that affect various body functions related to well-being and health. Thus, there is no universally accepted simple definition of functional foods. Therefore, functional food should be interpreted as a concept. Moreover, whether it is function-oriented rather than product-oriented, the concept would be universal and would not be influenced by local characteristics or cultural traditions (Williams and Gibson, 2000, p.11).

According to the International Food Information Council (IFIC), functional foods are foods or dietary ingredients that can provide a health benefit beyond basic nutrition. The International Life Sciences Institute of North America (ILSI) defines functional foods as "foods that provide health benefits beyond basic nutrition through physiologically bio-active food ingredients". Health Canada defines functional foods as "similar to a traditional food consumed as part of a normal diet, with seemingly physiological benefits and/or to reduce the risk of chronic disease beyond basic nutritional functions". The Nutrition Business Journal classified functional foods as "foods added to functional levels that enhance health or performance or are fortified with concentrated ingredients. Functional foods include fortified cereals, bread, sports drinks, bars, fortified snacks, baby foods, ready meals, etc. (Howard and Wildman, 2007:

2). Dairy products are one of the important players in the functional food market. For example, it is estimated that approximately 60% of European functional food sales are dairy products (Shortt and O'Brien, 2004, p. 2).

Japan is the birthplace of the term functional food. Furthermore, this country has been at the forefront of the development of functional foods since the early 1980s when comprehensive and large-scale research projects were initiated. Systematic analysis and development of food functions and molecular design of functional foods are funded by the Japanese government (Williams and Gibson, 2000, pp. 11-12). In this regard, Yakult Honsha (founded in 1955) played an important role by developing products based on the probiotic lactic acid bacteria *Lactobacillus casei* Shirota, which is sold as a fermented milk drink in 65 ml bottles. In 1984, the concept of Functional Food was first promoted by Japanese scientists who studied the relationships between nutrition, sensory satisfaction, enhancement, and modulation of physiological systems. In 1991, the Ministry of Health introduced rules to approve a particular category of health-related food called FOSHU (food for specified health uses) (Menrad, 2003, pp. 181-182).

Functional food products are not distributed homogeneously across all food and beverage segments. Instead, these products are mainly used in the milk, confectionery, soft drinks, bakery, and baby food market (Siro, Kápolna, Kápolna and Lugasi, 2008, p. 459).

Health and well-being have become a growing trend in modern nutrition culture. Health was one of the key themes of the presentation about the changing habits of consumers by Larry Hasson, general manager of the International Social Change Research Institute (RISC), at the European Food Seminar in 1999. The main trends identified by RISC for food are pleasure, quality (especially for people aged over 50), innovation, compulsion (associated with young and masculine logic), continuity (the number of product supporters increases with age, especially after 50) and health. Health trends consist of five main consumer concerns. These are expertise, morals, caring, compensation, and restriction (Heasman and Mellentin, 2001, pp. 18-21).

According to Urala and Lähteenmäki (2007), the consumers' attitudes towards functional foods were divided into four dimensions and revealed that they were willing to use them. This study helped clarify the dimensions of the consumer approach, such as the perceived reward from using functional foods, the necessity felt for them, customer confidence and the safety of the food products (Urala and Lähteenmäki, 2007, p. 6).

A study conducted in Turkey in 2014 showed that women were more aware of functional foods than men. Furthermore, older participants became more aware of functional foods than younger participants. This study demonstrates that demographic features influence consumers' interest in functional foods (Büyükkaragöz, Bas, Sağlam and Cengiz, 2014, p. 628). However, consumers are distinguished by a strong information asymmetry that assigns functional food to the reliability category because, most often, consumers cannot verify their claims even after consumption (Di Pasquale, Adinolfi and Capitanio, 2011, p. 181).

### **Health consciousness**

Health awareness is a concept that reflects people's readiness to do more for their health (Kaynak and Ekşi, 2014). According to Schifferstein and Ophuis (1998), health awareness evaluates the degree of readiness to perform health actions. Gould (1990) explains health consciousness as an intrinsic state of self-interest in self-related cues reflected in cognition and somatic emotion of how much a person contributes to their health.

The idea that one's lifestyle will affect longevity is firmly entrenched in the Western value system. Most theoretical models of health behaviour begin with the assumption that the individual is motivated to prevent disease or improve health. Awareness of information, skills, self-efficacy beliefs and real or perceived barriers are also important. However, health-related motivation is recognized as the primary reason for a healthy lifestyle (Newsom, McFarland, Kaplan, Huguët and Zani, 2005).

### **Healthy lifestyle**

Lifestyle is a set of optional activities that are a regular part of an individual's daily life. Although the term healthy lifestyle is frequently used in everyday speech and public media, its use in scientific discourse is far from consistent. It has been described in various ways in the literature, from avoiding bad health habits to all behaviours that impact health status (Berger and Walker, 1997, p. 402).

Bloch (1984) defined a healthy lifestyle as preventing health problems and maximizing personal well-being (cited in Divine and Lepistö, 2005, p.275). A healthy lifestyle emphasizes health-related physical activities such as natural food consumption, health care, and life balance. However, due to the

increasing income and busy lifestyle, people change their eating habits to protect their health. For this purpose, functional foods appear to support consumers to lead healthier life (Gil, Gracia and Sanchez, 2000, p. 212).

Dean et al. (2012) showed that the self-appropriateness of health problems strongly affects the willingness to purchase functional food and the perception of the benefits of these products. Especially when detailed information is given about the claim, function, and health consequences of the product and when the person promises a targeted risk reduction in the issues that the person finds relevant, the willingness for functional food consumption increases (Dean et al., 2012, p. 135).

The results of Niva's (2007) focus groups show that functional food consumers report their disease experiences among family and friends, and these reports increase awareness of risk factors for diseases.

According to Chen (2011), functional foods marketed with promises to promote health or reduce disease risk provide a promising way for consumers to lead healthier lives. However, the research revealed that the joint moderation of health awareness and healthy lifestyle influences consumers' willingness to consume functional foods (Chen, 2011, p. 253).

According to Urala and Lähteenmäki (2003), motives related to well-being and disease prevention encourage the choice of functional foods (Urala and Lähteenmäki, 2003: 153). Likewise, Verbeke (2005) argues that the verification of the health benefits of functional foods and the presence of a sick person in the family affect the acceptance of functional foods more than other important factors (Verbeke, 2005, p. 54).

### **Consumer innovativeness**

When the current literature is reviewed, the consumer's innovativeness is defined as the desire to be stimulated by new products and seek innovation (Hirschman, 1980; Midgley and Dowling, 1978).

Rogers and Shoemaker (1971) define innovativeness as "the degree to which an individual is relatively early to adopt an innovation compared to other members of the system". According to Rogers and Shoemaker (1971), it is meant to be earlier in actual adoption time rather than perceiving whether the individual adopts innovation earlier than others in his system. This is essentially an operational definition. Because it is directly expressed in terms of the measurement of innovativeness, that is, the time it takes for an individual to adopt (Midgley and Dowling, 1978).

Studies in the literature emphasize that innovativeness consists of two dimensions, cognitive and sensory. In the sensory dimension, consumers can be innovative due to an above-average optimal arousal level generated through diversity-seeking behaviour or new product discovery. Cognitively, innovativeness may manifest with increased knowledge gathering or product participation (Cotte and Wood, 2004).

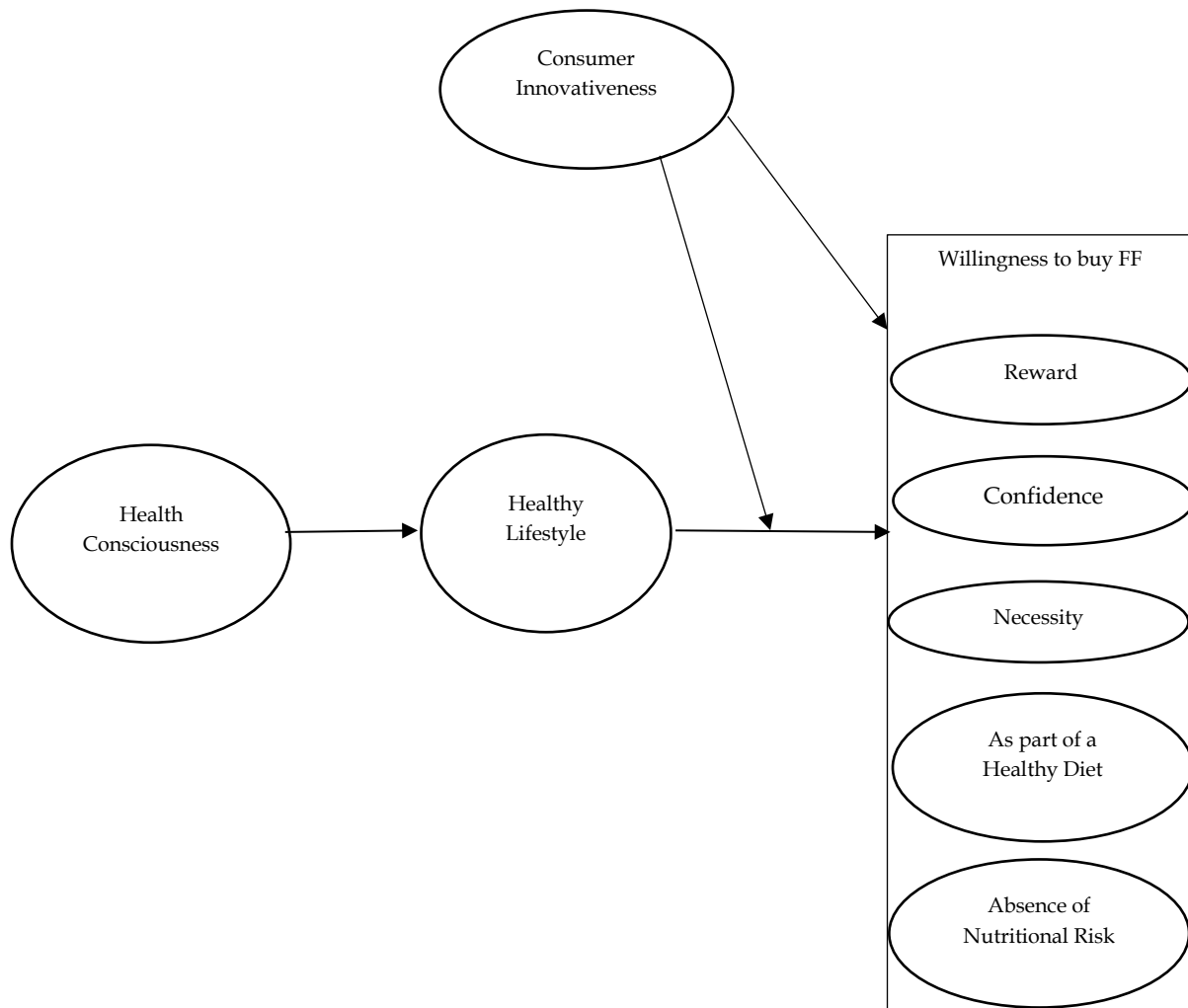
### **Method**

This study aims to reveal the factors affecting consumers' willingness to buy functional food and examine the moderator effect of consumer innovativeness. The study used the descriptive research approach to reveal the variables' relationships. The research sample consists of consumers living in Turkey who have used at least once the products in the protein milk functional food category, determined by convenience sampling method. An online survey, one of the quantitative data collection tools, was applied to reach these consumers.

The questionnaire form, developed as a result of determining the appropriate variables and scales with the literature review, was applied as a pilot on a sample of 50 people after receiving expert opinions. After the pilot study, necessary changes were made, and the questionnaire was finalized. The final form was presented to the respondents living in Turkey between May 2021-August 2021. Respondents were selected via the convenience sampling method. The final questionnaire form was applied to 448 participants. However, 420 questionnaires were included in the analysis because of the evaluations made on control questions, conformity to a normal distribution, skewness/kurtosis, and extreme values. The healthy lifestyle scale was adapted from the scale developed by Gil et al. (2000), and the health awareness scale was adapted from the scale developed by Michaelidou and Hassan (2008). Moreover, the functional food willingness scale was adapted from the scale developed by Urala and Lähteenmäki (2007) and the consumer innovativeness scale from Goldsmith and Hofacker (1991).

### **Research questions and hypothesis**

The studies on the subject in the literature have been comprehensively examined, and the research model created for the research is shown in Figure 1.



**Figure 1:** Research Model

The hypothesis of the research is as follows:

H<sub>1</sub>: Health consciousness has a positive effect on a healthy lifestyle.

H<sub>2</sub>: Healthy lifestyle has a positive effect on the reward.

H<sub>3</sub>: Healthy lifestyle has a positive effect on confidence.

H<sub>4</sub>: Healthy lifestyle has a positive effect on necessity.

H<sub>5</sub>: Healthy lifestyle positively affects the part of the healthy diet variable.

H<sub>6</sub>: Healthy lifestyle positively affects the absence of nutritional risk variables.

H<sub>7</sub>: Consumer innovativeness has a positive effect on the reward.

H<sub>8</sub>: Consumer innovativeness has a positive effect on confidence.

H<sub>9</sub>: Consumer innovativeness has a positive effect on necessity.

H<sub>10</sub>: Consumer innovativeness positively affects the part of the healthy diet variable.

H<sub>11</sub>: Consumer innovativeness positively affects the absence of nutritional risk variables.

H<sub>12</sub>: Consumer innovativeness has a moderating role in the relationship between a healthy lifestyle and reward.

H<sub>13</sub>: Consumer innovativeness has a moderating role in the relationship between a healthy lifestyle and confidence.

H<sub>14</sub>: Consumer innovativeness has a moderating role in the relationship between a healthy lifestyle and necessity.

H<sub>15</sub>: Consumer innovativeness has a moderating role in the relationship between a healthy lifestyle and part of a healthy diet.

H<sub>16</sub>: Consumer innovativeness has a moderating role in the relationship between a healthy lifestyle and the absence of nutritional risk.

H<sub>17</sub>: Health consciousness indirectly affects reward through a healthy lifestyle.

H<sub>18</sub>: Health consciousness indirectly affects confidence through a healthy lifestyle.

H<sub>19</sub>: Health consciousness indirectly affects necessity through a healthy lifestyle.

H<sub>20</sub>: Health consciousness indirectly affects a part of a healthy diet through a healthy lifestyle.

H<sub>21</sub>: Health consciousness indirectly affects the absence of nutritional risk through a healthy lifestyle.

## Findings

### Descriptive statistics

Data on the demographic characteristics of the respondent participating in the study are shown in Table 1.

**Table 1:** Descriptive Statistics of Respondents

Descriptive Statistics		Frequency	Per cent
Gender	Male	206	49.1
	Female	214	50.9
Age	18 years and younger	40	9.6
	19 - 24 years old	183	43.6
	25-29 years old	110	26.1
	30-39 years old	59	14.1
	40-49 years old	16	3.8
	50 years and older	12	2.8

The study's sample includes 214 women and 206 men. In addition, the sample was comprised of 40 respondents aged 18 and under, 183 respondents between the ages 19-24, 110 respondents between the ages 25-29, 59 respondents between the ages 30-39, 16 respondents between the ages 40-49, and 12 respondents age of 50 and above.

The Distribution of the Most Preferred Protein Milk Brands is given in Table 2.

**Table 2:** Distribution of the Most Preferred Protein Milk Brands

Distribution of the Most Preferred Protein Milk Brands		
	Frequency	Per cent
Pınar Proteinli Süt	164	39.1
İçim Fit	134	31.9
Whey Protein	40	9.6
Sek Protein	27	6.4
Danone Pro	22	5.2
Bim Vip Protein	17	4
Others	16	3.8

The top three protein milk brands most preferred by the participants are "Pınar Proteinli Süt", "İçim Fit" and "Whey Protein" respectively. These brands are followed by "Sek Protein", "Danone Pro", "Bim Vip Protein". Sixteen of the participants stated that they prefer different brands.

### Validity and reliability analysis of scales

Internal consistency reliability, convergent validity and discriminant validity were evaluated in the view of validity and reliability analysis carried out following the research.

Cronbach's Alpha and CR=Composite Reliability coefficients were examined for internal consistency reliability. Factor loadings and explained average variance (AVE=Average Variance Extracted) values were used to determine convergent validity. Factor loadings are expected to be  $\geq 0.70$  for Cronbach Alpha;  $\geq 0.70$  for combined reliability coefficients;  $\geq 0.50$  for the mean-variance explained (Hair, William, Barry and Anderson, 2006; Hair, Sarstedt, Hopkins and Kuppelwieser, 2014; Fornell and Larcker, 1981). The results regarding the internal consistency reliability and convergent validity of the constructs are given in Table 3.

**Table 3:** Reliability and Validity Results of Confirmatory Factor Analysis

Variable	Item	Factor Loadings	Cronbach's Alpha	CR	AVE
Health Consciousness	HC1	0,785	0,909	0,930	0,688
	HC2	0,856			
	HC3	0,833			
	HC4	0,852			
	HC5	0,850			
	HC6	0,796			
Healthy Lifestyle	HL1	0,651	0,793	0,856	0,544
	HL2	0,711			
	HL3	0,716			
	HL4	0,815			
	HL5	0,785			
Consumer Innovativeness	CI1	0,844	0,912	0,932	0,698
	CI2	0,874			
	CI3	0,694			
	CI4	0,859			
	CI5	0,838			
	CI6	0,890			
Reward	REW1	0,810	0,897	0,921	0,627
	REW2	0,837			
	REW3	0,858			
	REW4	0,882			
	REW5	0,823			
	REW6	0,718			
	REW7	0,572			
Confidence	CON1	0,837	0,920	0,938	0,715
	CON2	0,840			
	CON3	0,888			
	CON4	0,880			
	CON5	0,838			
	CON6	0,787			
Necessity	NEC1	0,868	0,879	0,916	0,732
	NEC2	0,871			
	NEC3	0,802			
	NEC4	0,879			
As Part of a Healthy Diet	PHD1	0,842	0,884	0,919	0,740
	PHD2	0,830			
	PHD3	0,898			
	PHD4	0,869			
Absence of Nutritional Risk	ANR1	0,932	0,789	0,863	0,679
	ANR2	0,774			

As a result of confirmatory factor analysis, 20 items were excluded from the analysis because their factor loads were weak. In addition, since the factor loads of all items representing the two dependent variables (taste and drug) were weak, these two dependent variables were excluded from the research model, and the analyses proceeded with the remaining items and variables.

As a result of the analysis, the internal consistency reliability of the structures was ensured because Cronbach's Alpha coefficients were between 0.789 and 0.920 and the CR coefficients were between 0.856 and 0.938. Since the AVE values are between 0.544 and 0.740, it is observed that convergent validity is provided. Factor loads of the variables were found to be between 0.572 and 0.932.



While determining convergent validity, the criteria proposed by Fornell and Larcker (1981) and Henseler, Ringle and Sarstedt (2015) HTMT (Heterotrait-Monotrait Ratio) criterion were used. According to Fornell and Larcker's (1981) criteria, the square root of the mean explained variance (AVE) values of the structures should be higher than the correlations between the structures. Table 4 contains the analysis result concerning the Fornell and Larcker (1981) criterion.

**Table 4:** Convergent Validity Results

Variables	1	2	3	4	5	6	7	8
1- Absence of nutritional risk	(0,824)							
2- Confidence	0,072	(0,846)						
3- Health Consciousness	0,180	0,360	(0,829)					
4- As part of a healthy diet	0,214	0,531	0,197	(0,860)				
5- Healthy Lifestyle	0,167	0,336	0,620	0,205	(0,738)			
6- Consumer Innovativeness	0,008	0,294	0,077	0,330	0,029	(0,836)		
7- Reward	0,010	0,667	0,281	0,488	0,294	0,322	(0,792)	
8- Necessity	0,051	0,755	0,341	0,614	0,304	0,302	0,713	(0,856)

Note: The values in parentheses are the square root values of the AVE.

As seen in Table 4, the average explained variance value square root of each structure is higher than the correlation of the structure with other structures.

According to Henseler et al. (2015), HTMT expresses the ratio of the mean of the correlations of the expressions of all the variables in the study (the heterotrait-heteromethod correlations) to the geometric mean of the correlations of the expressions of the same variable (the monotrait-heteromethod correlations). Table 5 demonstrates the HTMT values of the discriminant validity results.

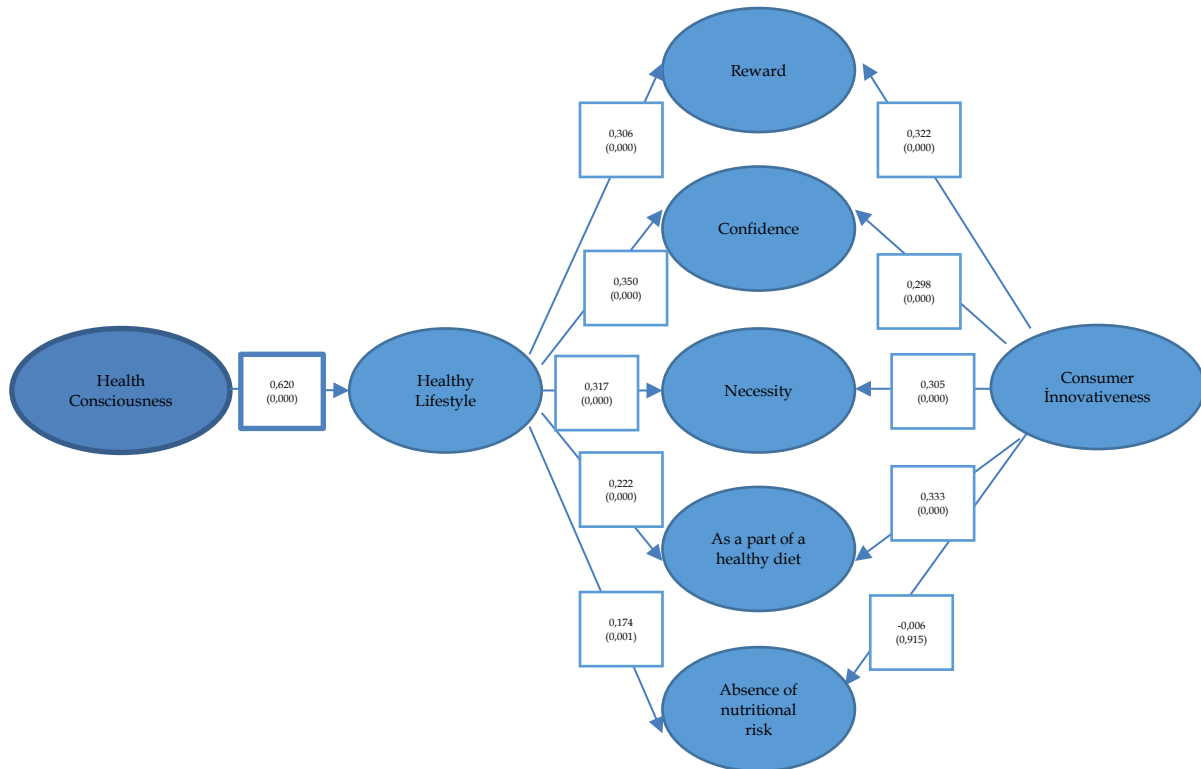
**Table 5:** Convergent Validity Results

Variables	1	2	3	4	5	6	7	8
1- Absence of nutritional risk								
2- Confidence	0,136							
3- Health Consciousness	0,208	0,387						
4- As part of a healthy diet	0,244	0,574	0,209					
5- Healthy Lifestyle	0,186	0,381	0,707	0,243				
6- Consumer Innovativeness	0,041	0,320	0,088	0,363	0,099			
7- Reward	0,079	0,730	0,296	0,536	0,331	0,353		
8- Necessity	0,103	0,809	0,365	0,684	0,339	0,331	0,802	

Henseler et al. (2015) HTMT value should be below 0.90. If the contents of the concepts are far from each other, the HTMT value should be below 0.85. As seen in Table 5, HTMT values are below the threshold value. According to data in Table 4 and Table 5, it can be said that discriminant validity was achieved. When the findings of the analyses were examined, it was seen that all values were within the required ranges, and the research model was determined to be valid and reliable.

### The testing of the research model and the results

The structural equation model developed to test the hypothesis of the research is shown in Figure 2.



**Figure 2:** Structural Equation Model

The research model was analysed by least squares path analysis (PLS-SEM). SmartPLS 3.3.2 statistics program was used in the implementation of the method. In order to determine whether there are any problems with the research model, linearity, path coefficients,  $R^2$ , effect size ( $f^2$ ) and predictive power ( $Q^2$ ) were analysed. Linearity, path coefficients,  $R^2$  and  $f^2$  values with PLS algorithm;  $Q^2$  (predictive power) value was obtained by Blindfolding analysis. In order to evaluate the significance levels of the PLS path coefficients, t-values were calculated by taking 5000 subsamples from the sample with bootstrapping (Bozoklu and Yıldız, 2019, p. 41).  $R^2$ ,  $f^2$ ,  $Q^2$  and VIF values are given in Table 6.

VIF (Variance Inflation Factor) values between the variables are below 5 (threshold value). For this reason, it can be said that there is no linearity problem between the variables (Hair et al., 2014).

It was determined that health awareness affects healthy lifestyle ( $\beta=0.620$ ;  $p<0.01$ ); healthy lifestyle affects reward ( $\beta=0.304$ ;  $p<0.01$ ); consumer innovativeness affects reward ( $\beta=0.330$ ;  $p<0.01$ ); healthy lifestyle affects trust ( $\beta=0.345$ ;  $p<0.01$ ); consumer innovativeness affects confidence ( $\beta=0.304$ ;  $p<0.01$ ); healthy lifestyle affects necessity ( $\beta=0.313$ ;  $p<0.01$ ). Furthermore, consumer innovativeness affects necessity ( $\beta=0.311$ ;  $p<0.01$ ); healthy lifestyle affects the part of the healthy diet variable ( $\beta=0.215$ ;  $p<0.01$ ); consumer innovativeness affects the part of the healthy diet variable ( $\beta=0.336$ ;  $p<0.01$ ); healthy lifestyle affects the variable of the absence of nutritional risk ( $\beta=0.167$ ;  $p<0.01$ ).

As a result of these findings, the hypothesis 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 of the research were accepted. However, it was determined that consumer innovativeness did not affect the absence of nutritional risk variable ( $\beta= -0.003$ ;  $p>0.05$ ). Therefore, hypothesis 11 was rejected.

According to  $R^2$  values, the explanation ratios obtained are as follows: a healthy lifestyle is 38.4%; the reward is 19.6%; the confidence is 20.5%; the need is 18.9%; part of a healthy diet variable is 15.5%; the absence of nutritional risk variable is 2.8%.

**Table 6:** Direct Effects

Variables	Standardized $\beta$	Standard Error	T value	P	VIF	R2	$f^2$	$Q^2$
Health Awareness -> Healthy Lifestyle	0,620	0,032	19,172	0,000	1,000	0,384	0,624	0,203
Healthy Lifestyle -> Reward	0,304	0,050	6,123	0,000	1,001	0,196	0,114	0,112
Consumer Innovativeness -> Reward	0,330	0,047	7,086	0,000	1,001		0,136	
Healthy Lifestyle -> Confidence	0,345	0,043	7,997	0,000	1,001	0,205	0,150	0,142
Consumer Innovativeness -> Confidence	0,304	0,045	6,789	0,000	1,001		0,116	
Healthy Lifestyle -> Necessity	0,313	0,045	6,900	0,000	1,001	0,189	0,120	0,129
Consumer Innovativeness -> Necessity	0,311	0,045	6,879	0,000	1,001		0,119	
Healthy Lifestyle -> As part of a healthy diet	0,215	0,048	4,513	0,000	1,001	0,155	0,055	0,108
Consumer Innovativeness -> As part of a healthy diet	0,336	0,048	7,035	0,000	1,001		0,134	
Healthy Lifestyle -> Absence of Nutritional Risk	0,167	0,054	3,095	0,002	1,001	0,028	0,029	0,009
Consumer Innovativeness -> Absence of Nutritional Risk	-0,003	0,058	0,051	0,960	1,001		0,000	

If the effect size coefficient ( $f^2$ ) is 0.02 and above, it is weak; 0.15 and above is medium; 0.35 and above is considered high (Cohen, 1988; cited in Bozoklu and Yıldız, 2019, p. 41). According to Sarstedt, Ringle and Hair (2017), there is no effect when the coefficient is below 0.02.

When the effect size coefficients ( $f^2$ ) are examined; it is obtained that health awareness has a high level of effect size of (0.62) on healthy lifestyle; moderate effect size on healthy lifestyle (0,15) on confidence; weak level of effect size of healthy lifestyle (0.11) on reward; weak level of effect size of consumer innovativeness (0.13) on reward; weak level of effect size of consumer innovativeness (0.11) on trust; weak level of effect size of healthy lifestyle (0,12) on need; weak level of effect size of consumer innovativeness (0.12) on need; weak level of effect size of healthy lifestyle (0.05) on the part of healthy diet variable; weak level of effect size of consumer innovativeness (0.13) on the part of healthy diet variable; weak level of effect size of healthy lifestyle (0.03) on the variable of absence of nutritional risk. In addition, consumer innovativeness (0.00) doesn't affect the nutritional risk variable.

The research model can predict endogenous variables when the predictive power coefficients  $Q^2$  calculated for endogenous variables are greater than zero (Hair et al., 2014, cited in Bozoklu and Yıldız, 2019, p. 41). Because the  $Q^2$  values in the table are greater than zero, the research model can explain the endogenous variables (healthy lifestyle, reward, trust, need, part of a healthy diet and lack of nutritional risk).

The results of the moderator effects of the research are given in Table 7.

**Table 7:** Results of Moderator Effects

Path	$\beta$	t	p	Hypothesis	Result
HL X CI $\longrightarrow$ REW	0,123	0,978	0,328	H12	Not supported
HL X CI $\longrightarrow$ CON	0,180	4,413	0,000	H13	Supported
HL X CI $\longrightarrow$ NEC	0,173	3,961	0,000	H14	Supported
HL X CI $\longrightarrow$ PHD	0,134	1,054	0,292	H15	Not supported
HL X CI $\longrightarrow$ ANR	0,134	0,885	0,376	H16	Not supported

HL: Healthy Lifestyle, CI: Consumer Innovativeness, REW: Reward, CON: Confidence, NEC: Necessity, ANR: Absence of nutritional risk, PHD: As part of a healthy diet

According to the moderating effect analysis, consumer innovativeness has a moderating effect on the relationship between a healthy lifestyle and trust ( $\beta=0.180$ ;  $p<0.01$ ) and between a healthy lifestyle and need variables ( $\beta=0.173$ ;  $p<0.01$ ).

Therefore, hypotheses 13 and 14 were accepted. In addition, it was determined that consumer innovativeness did not have a moderating effect on the relationships between a healthy lifestyle and reward ( $\beta=0.123$ ;  $p>0.05$ ), between a healthy lifestyle and a part of a healthy diet ( $\beta=0.134$ ;  $p>0.05$ ), healthy lifestyle and absence of nutritional risk ( $\beta=0.134$ ;  $p>0.05$ ). Therefore, the study's hypotheses 12, 15 and 16 were not supported statistically.

The results of the indirect effects of the research are given in Table 8.

**Table 8:** Results for Indirect Effects

<i>Variables</i>	<i>Standardized <math>\beta</math></i>	<i>Standard Error</i>	<i>t value</i>	<i>p</i>
<i>Health Consciousness -&gt; Healthy Lifestyle -&gt; Absence of nutritional risk</i>	0,103	0,035	2,999	0,003
<i>Health Consciousness -&gt; Healthy Lifestyle -&gt; Confidence</i>	0,214	0,032	6,763	0,000
<i>Health Consciousness -&gt; Healthy Lifestyle -&gt; As part of a healthy diet</i>	0,133	0,032	4,173	0,000
<i>Health Consciousness -&gt; Healthy Lifestyle -&gt; Reward</i>	0,188	0,033	5,651	0,000
<i>Health Consciousness -&gt; Healthy Lifestyle -&gt; Necessity</i>	0,194	0,032	5,964	0,000

When the values in the table are examined, health awareness affects the absence of nutritional risk ( $\beta=0.103$ ;  $p<0.01$ ); confidence ( $\beta=0.214$ ;  $p<0.01$ ); part of a healthy diet ( $\beta=0.133$ ;  $p<0.01$ ); reward ( $\beta=0.188$ ;  $p<0.01$ ) and necessity ( $\beta=0.194$ ;  $p<0.01$ ) variables over healthy lifestyle. Therefore, hypotheses 17, 18, 19, 20 and 21 were accepted. According to the results of all the analyses, hypotheses 11, 12, 15 and 16 of the research were rejected, and all the remaining hypotheses were accepted.

## Conclusion and discussion

Considering that functional food products are designed to perform certain tasks beyond the basic nutritional function, it can be said that they have a special place among all food categories. This distinguishing feature is described by Di Pasquale et al. (2011), and Urala and Lähteenmäki (2007) put functional foods in a more sensitive position compared to other food products in the eye of the consumer, especially in terms of food safety and reliability. At the same time, as Chen (2011) emphasizes, it can also be perceived as a nutritional preference in the context of a healthy lifestyle.

On the other hand, functional food products are relatively new for consumers. Therefore, consumers with a high tendency towards innovation are likelier to try new and different products, follow the updates and go beyond their current consumption habits (Chen, 2014; Steenkamp, Hofstede and Wedel, 1999).

This study had two purposes. These were to examine the factors that affect consumers' willingness to purchase functional foods and to reveal how consumer innovativeness affects consumers' preferences. Accordingly, based on the relevant literature, some factors that may have a direct and indirect effect on the preference for protein milk as a functional food product were examined. While analyzing the research model, least squares path analysis (PLS-SEM) was used. According to the analysis findings on direct effects, Chen (2009; 2011) stated that health awareness strongly affects a healthy lifestyle. On the other hand, in parallel with the studies of Downes (2008) and Küster-Boluda and Vidal-Capilla (2017), it was determined that the tendency to have a healthy lifestyle has positive effects on the willingness to buy functional foods.

When examined in detail, it is seen that healthy lifestyle tendency has a moderate effect on trust, one of the dimensions of willingness to buy functional food. However, it has a weak effect on the reward dimension, a weak effect on the necessity dimension, a weak effect on the functional food as a part of a healthy diet dimension, and a weak effect on the absence of the nutritional risk dimension.

Consumer innovativeness tendency has low intensity but significant positive effects on reward, trust, need and a part of a healthy diet, which are the dimensions of functional food purchase willingness. The relationship between innovativeness and functional food purchasing tendencies is compatible with

the findings of studies conducted by Saher, Arvola, Lindeman and Lähteenmäki (2004) and Özkan, Yücel and Yücel (2018).

According to the findings, consumer innovativeness moderates the relationship between a healthy lifestyle and trust variables. In addition, it moderates the relationship between a healthy lifestyle and the necessity sub-dimension. Furthermore, consumer innovativeness has not been found to have a moderating effect on the relationships between the healthy lifestyle and reward sub-dimension, between a healthy lifestyle and as part of a healthy diet sub-dimension, and between the healthy lifestyle and absence of nutritional risk sub-dimension.

Finally, when the indirect effects are examined, it has been determined that health consciousness affects the absence of nutritional risk and trust as part of a healthy diet, reward, and necessity variables through a healthy lifestyle.

### **Limitations and recommendations for future research**

There are two limitations to the study's design and implementation. The first is about the scope of the research question. Within the scope of the study, only one product category was examined. However, as stated previously, dairy products are Turkey's most consumed product category. In this context, it is expected that the data gathered within the scope of this product category will be more reliable in consumer behaviour. Second, the sampling method employed can be viewed as a limitation. In order to reduce the disadvantages of the limitation imposed by the non-random sampling method, the sample was constructed using a criterion, and the balanced distribution of demographic attributes was given special consideration.

Further studies focusing on a specific brand and using different functional foods with probiotic and diabetic properties, baby foods etc., selecting samples with demographic characteristics such as age difference, gender, and income status will contribute to a better understanding of the factors influencing functional food preferences. Furthermore, it is important to evaluate the mediating effects of different variables.

This study has implications for practitioners, as well. One of the study's most important findings is the correlation between health awareness, the tendency to have a healthy lifestyle, and the willingness to purchase functional foods. In this context, it is considered that emphasizing the health benefits of these products, particularly in marketing communication efforts promoting protein-enriched dairy products, may be effective in influencing the targeted consumer groups. Furthermore, the effect of consumer innovativeness highlights the need for companies to create new and unique products in the sector consistently.

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## İşletmelerde çatışma yönetimi: Çıkar çatışması “nitel bir araştırma”

### Conflict management in companies: Conflict of interest “a qualitative research”

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#### **Öz**

Bu araştırmanın amacı, işletmelerde var olan çatışma türlerinden çıkar çatışmasını ortaya koymak ve bu çatışma türüne neden olan etkenleri ortadan kaldırmaktır. Çalışmada, nitel araştırma yöntemlerinden durum çalışması yöntemi kullanılmıştır. Araştırmanın çalışma grubu, 2021 yılında Manisa ilinde özel bir firmada farklı pozisyonlarda çalışan, araştırmaya gönüllü olarak katılmayı kabul eden 8 beyaz yakalı çalışandan oluşmaktadır. Araştırmada, katılımcılara çıkar çatışmasına yönelik sorular sorulmuştur. Veriler, görüşme yöntemi kullanılarak elde edilmiştir. Görüşmeler ortalama 40 dakika sürmüştür. Verilerin analizinde betimsel analiz yöntemi kullanılmıştır. Analizler neticesinde çıkar çatışması kavramı ile ilgili temalar olarak; çıkar kavramı ile birlikte anılan kavramlar ve bu kavramın çağrıştırdıkları, çıkar çatışması kavramına dair bilgi seviyesi, çıkar çatışması izlenimi yaratan durumlar, çıkar çatışmasının işletmelerde sebep olduğu durumlar, çıkar çatışmasının yaşanmamasına yönelik yapılması gerekenler, çıkar çatışmasına şahit olma durumu, iş yerinde çıkar elde etme odaklı bir duruma tanık olduğunda verilecek tepki ve çıkar çatışması yaşanması halinde tercih edilecek davranış şeklidir. Mevcut çıkar çatışmaların önlenmesi için işletme yöneticilerinin, işletme içi liyakate önem vermesi, işletmede çıkar çatışması olarak örgütsel düzeyde önlemler alması, çalışanlara işletme içinde çıkar çatışmasına neden olacak davranışların anlatılması ve çıkar çatışması yaşanması halinde caydırıcı yaptırımlar uygulanması önerilmektedir.

**Anahtar Kelimeler:** Çıkar, Çıkar Çatışması, Çatışma Yönetimi

**Jel Kodları:** M52, M31, E24

#### **Abstract**

The research aims to expose the conflict of interest, which is one of the existing conflict types in companies, and eliminate the factors causing this type of conflict. In the research, the case study method, one of the qualitative research methods, was used. The study group of research consisted of 8 white-collar employees who voluntarily participated in the research in different positions for a private company in Manisa province in 2021. In the study, questions about conflict of interest were asked of the participants. The data were obtained by using the interview method. The interviews lasted an average of 40 minutes. In addition, the descriptive analysis method was used to analyse the data. As a result of the analysis, themes that related to the concept of conflict of interest were; The concepts mentioned together with the concept of interest and the connotations of this concept, Knowledge level about the conflict of interest, Situations that give the impression of conflict of interest, Situations caused by the conflict of interest in companies, What to do to avoid conflict of interest, Witnessing a conflict of interest situation, Response to witnessing a profit-oriented situation at work and Preferred manner in case of conflict of interest. In order to prevent existing conflicts of interest, it is recommended that managers must give importance to internal merit, take measures at the organizational level as a conflict of interest in the company, explain the behaviours that will cause a conflict of interest to the employees in the company, and apply deterrent sanctions in case of a conflict of interest.

**Keywords:** Conflict, Conflict of Interest, Conflict Management

**Jel Codes:** M52, M31, E24

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## Extended Abstract

### Conflict management in companies: Conflict of interest “a qualitative research”

#### Literature

##### Research subject

Conflict of interest is a situation that arises with the interaction of primary interest, which can also be called secondary interest, which can be called private interest. For a conflict of interest to be mentioned in a situation, the primary interest and the secondary interests must conflict with each other (Lo and Field, 2009: 46). For this reason, after analyzing the concepts of interest and conflict, it would be more appropriate to conduct a more in-depth analysis of the conflict of interest.

The subject of the study is to reveal the factors that cause the conflict of interest, which is one of the types of conflict and to propose solutions that will prevent the emergence of conflicts of interest.

##### Research purpose and importance

The research aims to reveal the conflict of interest, which is among the types of conflict, and the methods of preventing this conflict. When the literature on conflict of interest and conflict management is examined, it is seen that this subject is mostly dealt with in public enterprises. However, in today's business world, it is possible to state that conflicts of interest frequently arise in private businesses with different structures, such as family companies and public enterprises. Therefore, it is necessary to direct these processes with different conflict management approaches. Therefore, the most important contribution of this research to the literature is in this area.

##### Contribution of the article to the literature

Conflict of interest is seen as a factor that reduces business productivity and performance because it hurts employees. The themes that emerged from the participant interviews contribute to the literature by revealing the existing or possible causes of conflict of interest within the enterprise.

##### Design and method

The research was created with the case study pattern, one of the qualitative research methods.

##### Research type

Qualitative research methods were used in the research.

##### Research problems

What factors and prevention methods cause conflicts of interest in businesses?

##### Data collection method

An in-depth interview technique was used to collect the data for the research. The interviews lasted an average of 40 minutes.

##### Quantitative/qualitative analysis:

In the analysis of the data, the descriptive analysis method, one of the qualitative research analysis methods, was used.

##### Findings and discussion

When the details of evaluating the concept of conflict of interest in businesses are examined, according to the results of this research, it is seen that the participants generally associate this concept with other concepts focused on concepts associated with obtaining benefits. In addition, it is seen that negative meanings are attributed to this concept in general. In addition, it is seen that the concept of interest is often handled with the values attributed to tangible and physical elements instead of intangible elements.

It has been determined that the most important steps to prevent conflicts of interest in enterprises are establishing an institutional structure, creating an effective control mechanism, and determining job descriptions in the workplace. In addition to the approaches to the corporate structure and management, it is seen that it is important for individuals to continue their business processes with an approach that focuses on the institution's interests to avoid conflicts of interest.

##### Findings as a result of the analysis

As a result of the analyzes; themes that related to the concept of conflict of interest were; The concepts mentioned together with the concept of interest and the connotations of this concept, Knowledge level about the conflict of interest, Situations that give the impression of conflict of interest, Situations caused by conflict of interest in companies, What to do to avoid conflict of interest, Witnessing a conflict of interest situation, Response to witnessing a profit-oriented situation at work and Preferred manner in case of conflict of interest and subthemes were; Obtaining benefits intended for personal or acquaintance, Unethical concepts such as bribery and corruption, Earning financial gain, Directing business processes towards individual interests, Internal position changes in company, Decreased work motivation, Responsibilities of company management, Corporate structure, Merit in company, An effective audit, control mechanism, Clarification of job descriptions, Gifts that have only a use-oriented function and have no monetary value does not accepted as unethical, Warning behaviour for individuals or the relevant manager, Avoiding situations that will create a conflict of interest, Keeping corporate interests ahead of individual interests found.

##### Limitations of the article

The study is limited to 8 white-collar employees working in a private business in Manisa.

## Giriş

İşletmeler içinde insan faktörüne dair pek çok karmaşık detayı barındıran ve işleyiş açısından bu karmaşık detayların doğru yönetilip yönlendirilmesine gereksinim duyan yapılardır. Sektör ayırt etmeksizin veya ekonomik büyüklüğü ne olursa olsun her işletme kendi yapısı ölçüsünde bireylerden kaynaklı olumlu ve olumsuz pek çok unsurun dinamik bir yapıda bir araya gelmesi ile süreçler yönetilmektedir. Özellikle küresel ölçekte bir rekabetin yaşandığı günümüz işletme dünyasında küçük detayların büyük sonuçlar yarattığı da düşünülürse insan faktörü kaynaklı detayların tutarlı ve isabetli bir şekilde yönetilmesinin işletmeler açısından taşıdığı önem de ortaya çıkmaktadır.

İnsan faktörünün işletme süreçlerine en fazla etki ettiği alanların başında çıkar çatışmaları ve çatışma yönetimi ile ilgili konuların geldiği varsayılmaktadır. Çoğu zaman bireysel çıkarlar ile kurumsal çıkarlar arasında kalan işletme çalışanları aldıkları kararlarla işletmeleri açısından önemli sonuçlara yol açabilmektedir. Özellikle işletme çalışanları ile tedarikçiler gibi diğer işletme paydaşları arasındaki ilişki veya işletme içinde yetki kullanımı, iş yükü, terfi, mesai gibi detaylarda çalışanlar arasında ortaya çıkan çıkar çatışmaları doğru yönetilmediği takdirde işletmeler için kritik kayıplara yol açabilmektedir.

Her ne kadar literatürde çıkar çatışması ve çatışma yönetimi kaynaklı durumlar ağırlıklı olarak kamu kuruluşları özelinde değerlendiriliyor olsa da özel sektörde faaliyet gösteren işletmeler açısından da bu konunun ele alınması hem işletme yönetimleri hem de işletme çalışanları açısından büyük öneme sahiptir. Çıkar çatışması kamu çıkarı olarak da adlandırılabilir bir kavram olan birincil çıkar ile özel çıkar olarak adlandırılabilir ikincil çıkarın etkileşimi ile ortaya çıkan bir durumdur. Bir durumda çıkar çatışmasından bahsedilebilmesi için birincil çıkar ile ikincil çıkarların birbirleriyle ters düşmesi ve çatışma halinde olması gerekmektedir (Lo ve Field, 2009: 46).

Çatışma ile ilgili yapılan çalışmalar incelendiğinde Thakore (2012), işletmelerde alt birimlerde çalışanların birbiriyle etkileşimde olmaları için daha fazla fırsat vermelidir. Çalışanlar arasında, etkileşim arttıkça, iş yerlerine karşı daha fazla anlayış geliştirmekle beraber, ortak çıkarları ve önceliklerini daha iyi belirleyecekler bu durumda da çatışmalar azalmaya başlayacaktır. Madalina (2016), çatışma yönetimi sürecinde iletişimin rolüne vurgu yapmaktadır. Benzer şekilde, Lee, Zhang, Sung, Lee ve (2022) yaptıkları çalışmada, iş yerlerindeki simetrik iletişimin arttırılmasıyla iş yerlerindeki çatışmanın azalacağını buna bağlı olarak da çalışanların işten ayrılma niyetlerinin azalacağını bulmuşlardır. Ni, Zheng ve Liang (2022) çalışanlar arasında ortak çıkar ve ihtiyaçlara duyarlılık, inançlar, tutumlar, çalışanlar arasındaki arkadaşça tutumlar sayesinde iyi iletişim kurabilmekte dolayısıyla örgüt içerisinde işbirlikçi bir yaklaşım ortaya çıkmaktadır. Kalafatoğlu (2022) bilinçli farkındalığın işbirlikçi çatışma yönetimi stillerine olan etkisinde duygusal zekânın aracı rolü incelenmiştir. Benzer şekilde Kılıçaslan (2014), örgütsel çatışma yönetiminde duygusal zekanın etkisini kuramsal olarak incelemiştir.

Karcioğlu ve Alioğulları (2012) bankada çalışanlarının iş arkadaşlarıyla yaşadıkları çatışmaların en fazla işin yapılma şeklinden kaynaklanan nedenlerden dolayı ortaya çıktığı bulunmuştur. Bununla birlikte, yönetimden kaynaklanan sebepler ve en sonda kişisel farklılıklardan kaynaklanan nedenler izlenmektedir. Çıkar çatışması da örgütlerdeki çatışmaların önemli bir bölümü alt gruplardaki çalışanların değer ve çıkarlarının birbirleriyle ya da çalıştıkları örgütün çıkarlarıyla uyuşmamasından kaynaklanabildiği ifade edilmektedir (Kılınç, 1985). Sığı ve Dinçer (2013), işletmelerdeki çatışma yönetimi tarzı ile liderlik tarzının uyumlandırılmasını incelemiştir. Abdullah (2021), liderlik stilleri ile çatışma stilleri arasındaki ilişkilere değinmiştir. Bununla birlikte çatışma yönetimi ile örgütsel bağlılık arasındaki çalışmaların da olduğu görülmektedir (Hussein, Mamary ve Hassan, 2017; Okoli, Kelechi Charles ve Chinenye, 2018; Tolera, 2018)

Araştırmalar incelendiğinde çatışma kavramının yönetilmesinin iletişim, liderlik, duygusal zeka, örgütsel bağlılık kavramları ile ilişkilendirilerek incelendiği görülmüştür. Ancak alan yazın incelendiğinde spesifik olarak çıkar çatışmasının nedenleri üzerine yapılmış çalışmalar olmadığı görülmektedir. Bu çalışmada işletmelerde sıklıkla karşılaşılan ve doğru yönlendirilmediğinde işletmenin işleyiş ve iş yapış süreçleri üzerinde pek çok etki yaratan bir unsur olan çıkar çatışmasının ve çatışma yönetiminin incelenmesi amaçlanmaktadır. Gerçekleştirilen bu araştırmanın alan yazına en önemli katkısının çıkar çatışması kavramının nedenleri ve çözüm önerilerinin açık bir biçimde ortaya konulacak olduğu düşünülmektedir. Bu bağlamda çalışmada, çıkar çatışmasına neden olan etkenler ve çözüm önerileri nelerdir problemine çözüm aranmaya çalışılmıştır.

## Literatür taraması

### Çıkar kavramı

Çıkar bireylerin iradelerinin ve eylemlerinin belirli bir yönde ilerlemesini sağlayan nesnel koşullardır. Bu anlamda herhangi bir işte elde dolaylı veya dolaysız olarak sağlanan menfaat, fayda, yarar olarak da açıklanabilecek bir kavram olan çıkar maddi olabileceği gibi maddi olmayan özellikte de olabilir (Haçerlioğlu, 2008: 499). Çıkar kavramının en genel haliyle bireysel çıkar ve kamu çıkarı olarak iki temel grupta incelemek mümkündür.

Kavramsal olarak bireysel çıkar bireyin kişisel çıkarlarına olan düşkünlüğü, bu nedenle bencil davranışlar göstererek kendisine, ailesine veya kendi belirlediği başka birey gruplarına menfaat sağlayacak şekilde hareket etmesi olarak tanımlanabilir. Öte yandan kişisel çıkar, bir bireyin çıkar elde etmesi (para, iş gibi) ya da ailesine, arkadaşlarına çıkar sağlaması olarak da ifade edilmektedir (Martin ve Gabard, 2001: 315).

Kamu yararı (çıkartı) kavramı ise, kamu yönetiminin eylem ve uygulamalarında; toplumun bir kesiminin ya da tamamının yararını kollamaya yönelik temel ve genel hedef olarak kavramsallaştırılmaktadır. Kamu çıkarı yerine; kamu yararı, toplum yararı, ortak iyilik, kamu iyiliği, toplumun iyiliği, toplumsal refah, genel refah, genel yarar gibi kavramlar da kullanılmaktadır (Bozkurt, Sezen ve Ergun, 1998: 132).

### Çatışma kavramı

Karşıtların kavgası olarak açıklanabilecek olan çatışma kavramı (Haçerlioğlu, 2008: 43), bireyler ya da toplumlar arasında anlaşmazlık, uyuşmazlık ve çekişme durumu (Seyyar, 2003: 86); tercih edilen seçenekler noktasında bireyin ya da bir grubun problemlerle karşılaşması ve bunun neticesinde karar verme mekanizmalarında bozulma olarak tanımlanmaktadır (Seval, 2006: 246). Anlaşmazlık, zıtlık, uyumsuzluk ve birbirine ters düşme çatışmanın ana unsurları arasında değerlendirilebilir. Bahsi geçen unsurların var olduğu bir ortamda taraflar kendi çıkarlarını gerçekleştirmek ve görüşlerini uygulamak için çaba içine girmektedirler. Organizasyonlarda çatışmalar farklı şekillerde ortaya çıkmaktadır. Organizasyonlarda ortaya çıkan çatışmaların özelliklerine ve gerçekleşme düzeyine göre sınıflandırılması mümkündür (Şimşek, 2002: 290).

Örgütsel çatışmada ilk olarak işlevsel ve işlevsel olmayan çatışma ayrımı yapılmaktadır (Koçel, 2011: 507). İkinci olarak, çatışmanın organizasyon içindeki konumuna göre; dikey çatışma, yatay çatışma ve emir-komuta personeli ile kurmay personel arasındaki çatışma olarak üçlü sınıflandırma yapılmaktadır (Ertürk, 2009: 222).

Çatışma, bireyin hem kendisi hem de iki veya daha fazla birey ve grup arasında farklı sebeplerle ortaya çıkan anlaşmazlık şeklinde kavramsallaştırılmaktadır. Çatışma türleri, rol alan taraflar açısından değerlendirildiğinde; örgütler arası, gruplar arası, kişiler ve gruplar arası, bireyler arası ve kişilerin kendi içindeki çatışmaları olarak beş başlık altında sınıflandırılmaktadır (Seyyar, 2007: 186).

Bireysel açıdan aynı ya da birbirine zıt olan iki durumdan birini seçmek durumunda kalan kişinin yaşadığı kararsızlık ve uyuşmazlık durumu şeklinde ifade edilerek (Genç, 2004: 253) kişisel (içsel) çatışmaya vurgu yapılmaktadır. İçsel çatışma, bireyin karar alternatifleri arasında tercih yapamaması ve karar vermede zorluk yaşaması sonucunda ortaya çıkmaktadır (Seval, 2006: 247).

### Çıkar çatışması kavramı ve kapsamı

Bir kurumda ya da gelişen bir durumda çıkar çatışmasının söz konusu olabilmesi için üç temel unsurun varlığı gereklidir. Bu üç temel unsur ise çıkar, ilişki-yakınlık ve karar verme olarak sıralanabilir (Davis ve Stark 2001: 8). Bu yaklaşıma göre kamu görevlisinin ya da işletme çalışanının karar verme noktasında kamunun ya da işletmenin çıkarı yerine bireysel çıkarlarını gözetererek hareket etmesi veya yakınlarına herhangi bir çıkar sağlaması halinde çıkar çatışmasının ortaya çıkması mümkündür. Bu bağlamda, çıkar çatışması durumunun ortaya çıkabilmesi için gerekli olan koşullar aşağıdaki gibi sıralanabilir (Mafunisa, 2003: 5-6):

- Birinci olarak, çıkar çatışmasında bireysel mali veya ekonomik bir çıkar bulunması gereklidir.
- İkinci olarak, kamu veya işletme yararına dair bir durum oluşmalıdır.
- Son olarak, kamu ya da işletme tarafından bireye verilen yetki ve sorumluluklarla özel çıkarların çatışması gerekmektedir

### Çıkar çatışmasını önleme yolları

Çıkar çatışmasının önlenmesi kapsamında çeşitli sınırlardan bahsetmek mümkündür. Bu kısıtlamalar çok geniş bir ölçüğe sahiptir. Toplumsal normlardan, denetlemeler, yasalardan cezalara kadar pek çok farklı unsur çıkar çatışmasının önlenmesi kapsamında değerlendirilebilmektedir. Fakat toplumsal normlar göreceli olarak değişken olabileceği için yasal ve idari düzenlemeler bu anlamda daha etkin olabilmektedir (Demmke, Bovens, Henökl, Van Lierop, Moilanen, Pikker ve Salminen 2007: 159).

### Kurallar ve standartlar

Kurallar ve standartlar yasalarla düzenlenen unsurları içerebildiği gibi kurumların iş yapış şekillerinde zamanla oturmuş yapılardan da kaynağını alabilmektedir. Çıkar çatışması ve bunu önlemekle ilgili kurallar ve standartlar denildiğinde öncelikle akla gelen yolsuzluk ve uygunsuz davranış olanaklarını azaltmasıdır. İkincisi, çıkar çatışmalarını belirlemek, ortaya çıkarmak ve yönetebilmek için etkin politikalar tasarlanması; yanlışlıkla sebebiyle asılsız suçlamaların daha kolay ve verimli bir biçimde ele alınabilmesi anlamını taşır (Zibold, 2013).

Üçüncüsü, yaygın yolsuzluk ve görevi kötüye kullanma ile ilişkili bir konuyu ele alarak kurum iyi bir yönetim için kararlılığını gösterebilir. Dördüncüsü, bir kurum olarak herkes tarafından görülebilen şeffaflığı ön plana alan bir sistem, halkı ve yanlış düşünceler tarafından etkilenmemiş ve adil bir yolla uygun rolünü yerine getiren kurum ile anlaşanları göstermek olacaktır. Beşincisi, bir çıkar çatışmasını belirlemek, açıklamak ve yönetmekteki başarısızlık ciddi yolsuzlukların sık sık gerçekleşmesidir ve bu sebeple çıkar çatışmasını yönetmek; önemli bir yolsuzluk önleme stratejisini de beraberinde getirmektedir (Lalazarian, 2001: 6). Aşağıda Tablo 1.'de bu etkiler özetlenmektedir.

**Tablo 1:** Kurallar ve Standartların Etkileri

Olumlu Etkiler	Olumsuz/Yan Etkiler
<ul style="list-style-type: none"> <li>Katı şekilde uygulandığında kurallar caydırıcı bir etki yaratmaktadır. Çıkar çatışmasına yol açmamak adına nelere izin verildiğine dair net yönlendirmeler yapar.</li> <li>Bireylerin bu alandaki beklentileri her zaman yüksek olduğu katı kural ve standartların uygulanması bir zorunluluktur.</li> <li>Esnek olmayan kurallar kamu ya da işletme yararı ile çatışma durumunda bulunan bireysel çıkarlara ilgili kurumca izin verilmesi ihtimalini azaltır.</li> <li>Kamu ve medya iç denetimin herhangi bir biçimini bir daha tolere edemez. Bu nedenle, kontrolün harici biçimleri güvenilirlik ve hesap verebilirliği arttıracaktır.</li> <li>Gerek kamu gerekse de işletmeler ilgili kural ve standartlar yoluyla etik açıdan zorlanan durumlarda daha hassas davranmak durumunda kalır.</li> <li>Kamu kurallarının açık standardının varlığından ve net yasaklamalardan yararlanır.</li> <li>Etiğin önemsemek siyasi olarak önemlidir. Vatandaşlar kontrol ve hesap verebilirliği daha çok destekler.</li> </ul>	<ul style="list-style-type: none"> <li>Her ne kadar olumlu etkisi yüksek olsa da kural sayısının arttırmak her zaman güveni arttırmayabilir. Hatta bazı durumlarda çok fazla kural kullanımı ters yönde bir güven etkisi bile yaratabilmektedir.</li> <li>Her ne kadar kurallar bir zorunluluk olsa da yolsuzluk ve çıkar çatışmasının tamamen kurullarla yok edilebileceğine dair bir kanıt yoktur.</li> <li>Etik kuralların tasarımı sıklıkla eksik ya da yetersizdir. Bunun nedeni bu kuralların yeniden gözden geçirilmesine neden olan skandallar gibi durumlara verilen tepkinin fazla aceleci bir şekilde gerçekleşmesidir.</li> <li>Çok katı kurallar yasa yapıcının gizliliğini ihlal eder.</li> <li>Çoğu zaman katı kurallar yüksek seviyede bütünlükten uzaktır.</li> <li>Detaylı çıkar kayıtları zorlukla yönetilebilir.</li> <li>Katı kurallar istihdam sorunları üzerinde olumsuz etki yapar veya yetenekli insanların önemli pozisyonları kabul etmesini caydırır.</li> </ul>

**Kaynak:** Lalazarian, 2001: 6

## Araştırmanın yöntemi

### Araştırmanın modeli

Gerçekleştirilen araştırma nitel araştırma yöntemlerinden biri olan durum çalışması deseni ile oluşturulmuştur. Nitel araştırma kavramsal olarak görüşme, gözlem, belge analizi gibi farklı alternatif veri toplama tekniklerinin eşliğinde araştırılan algıların ve olayların doğal akışı içerisinde, gerçekçi ve bütünsel bir yapı ile ortaya konulmasını temel alan bir araştırma süreci şeklinde tanımlanabilmektedir (Yıldırım ve Şimşek, 2011).

### Araştırmanın çalışma grubu

Araştırmanın çalışma grubu, amaçlı örneklem yöntemi kullanılarak belirlenmiştir. Bu doğrultuda, 2021 yılında Manisa ilinde faaliyet gösteren bir özel işletmenin farklı kurum içi pozisyonlarda çalışmakta olan, genellikle büro çalışanları veya yönetici olarak anılan maaşlı profesyoneller olarak tanımlanan 8 beyaz yakalı personelden oluşmaktadır. Katılımcılar "K" harfi ile kodlanmış olup, araştırmanın katılımcılarının bazı özellikleri aşağıdaki tabloda yer almaktadır.

**Tablo 2:** Katılımcılara İlişkin Kişisel Bilgiler

Katılımcı	Cinsiyet	İşyerinde Çalışılan Pozisyon
K1	Erkek	İthalat Bölüm Müdürü
K2	Erkek	Satın Alma Mühendisi
K3	Erkek	Lojistik Sorumlusu
K4	Erkek	İdari İşler Personeli
K5	Kadın	Genel Müdür Asistanı
K6	Kadın	Depo Sorumlusu
K7	Kadın	Planlama Sorumlusu
K8	Kadın	Nakliye Sorumlusu

**Kaynak:** Yazar tarafından üretilmiştir.

### Veri toplama araçları

Araştırmanın verilerinin toplanmasında derinlemesine görüşme tekniğinden faydalanılmıştır. En temel tanımıyla görüşme araştırılan konu kapsamında katılımcıların konuyla ilgili duygu ve düşüncelerini anlatma ve aktarma faaliyetidir. Bu faaliyetin birincil amacı bireylerin bakış açılarını anlamaya çalışmaktır. Gerçekleştirilen derinlemesine görüşmeler yoluyla görüşülen katılımcıların ilgili konuya dair tutumları, deneyimleri, niyetleri, yorumları ve tepkileri gibi detayların ortaya konulması mümkün olabilmektedir. Yapılandırılmış, yarı yapılandırılmış, yapılandırılmamış ve odak grup görüşmesi şeklinde farklı görüşme teknikleri vardır (Yıldırım ve Şimşek, 2011, Sönmez ve Alacapınar, 2011: 108). Araştırma soruları hazırlanmadan önce literatür taraması yapılmıştır. Literatür taramasından sonra araştırma soruları oluşturulmuş ve alanında uzman 1 akademisyene sorular incelenmiş sonrasında özel sektörde çalışan 2 kişiye sorular yöneltilmiş soruların anlaşılabilirliği ortaya konulduktan sonra, çalışma grubuna sorular yöneltilmiştir. Araştırma verilerinin derinlemesine görüşmeler yoluyla toplanması aşamasında katılımcılara aşağıdaki tabloda yer alan soru seti sorulmuş ve yanıtları kaydedilmiştir. İşletmede farklı pozisyonlarda görev alan 8 kişi ile ortalama minimum 35 maksimum 45 dakika süren görüşmeler yapılmış ve bu görüşmelerden elde edilen bulgular üzerinde çalışma derinleştirilmiştir.

**Tablo 3:** Görüşme Soruları

Soru No	Soru İfadesi
1	Çıkar kavramı sizde neleri çağırıştırıyor?
2	Çıkar çatışması kavramı ile ilgili ne düşünüyorsunuz?
3	İşletmelerde çalışanların çıkar çatışması yaşamaması için ne tür önlemler alınmalı?
4	Çalıştığınız kurumda ya da çevrenizde herhangi bir çıkar çatışması durumu ile karşı karşıya kaldınız mı?
5	Görev yaptığınız kurumda iş arkadaşlarınızdan birinin bir müşteri ya da tedarikçiden hediye aldığını görürseniz nasıl davranırsınız?
6	Herhangi bir çıkar çatışması durumunda kaldığımızda nasıl davranırsınız?

**Kaynak:** Yazar tarafından üretilmiştir

### Verilerin analizi

Araştırmada verilerin analizinde, “betimsel analiz” yöntemi kullanılmıştır. Betimsel analiz yöntemi, verilerin daha anlaşılır bir biçimde çözümlenmesine aynı zamanda neden-sonuç ilişkilerinin derinlemesine incelenerek sonuçlara ulaşılmasına ve bulguların yorumlanmasına olanak sağlamaktadır (Yıldırım ve Şimşek, 2011). Betimsel analizde, görüşülen ya da gözlenen bireylerin görüşlerini çarpıcı bir biçimde yansıtmak amacıyla doğrudan alıntılara sıklıkla yer verilmektedir. Betimsel analiz, dört aşamadan oluşmaktadır. Bunlar, betimsel analiz için bir çerçeve oluşturulması, tematik çerçeveye göre verilerin işlenmesi, bulguların tanımlanması ve yorumlanmasını içermektedir (Yıldırım ve Şimşek, 2016) Bu çalışmada da görüşme yönteminde veriler, ses kayıt cihazı kullanılarak elde edilmiştir. Elde edilen bu veriler bilgisayar ortamında düz metin haline dönüştürülerek okunmuş ve bulgulara ait temalar ve alt temalar oluşturulmuştur.

### Araştırma bulguları

Araştırma kapsamında gerçekleştirilen derinlemesine görüşmeler sonucunda değerlendirilmeye konu edilecek çeşitli ana temalar oluşturulmuştur. Katılımcıların görüşme sorularına verdikleri yanıtlardan elde edilen bu ana temalar aşağıdaki tabloda yer almaktadır.

**Tablo 4:** Görüşmelerden Elde Edilen Tema ve Alt Temalar

Temalar/Alt Temalar
<i>Çıkar kavramı ile birlikte anılan kavramlar ve bu kavramın çağrıştırdıkları</i>
<ul style="list-style-type: none"> <li>Kişisel ya da tanıdıklara yönelik fayda elde etme</li> <li>Rüşvet, yolsuzluk gibi etik dışı kavramlar</li> </ul>
<i>Çıkar çatışması kavramına dair bilgi seviyesi</i>
<i>Çıkar çatışması izlenimi yaratan durumlar</i>
<ul style="list-style-type: none"> <li>Maddi kazanç elde etme</li> <li>İş süreçlerini bireysel çıkar doğrultusunda yönlendirme</li> <li>İşletme içi pozisyon değişiklikleri</li> </ul>
<i>Çıkar çatışmasının işletmelerde sebep olduğu durumlar</i>
<ul style="list-style-type: none"> <li>İş motivasyonunda azalma</li> </ul>
<i>Çıkar çatışmasının yaşanmamasına yönelik yapılması gerekenler</i>
<ul style="list-style-type: none"> <li>İşletme yönetiminin sorumlulukları</li> <li>Kurumsal yapı</li> <li>İşletme içi liyakat</li> <li>Etkin bir denetim kontrol mekanizması</li> <li>Görev tanımlarının belirginleşmesi</li> </ul>
<i>Çıkar çatışmasına şahit olma durumu</i>
<i>İş yerinde çıkar elde etme odaklı bir duruma tanık olduğunda verilecek tepki</i>
<ul style="list-style-type: none"> <li>Sadece kullanım odaklı işlevi olan, maddi değere sahip olmayan hediyelerin etik dışı kabul edilmemesi</li> <li>Bireyleri veya ilgili yöneticiyi uyarma davranışı</li> </ul>
<i>Çıkar çatışması yaşanması halinde tercih edilecek davranış şekli</i>
<ul style="list-style-type: none"> <li>Çıkar çatışması yaratacak durumlardan kaçınma</li> <li>Kurumsal çıkarları bireysel çıkarların önünde tutma</li> </ul>

**Kaynak:** Yazar tarafından üretilmiştir.

### Çıkar kavramı ile birlikte anılan kavramlar ve bu kavramın çağrıştırdıkları

#### Kişisel ya da tanıdıklara yönelik fayda elde etme

Görüşmelerden elde edilen bulgulara göre katılımcıların genel olarak çıkar kavramını fayda temelinde açıkladıkları ve bu kavramı bireyin kişisel veya çevresindeki tanıdıklarına yönelik bir fayda elde etme çabası ile bağdaştırdıkları görülmektedir. Elde edilen bu bulguya göre genel bir bakış açısıyla çıkar kavramına yönelik olumsuz çağrışımların daha fazla olduğunu söylemek de mümkündür.

*“Bana göre çıkar kişilerin olaylardan veya durumlardan elde edecekleri fayda olarak açıklanabilir. Yani aslında çıkarın temelinde fayda elde etmenin olduğunu düşünüyorum. Klasik bir yaklaşımla bir işe girmeniz için o işten bir çıkarınızın olması gerekir. Sizin için avantaj yaratacak ya da sizin istediğiniz kişiler için fayda sağlayacak bir şeyler olmalı. Bu anlamda çıkar benim veya sevdiğimlerin işine gelecek her şey olabilir (K1)”*.

*“Çıkar bireylerin fayda sağladığı unsurlarla ilgili bir kavram bence. Genellikle özellikle iş hayatı söz konusu olduğunda bu kavrama olumsuz anlamlar da yüklenabiliyor. Yani yapılan bir işten veya alınan bir karardan kendine çıkar sağlamak gibi (K2)”*.

*“Ama genel olarak kişinin içinde olduğu bir durumdan fayda elde etmeye çalışması diyebilirim (K3)”*.

*“Çıkar kişinin faydasına olan, kişinin kendisine avantaj elde edeceği her türlü şey olabilir (K4)”*.

*“Kişinin lehine olacak her şeyi çıkar kapsamında değerlendirmek mümkün. Dolayısıyla öncelikle kişiyi elde edeceği fayda geliyor insanın aklına (K5)”*.

“Çıkar kişini kendisi lehine olan unsurların tümü olarak açıklanabilir. Yani bireysel olarak bana fayda sağlayacak bir durum olduğunda o noktada benim çıkarımdan bahsetmem mümkün. Bir anlamda kişinin avantajına bir durum yaratma hali gibi de söylenebilir (K6)”.

“Genel olarak kişinin olan biten şeylerden kendisine bir fayda sağlamasının yolunu açan bir kavram çıkar (K7)”.

“Kapsamı çok geniş olabilecek şekilde süreçlerden kişisel fayda elde etme hali diyebilirim çıkar için. Tabi burada bireysel bir fayda durumu söz konusu. Bu maddi bir çıkar da olabilir veya iş yerinde bir pozisyon elde etme, bir yakınına yönelik bir fayda saplama gibi manevi bir şey de olabilir. En genel haliyle bir fayda sağlama halini çağrıştırıyor bu kavram bana (K8)”.

### **Rüşvet, yolsuzluk gibi etik dışı kavramlar**

Katılımcıların görüşmeler sırasında yaptıkları saptamalar incelendiğinde çıkar kavramı ile bağdaştırılan kavramlar arasında genel olarak rüşvet, yolsuzluk gibi etik dışı unsurların sıklıkla dile getirildiği görülmektedir. Bunun yanı sıra bu çağrışımında güncel basın yayın organlarında ele alınan konuların da önemli etkisi olduğu görülmektedir.

“Bir anlamda yolsuzluk gibi olumsuz kavramlarla da bir arada anılabiliyor. Tabi bu kavramı kimi zaman rüşvet gibi konuların geçtiği yerlerde de duyabiliyoruz. Hatta galiba sıklıkla çıkar bu tür yolsuzluk, rüşvet alma gibi davranışlar özelinde değerlendirmek mümkün. Fakat özellikle iş hayatı açısından çıkar kişinin çok dikkat etmesi ve olumsuz bir işin içinde olmama konusunda özen göstermesi gereken bir kavram (K2)”.

“Çıkar kelime anlamı olarak söylemiyorum ama pek de olumlu şeyleri çağrıştırmıyor bana. Yani genellikle bir işten çıkar sağlamak gibi deyimler hep dilimize olumsuzlukları aktarmada yerleşmiş. Belki de o nedenle çıkar denilince insanın aklına yolsuzluk, rüşvet gibi şeyler geliyor galiba (K3)”.

“Hatta günümüzde özellikle haberlerde ya da gazetelerde çıkar söz konusu olduğunda hep birilerinin çoğu zaman rüşvet, yolsuzluk gibi davranışlarla kendisine çıkar sağladığına dair unsurlara denk gelmek mümkün. Aslında anlam olarak olumsuz bir anlamı olmasa da galiba bizim aklımızda hep olumsuz şeyleri canlandırıyor (K4)”.

“Bir de tabi çıkar sağlamak gibi tabirleri düşünce yolsuzluk içeren davranışları çağrıştırdığını da söyleyebilirim. Ama genel olarak çıkar denildiğinde kişinin fayda elde etme isteği geliyor aklıma (K5)”.

“Tabi ne çağrıştırdığına gelince bizim ülkemiz özelinde bakarsak biraz tatsız durumları da çağrıştırıyor. Yani özellikle çeşitli yolsuzluklarla ilgili durumlarda çok sık kullanılan bir kavram çıkar. Çıkar elde etmek filan denildiğinde hep olumsuz koşullar aklımıza geliyor (K6)”.

“Çıkar ya da çıkar sağlamak genellikle bende negatif veya etik olmayan durumları çağrıştırıyor. Bir işi yapmak için birinden maddi fayda elde etmeye çalışmak veya bir konuma gelmek için birileriyle ortak hareket etmek gibi davranışlar hep çıkarı çağrıştıran şeyler diyebilirim (K7)”.

Ayrıca katılımcıların çıkar kavramı ile ilgili görüşlerinde mutlaka iş hayatına dair detaylara atıflarda buldukları görülmektedir. Bu anlamda katılımcıların çıkar kavramı ile iş hayatına dair unsurlar arasında kuvvetli bir bağ kurdukları şeklinde bir yorum yapmak mümkündür.

“Genel olarak iş hayatının içinde çalışılan işletmenin veya görevinizin çıkarına uygun hareket etmek ise olumlu bir durum haliyle. Bu açıdan iş yerinin çıkarına hareket edip kişisel çıkarlara odaklanmamak gerektiğini söyleyebilirim (K3)”.

“İş hayatı açısından çıkar tehlikeli bir kelime bence. Özellikle çıkar sağlamak gibi kullanım şekillerini düşününce insanı biraz tedirgin ediyor diyebilirim. O nedenle dikkatli yaklaşılması gereken konuları çağrıştırıyor diyebilirim (K4)”.

“Olumlu mu olumsuz mu diye sorarsanız özellikle iş hayatı içerisinde genel olarak yolsuzluk gibi olumsuz anlamlar içeren şeyleri çağrıştırdığını söyleyebilirim (K7)”.

### **Çıkar çatışması kavramına dair bilgi seviyesi**

Görüşmelerden elde edilen bulgulara göre katılımcıların çıkar çatışmasına dair genel bir bilgi seviyesine sahip oldukları ayrıca iş hayatında çıkar çatışmasının yerine dair de bir farkındalıklarının olduğu görülmektedir.

“Çıkar çatışması karşılıklı iki tarafın bireysel çıkarlarının ters düşmesi durumunda ortaya çıkan bir durum olabilir. Ya da bireyin çıkarları ile örneğin çalıştığı kurumun beklentileri veya kuralları arasında bir farklılık olduğunda da bir çıkar çatışması ortaya çıkabilir (K1)”.

“Karşılıklı kişilerin bir olaydan beklentilerinin veya kazançlarının zıt durumda olması hali olarak açıklanabilir bu kavram. Kişilerin kendilerine fayda sağlamasını sağlayacak tercihler yapması bazen başka kişilerle ya da kurumlarla arasında bir çıkar çatışması oluşmasına sebep olabiliyor (K2)”.



“Çıkar çatışmasını iş hayatı açısından değerlendirirsem bazı özel durumlarda çalışanın kişisel çıkarlarıyla çalıştığı kurumun yararına olacak şeyler ters düşebiliyor. Örneğin zaman zaman biz bu tür durumları teslimat süreçlerinde görevli personelde yaşayabiliyoruz. Dış kaynak kullanımı aldığımız bazı teslimat durumlarında araç sürücüsü daha az yakıt tüketimi yapmak için olması gerekenin altında bir hızda aracını kullanıyor fakat bu durum bizim açımızdan teslimat süresinin uzaması ya da gecikmesine sebep oluyor. Sanırım bu çıkar çatışmasına verilebilecek bir örnek olabilir. Yani aslında aynı olayda farklı tarafların beklenti ya da fayda sağlayacağı durumların çatışması sonucu ortaya çıkan bir durum diyebilirim (K3)”.

“Farklı kişilerin kişisel çıkarlarının birbirleriyle ters düştüğü durumlar çıkar çatışmasının oluşmasına sebep oluyor. Ya da bazen kamu, özel şirketlerde kişilerin kendi faydasına hareket ederken işletmenin faydasını dikkate almadığı durumlar da buna örnek verilebilir. Sıkıntılı bir süreç haliyle. Özellikle işin içine maddi çıkar girdiyse ve buradaki çıkar çatışması kişinin lehine ama kurumun ya da kamunun aleyhine bir sonuç yaratıyorsa çok tehlikeli ve olumsuz bir durum olduğunu söyleyebilirim (K4)”.

“Çıkar çatışmasının işletmelerde işleyişi olumsuz etkileyen ve çalışanların iş yapma motivasyonunu aşağı çeken bir unsur olduğunu düşünüyorum. Kişisel çıkarların iş ortamında birbiriyle ters düşmesi ya da çalışanın çıkarları ile işletmenin çıkarlarının uyumaması halinde önemli sıkıntılar ortaya çıkıyor (K5)”.

“Öncelikle iş hayatı söz konusu olduğunda bireysel çıkarlara göre davranmanın yanlış olduğunu düşünüyorum. Bu tarz davranışlar söz konusu olduğundan çeşitli çıkar çatışmalarının doğması da kaçınılmaz. Bazı durumlarda bireylerin çıkarları ters düştüğünde veya kişinin beklentileri ile örneğin iş yerinin beklentileri uyumadığında çıkar çatışması ortaya çıkıyor diyebilirim. Tabi her iki taraftan da sıkıntılı bir durum bu. Bireyler arasındaki çıkar çatışmaları üçüncü bir tarafın olaya müdahil olması ile çözülebilir fakat bireyin çıkarları ile kurum çıkarları ters düştüğünde eğer birey kendi çıkarlarına yönelik davranıyorsa bunun fark edilmesi ve çözülmesi zaman alabiliyor (K6)”.

“İnsan faktörünün olduğu her yerde çıkar çatışması oluşmasını çok normal bulduğumu söyleyebilirim. Günlük hayatta da iş hayatında da çok sık karşılaştığımız bir şey aslında çıkar çatışması (K7)”.

“İş ortamında çıkar çatışması çalışanlar arasında husumet şeklinde de kendini gösterebilen bir kavram (K8)”.

### **Çıkar çatışması izlenimi yaratan durumlar**

Görüşmelerden elde edilen bulgulara göre çıkar çatışmasının katılımcılarda iş hayatına dair maddi kazanç sağlama, iş süreçlerini bireysel çıkarlara göre yönlendirme, şirket içi kademelerde gerçekleşen değişimlerde ortaya çıkan haksız durumlar gibi kavramlarla bağdaştırıldığı görülmektedir.

### **Maddi kazanç elde etme**

“Bazı durumlarda çalışanlar kendi çıkarlarını işletme çıkarlarının önüne koyarak hareket edebiliyor. Böyle bir çıkar çatışması halinde ise her iki tarafın da kaybettiğini söyleyebilirim. Özellikle maddi çıkarlar söz konusu olduğunda çıkar çatışması oldukça tehlikeli bir konu bence (K5)”.

### **İşletme içi pozisyon değişiklikleri**

“Ama özellikle iş ortamında terfi ya da pozisyon değişimi gibi bireysel faydanın çok baskın hale geldiği noktalarda oldukça yıkıcı sonuçları olabiliyor bu durumun. Tabi alınan kararların ya da bireylerin tercih ettiği davranış şekillerinin etik boyutunun da sorgulanması önemli. Şirket çıkarı ya da kamu çıkarı ile bireysel çıkarların örtüşmediği noktalarda çıkar çatışması oldukça etik dışı ve sıkıntılı sonuçlar doğurabiliyor (K7)”.

### **İş süreçlerini bireysel çıkar doğrultusunda yönlendirme**

“Hatta iş yükleri, mesai şekilleri gibi detaylar çıkar çatışması doğmasına sebep olabiliyor. Bu noktada ters düşen kişisel çıkarlardan ya da işletmenin çıkarlarının dışında hareket eden çalışan ya da yöneticilerden bahsetmek mümkün. Bunlar çıkar çatışmasının başlıca aktörleri oluyor genelde bildiğim kadarıyla (K8)”.

### **Çıkar çatışmasının işletmelerde sebep olduğu durumlar**

#### **İş motivasyonunda azalma**

Elde edilen bulgulara yanı sıra katılımcıların çıkar çatışmasını iş hayatında buna tanık olan bireyler açısından iş motivasyonunu düşüren, olumsuz bir kavram olarak değerlendirdiklerini de söylemek mümkündür.

“Açıkçası bence özellikle böyle durumlarda yapılacak hatalı bir tercih çalışan konumundaki kişiyi zor durumda bırakabilir. Özellikle kamuyu ilgilendiren yolsuzluk temelli haberlerin veya olayların temelinde bu kavramın ciddi yerinin olduğunu düşünüyorum (K1)”.

“Bu kavram bende olumlu düşünceler uyandırmıyor açıkçası. Özellikle çalışma hayatında kurumsal çıkarlara uygun hareket etmeyen çalışanların bu tür çıkar çatışması durumlarında kendi çıkarlarına yönelik kararlar aldıkları için sıkıntıları ortaya çıktığını düşünüyorum (K2)”.

Katılımcı görüşlerine göre, çıkar çatışması çalışanların motivasyonun düşüren olumsuz bir kavramdır.

### **Çıkar çatışmasının yaşanmamasına yönelik yapılması gerekenler**

#### **İşletme yönetiminin sorumlulukları**

Katılımcıların işletmelerde çıkar çatışmasının önlenmesine yönelik düşünceleri incelendiğinde bu konuda özellikle işletme yönetimlerinin sorumluluğunu ön plana çıkardıkları görülmektedir.

*“Çıkar çatışmasının oluşmaması ya da ortadan kalkması için işletme yöneticilerine büyük görev düştüğünü söyleyebilirim. Mümkün olduğu kadar adaletli işleyen bir iş düzeninde çıkar çatışması oluşsa bile bu durumun çözülmesi daha kolay olacaktır. Bu adil ortamı yaratmak da yöneticilerin görevidir (K1)”*.

*“Çıkar çatışmasının neden ortaya çıkabileceğini, hangi durumlarda şirket ortamında bir çıkar çatışması oluşması ihtimalinin söz konusu olduğunu da iyi analiz etmek gerekiyor. Bu açıdan işletme yönetimine de önemli görevler düştüğünü söyleyebilirim (K2)”*.

#### **Kurumsal yapının tahsis edilmesi**

İşletmelerde çıkar çatışmasının önlenmesi söz konusu olduğunda kurumsallığın sağlanmasının ilk akla gelen önleyici yaklaşımlardan biri olduğu görülmektedir. Bunun yanı sıra bireylerin çıkar çatışmasından uzak kalma noktasında kişisel olarak da çaba göstermesi gerektiği düşünülmektedir.

*“Şirketlerde kurumsallaşma seviyesi arttıkça çıkar çatışmasının önlenmesinin daha kolay olacağını düşünüyorum. Tabi yasal dayanakların ve kuralların oluşturulması ve etkin bir kontrol sisteminin kurulması da olası çıkar çatışması durumlarının çoğunda olumsuz bir durum oluşmadan söz konusu durumun ortadan kaldırılmasını sağlayacaktır. Ayrıca çalışanların işletmeye yönelik aidiyetleri yükseltildiği takdirde kişisel çıkar ile kurum çıkarı arasında kalma gibi bir durumun olma ihtimalinin de azalacağını düşünüyorum (K5)”*.

*“Hepsinden önce oto kontrol yani bireyin kendisini kontrol etmesi bir zorunluluk. Ayrıca istihdam süreçlerinde daha objektif kriterlerle işe alım yapılması gerekiyor. Tabi şirkette herkesin görevinin belirgin olması ve bu görev tanımına uygun hareket etmesinin sağlanması da önemli (K6)”*.

*“Tabi bireylerin de özellikle iş ortamında kurumsal çıkarları bireysel çıkarlarının üzerinde tutmayı bilmeleri gerekiyor. Bunun olabilmesi için bireylerin eğitim seviyesinin yüksek olmasının da önemli olduğunu söyleyebilirim. Bir de iş yapış şekillerinin, görev dağılımlarının belirsizliğe yer bırakmayacak kadar net ortaya konması gerekiyor bence (K1)”*.

#### **İşletme içi liyakat**

İşletmeler açısından çıkar çatışması konusunda önleyici özellikteki en önemli unsurlardan bir diğerinin de liyakat odaklı süreçlerin bir işletme kültürü haline getirilmesi olduğu görülmektedir.

*“Şirket yapısı içerisinde mutlaka liyakate uygun hareket edilmesi gerekiyor. Yani bir kadro ataması veya görev değişikliği gibi durumlarda çalışanların adalet duygusu zedelenirse bir noktadan sonra çalışanlar kendi çıkarlarını kurum çıkarlarının önüne koymaya başlıyor. Bu durumda da kaçınılmaz olarak bir çıkar çatışması ortaya çıkıyor. Aslında gerçekçi olmak gerekirse çıkar çatışmasının tamamen önlenmesinin de çok mümkün olmadığını düşünüyorum (K7)”*.

#### **Etkin bir denetim ve kontrol mekanizması**

İşletme süreçlerine dair etkin bir şekilde işletilen denetim kontrol mekanizmalarının çıkar çatışması ve çıkar elde etme kaynaklı durumlar açısından önemli bir caydırıcı unsur olarak değerlendirildiği görülmektedir.

*“İşletmede etkin bir kontrol mekanizmasının oluşturulması şart bence. Bunun gerçekleştirilmesi belki çıkar çatışmasının ortaya çıkmasını engelleyemez ama en azından çıkar çatışması sonucunda şirket zararına oluşması muhtemel durumları engelleyebilir (K2)”*.

*“Çıkar çatışmasının oluşmasını önlemede şirket içi kontrol çok önemli bir yerde duruyor. Kontrol mekanizmasının iyi işlediğini bilen bir çalışanın bireysel çıkarının baskın çıktığı yerlerde bile bu mekanizmanın caydırıcı etkisi nedeniyle yanlış bir hareket içerisine girmeyeceğini düşünüyorum. Daha önce verdiğim örnekte de olduğu gibi örneğin aracın sürekli bir şekilde kontrol edildiğini ve izlendiğini bilen bir şoför her ne kadar işine gelmiyor olsa da bireysel çıkarına uygun olacak şekilde daha az yakıt tüketmesini sağlamak amacıyla olması gerekenden yavaş gitmeye veya yolda gereksiz molalar vermeye kalkışmayacaktır. Çünkü bunun fark edileceğini ve bunun sonunda kendisine bir yaptırım uygulanacağını bilecektir (K3)”*.

*“Çıkar çatışması kolay önlenilecek bir durum değil bence. Bunun sebebi bir noktadan sonra herkesin kendi çıkarını düşünmesinin kaçınılmaz olması. Ama tabi şirket içerisinde bazı noktalara dikkat edilmesi halinde en azından çıkar çatışması oluşmasının ihtimali azaltılabilir. Yazılı kurallar ve etkin bir denetim mekanizmasının bu*

açıdan çok önemli olduğunu düşünüyorum. Bir de her işin standart bir yapılış şekli olmalı ve bu işleyiş kişiden kişiye değişmemeli (K8)".

### Görev tanımlarının belirginleşmesi

İşletme içindeki iş yapış biçimlerinin ve bu işleri yapacak kişilerin yetki ve sınırlarının belirlenmesi bir başka deyişle görev tanımlarının belirgin hale getirilmesi çıkar çatışması açısından bir başka önemli öleyici unsur olarak değerlendirilmektedir.

"Kurum içi şeffaflık çok önemli. Ancak şeffaf ve adil bir işletme yapısı ve çalışma ortamı yaratarak çıkar çatışmasının önüne geçebilirsiniz. Şirket içinde adil bir ödüllendirme yapısı kurulmalı veya olası pozisyon değişikliklerinde bu değişim için gerekli olan kriterler net bir şekilde ortaya konulmalı. Ayrıca şirket içindeki hiyerarşik ve görev tanımları da belirgin olmalı (K4)".

### Çıkar çatışmasına şahit olma durumu

Katılımcıların tamamının an itibariyle çalıştıkları işletmede herhangi bir çıkar çatışmasına tanık olmadıkları yönünde görüş belirttikleri görülmektedir. Bu bulgu bireylerin iş ortamına dair yaptıkları açıklamalarda bazı kişisel kaygılar nedeniyle her zaman objektif olmamayı tercih edebilecekleri gerçeği ile birlikte değerlendirilmelidir. Fakat özellikle önemli bir sayıda katılımcıların geçmiş iş deneyimlerinde çıkar çatışması olarak nitelenebilecek durumları da tecrübe ettikleri görülmektedir. Bu noktada araştırmanın özel sektörde faaliyet gösteren bir işletmede gerçekleştirildiği de düşünüldüğünde çıkar çatışmasının sadece kamuya has bir durum olmadığı, özel şirketlerde de bu anlamda önemli örneklerin yaşandığı yorumunu yapmak mümkündür.

Ayrıca çıkar çatışması ya da kişisel çıkar elde etme temelli tanıklıkların genel olarak şirket içi pozisyon değişiklikleri, tedarikçilerle ilişkilerde fayda sağlama, çeşitli hediyeleri kabul etme gibi farklı şekillerde ortaya çıktığı da görülmektedir

"İş ortamında benim şahit olduğum böyle bir durum olmadı. Yakın çevrem açısından da bir şey duymadım açıkçası (K1)".

"Şu an çalıştığım kurumda herhangi bir şeye şahit olmadım. Fakat geçmişte çalıştığım kurumlardan bazılarında satın alma süreçlerinde görev alan kişilere tedarikçilerin özel bir ilgisinin olduğunu ve bu arkadaşların bazılarının da bu duruma herhangi bir engel çıkarmadıklarını gördüm açıkçası. Bu kimi zaman gelen bazı hediyeleri kabul etmek kimi zaman da ilgili tedarikçi ile iş süreçlerinin dışında da bir iletişim içerisinde olmak şeklinde gerçekleşebiliyordu. Bizim çalıştığımız alan ne yazık ki biraz bu tür durumların yaşanmasına açık bir alan. Özellikle tedarikçi firmalarla aranızda doğru bir mesafe bırakmadığınızda bu risk her zaman var (K2)".

Ben bugüne kadar herhangi bir çıkar çatışması örneği ile karşılaşmadım. Fakat bu tür şeyler mümkün olduğu kadar etrafa sezdirilmeden yapılan hareketler oluyor tahmin edebileceğiniz gibi. O nedenle bizim görmediğimiz bir şeyler oluyordur mutlaka (K3)".

"Ama şu an çalıştığım firmada bu yönde bir tanıklığım da olmadı açıkçası (K4)".

"Ben bugüne kadar hiç tanık olmadım. Ama her işletmede çalışanlar arasında bu tür konularda anlatılan şeyler vardır (K5)".

"Şu an çalıştığım yerde böyle bir duruma denk gelmediğimi söyleyebilirim yine de (K6)".

"Hayır, hiç böyle bir duruma tanık olmadım (K7)".

"Önceden çalıştığım yerlerde özellikle şirket içi pozisyon değişikliklerinde adam kayırma olarak niteleyebileceğim pek çok duruma denk geldiğimi söyleyebilirim. Zaten bu tür durumlar olduğunda hemen şirket içinde bir kazan kaynamaya başlıyor. Ayrıca yine önceki iş yerlerimden birinde bir çalışanın ciddi bir kişisel çıkar sağlama durumu nedeniyle iş akdine son verilip bazı yasal sıkıntılarla karşılaşmış olduğunu öğrenmiştik (K8)".

Bunun yanı sıra katılımcıların özellikle belediyeler, bankalar ve çeşitli kamu kurumlarına dair çıkar çatışması sonucu oluşan olumsuz durumlara dair yüksek bir algılarının olduğu, özellikle basın yayın organları yoluyla bu tür durumlara sıklıkla tanıklık ettiklerini belirttikleri görülmektedir.

"Ama özellikle gündemi takip ederken gördüğümüz şeyler oluyor. Bankacılık sektörü veya çeşitli kamu kurumları, belediyeler gibi yerlerde çıkan haberlerden çıkar çatışmasının çok sık karşılaşılan bir konu olduğunu anlayabiliyoruz (K1)".

"Günlük hayat içerisinde basında çıkan haberlerden ya da etrafımızda başka şirketlerde çalışan tanıdıklarımızdan bu tür durumlarla ilgili bir şeyler duyduğumuz oluyor tabii (K4)".

“Çevremde tanık olduğun daha doğrusu durum hakkında bilgi sahibi olduğum bazı örneklerle denk geldim. Bir de belediyeler, çeşitli kamu kurumları, bazı bankalar gibi kuruluşlarda çıkar çatışması sonucu yolsuzluğa kadar giden süreçlerle ilgili her gün yeni bir şeyler duyuyoruz haliyle (K6)”.

### **İş yerinde çıkar elde etme odaklı bir duruma tanık olduğunda verilecek tepki**

**Sadece kullanımı odaklı işlevi olan, maddi değere sahip olmayan hediyelerin etik dışı kabul edilmemesi**

Katılımcıların bu konuya verdikleri yanıtlar incelendiğinde en çok dikkat çeken detayın işletmelerde temas halinde bulunan tedarikçiler veya müşterilerin özellikle satın alma, tedarik gibi departman çalışanlarına çoğunlukla kendilerini hatırlatma amacıyla verdikleri, düşük maddi değere fakat yüksek günlük kullanım işlevine sahip bloknot, kalem gibi hediyelerin çıkar sağlama, fayda elde etme gibi konuların dışında değerlendirildiği görülmektedir. Ayrıca işletme yönetiminin bilgisi dahilinde ve ilgili departmandaki tüm çalışanlara yönelik olarak bu tarz hediyelerin verilmesi halinde de bunun bir etik sorun olarak algılanmadığını da söylemek mümkündür.

“Öncelikle müşteri ya da tedarikçilerden zaman zaman özellikle personelin günlük kullanımında fayda sağlayabileceği takvim, not defteri, kalem gibi basit ölçekli hediyelerin gelmesi bizim süreçlerimiz açısından normal şeyler. Fakat tabi bu tür ufak çaplı hediyeler çoğu zaman kişisel olarak değil departmanlardaki personelin tamamının faydalanabileceği şekilde aktarılır bize. Dolayısıyla burada bir çıkar sağlama durumu oluşmuyor (K1)”.

“Satın almada çalışan herkese genel olarak verilen ufak ölçekli çeşitli hediyeler olur. Yani tedarikçiler iş ziyaretleri sırasında bizim gün içinde ihtiyaç duyacağımız bloknot, tükenmez kalem vb. çeşitli ufak hediyeler getirirler. Bunların alınmasında bir sorun olduğunu düşünmüyorum (K2)”.

“Öncelikle hediyein neden ve ne şekilde alındığını sorgularım. Yani o kişi dışındaki çalışanlara da benzer şekilde verilmiş bir hediye ise ve bu yöneticilerin bilgi dahilinde olan bir şeyse sorun olacağını düşünmüyorum (K4)”.

Tabi burada maddi değeri olmayan işlevsel ve basit hediyelerden bahsetmiyoruz. Yani eşantiyon olarak da adlandırılabilir basit hediyeler vs. çok önemli değil ama işin içine maddi değeri yüksek şeyler giriyorsa bu etik dışı bir durum yaratır. Özellikle tedarikçilerle ilgili karar yetkisine sahip kişiler açısından olumsuz bir durum olabilir (K7)”.

### **Bireyleri veya ilgili yöneticiyi uyarma davranışı**

Çıkar elde durumuna tanık olunması durumunda ne tepki verileceği noktasında ise tüm katılımcılar böyle bir olaya mutlaka belirli ölçülerde bir tepki göstereceklerini belirtmektedir. Bu tepkiler eylemi gerçekleştiren kişiyi uyardıktan ilgili bölümün yöneticisini konuyla ilgili bilgilendirmeye kadar geniş bir ölçekte gerçekleşebilmektedir. Ayrıca genel olarak böyle bir durumun kesinlikle görmezden gelinmemesi gerektiğine dair bir yaklaşımın da söz konusu olduğu görülmektedir.

“Fakat bir yönetici olarak beraber çalıştığım personel ile ilgili kişisel bir hediye alma gibi bir duruma denk geldiğimde kesinlikle çok sert tepki vereceğimi ve gerekeni yapacağımı söyleyebilirim (K1)”.

“Ama özellikle maddi değeri yüksek, kişinin iş ile ilgili alacağı kararlarda kafa karışıklığı yaratacak veya şirket içinde ve diğer tedarikçilerin kafasında soru işaretleri yaratacak hediyeler gibi unsurların alınıp verilmesini doğru bulmuyorum. Böyle bir durumla karşılaştığımda öncelikle ilgili kişiden mümkün olduğu kadar konunun detaylarını öğrenmeye çalışırım yargısız infaz yapmamak adına. Fakat gerekirse uyarıp ilgili kişileri bilgilendirebilirim (K2)”.

“Böyle bir durumla karşılaştığımda hem o kişiyi uyarırım hem de bilgilendirilmesi gereken kişileri bilgilendiririm (K3)”.

“Fakat tabi konumuzla da bağlantılı olarak bir kişisel çıkar sağlama durumu söz konusu ise uygun yollarla uyarırım. Zaten şirketteki konumum gereği bir yaptırım uygulamak durumunda kalırım tabi. Ama tepkisiz kalmam ya da görmezden gelmem söz konusu değil haliyle (K4)”.

“Öncelikle durumun detaylarını öğrenip ona göre hareket etmeyi tercih ederim. Ama eğer sormak istediğiniz görmezden gelmek ya da bu durumu yok saymak gibi bir şey yapıp yapmayacağımsa mutlaka belli bir noktadan sonra ilgili kişilerin durum hakkında bilgi sahibi olmasını sağlamaya çalışırım (K5)”.

“Kesinlikle çevremde böyle bir durumun olmasına izin vermem. Özellikle işin içine şirketin akçeli işleri girdiğinde bu tür durumlarda etik dışı davranışlara karşı esnek olunmaması gerektiğini düşünüyorum (K6)”.

“Fakat tabi konumuzla da bağlantılı olarak bir kişisel çıkar sağlama durumu söz konusu ise uygun yollarla uyarırım. Zaten şirketteki konumum gereği bir yaptırım uygulamak durumunda kalırım tabi. Ama tepkisiz kalmam ya da görmezden gelmem söz konusu değil haliyle (K4)”.

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“Aslında mantığım bu tür durumlarda olayın dışında kalmam gerektiğini söylüyor olsa da tepki vereceğimi düşünüyorum. En azından böyle bir davranışta bulunan kişiyi uyaracağımı söyleyebilirim (K7)”.

“Böyle bir soruya büyük ihtimalle herkes etik kapsamında yanıtlar verecektir. Yani kimsenin böyle bir şeyi görmezden gelirim diyeceğini sanmıyorum. Hediyenin ne büyüklükte bir şey olduğuna da bağlı tabii ama olumlu yaklaşmayacağımı söyleyebilirim (K8)”.

### **Çıkar çatışması yaşanması halinde tercih edilecek davranış şekli**

#### **Çıkar çatışması yaratacak durumlardan kaçınma**

Katılımcıların daha önceki temalarda vurguladıkları çıkar çatışmasının önlenmesinde bireyin kendisine düşen sorumluluklar açısından farkındalıklarının ve algı düzeylerinin oldukça yüksek olduğu görülmektedir. Buna bağlı katılımcıların çoğu böyle bir durumda kalmamak için ekstra özen gösterdiklerinden dolayı buna ihtimal vermediklerini belirtmiştir. Ayrıca an itibarıyla çalışılan kurumdaki işleyişin de böyle bir durumun oluşmasına izin vermeyeceği de düşünülmektedir.

“Herhangi bir çıkar çatışması durumunda kalacağımı düşünmüyorum. Çünkü zaten bu tür durumların olmamasına yönelik özen gösteren biriyim. Aslında şöyle söyleyebilirim iş süreçlerimde kişisel çıkarım ile kurumsal çıkarları aynı alana getirmiyorum. Dolayısıyla böyle bir durum oluşmuyor (K1)”.

“Ben iş yapış şekilleri açısından özellikle hesap verebilirlik konusuna ciddi özen göstermeye çalışan biriyim. Bizim çalışma alanımız satın alma üzerine olduğu için bu süreçlerde çok dikkatli hareket etmek gerekiyor. O nedenle bir çıkar çatışması yaratma olasılığı olan durumlardan zaten uzak durmak gibi bir refleksimiz oluşuyor (K2)”.

“Açıkçası şu an çalıştığım şirkette böyle bir durumla karşılaşacağımı sanmıyorum. Genel olarak önemli derecede şeffaf ve denetlenebilir süreçler içerisinde çalışıyoruz (K4)”.

“Sonuçta şirketin iş yapış şekillerine dair belirli kurallar var. Bu kurallara uygun davrandığımız sürece herhangi bir çıkar çatışması durumu söz konusu olmuyor. O nedenle böyle bir durumla karşı karşıya geleceğimi sanmıyorum (K5)”.

“Kendi adıma şirket içi çekişmeler gibi çıkar çatışması yaratabilecek durumlardan özellikle uzak durduğumu söyleyebilirim. Diğer açıdan kişisel çıkarlarımla şirketin çıkarlarını karşı karşıya getiren bir durum da yaşamadığım için bahsettiğiniz durum bana uzak bir konu (K7)”.

“Herhangi bir çıkar çatışması durumu oluşmadan kendimle ilgili önlemi alırım (K8)”.

#### **Kurumsal çıkarları bireysel çıkarların önünde tutma**

Görüşmelerden elde edilen bulgulara göre herhangi bir şekilde bir çıkar çatışmasının yaşanması halinde katılımcıların bireysel çıkarlarını şirket çıkarlarının önünde tutmayacaklarını beyan ettikleri görülmektedir. Ayrıca iş hayatı dışındaki günlük hayatları söz konusu olduğunda ise katılımcıların doğal olarak bireysel çıkarlarına uygun hareket etme eğilimine sahip olduklarını belirtmek mümkündür.

“Eğer iş hayatı dışında olabilecek çıkar çatışmalarından bahsediyorsak da bu tür durumlarda kişisel çıkarlarımı dikkate alarak hareket ederim (K1)”.

“Yine de böyle bir durumun içinde kendimi bulursam da şirket çıkarına ters düşecek bir davranışta bulunmam. Buna zorlandığım bir durum olursa da şirket içerisinde ilgili yetkili kişilerle durumu paylaşıyorum (K2)”.

“İş ortamında herhangi bir çıkar çatışması durumu olacağını fark ettiğim takdirde kişisel olarak uzak durmayı tercih ederim. Şirket içerisindeki pozisyon değişiklikleri gibi durumlarda bir etik dışı duruma denk gelmem halinde de ilgili yöneticiye uygun şekilde durumla ilgili fikrimi söylerim (K3)”.

“Ama yine böyle bir durumun içinde kaldığım takdirde kurumsal çıkarlara ters bir hareket yapmam. Sonuçta böyle davranmak orta ve uzun vadede benim kişisel çıkarlarıma da uygun bir tavır. Etik dışı bir durumun içinde olmak istemem (K4)”.

“Özel hayatımda tabii ki kişisel çıkarlarımı ve aile çıkarlarımı koruyacak şekilde davranırım. Fakat iş hayatı söz konusu olduğunda var olan kurallara aykırı olacak bir davranış içine girmem söz konusu olmaz (K6)”.

“Etik dışı bir davranış göstermeyeceğimi söyleyebilirim (K7)”.

“Geçmişte çalıştığım iş yerlerinde çıkar çatışmasına yol açan durumlarla karşılaştığımdan bahsetmişim. O dönemlerde bu duruma ciddi tepki göstermiş ve hatta bu nedenle çeşitli sıkıntılar da yaşamıştım. Ayrıca bu konuda çok hassas davranacağımı da belirtmem gerek (K8)”.

## Sonuç ve öneriler

Çıkar çatışması günümüzde gerek kamuda gerekse de özel sektörde faaliyet gösteren işletmelerde sıklıkla görülen fakat çoğu zaman görmezden gelinmeye çalışılan bir unsur olarak dikkat çekmektedir. Çıkar çatışmasına sebep olan süreçler veya bireylerin çıkar çatışması durumunda kaldıkları anlardaki tercihleri dikkatli şekilde yönetilip yönlendirilmediğinde kurumların işleyişlerinde önemli aksaklıkların ortaya çıktığını söylemek mümkündür.

Katılımcı görüşleri doğrultusunda, çıkar kavramının özellikle iş hayatı özelinde olumsuz çağrışımlara sahip olduğunu söylemek mümkündür. Mintz (1992)'e göre, etik doğruyu yanlışta ayırt etme yeteneği ile beraber doğru olanı yapma sorumluluğu ile ilgili bir kavramdır. Etik; bireylerin veya birey gruplarının gerçekleştirdiği davranışlara yönelik olarak yanlış ve doğru olan unsurların neler olduğuna dair bir ilke ve değerler birlikteliğidir (Daft,1994:151).

İşletmelerde çıkar çatışmasına dair detayların incelendiğinde bu araştırmanın sonuçlarına göre öncelikle çıkar kavramının değerlendirilmesi noktasında katılımcıların genel olarak bu kavramla fayda elde etme odaklı diğer kavramları bağdaştırdığı görülmektedir. Ayrıca genel olarak bu kavrama olumsuz anlamların yüklendiği de görülmektedir. Bunun yanı sıra çıkar kavramının soyut unsurlar yerine çoğu zaman somut ve maddi özellikteki unsurlara atfedilen değerlerle ele alındığı da görülmektedir.

Çıkar elde etme ile ilgili algının genel olarak yolsuzluk, rüşvet gibi olumsuz unsurlarla bağdaştırıldığını da söylemek mümkündür. Bu durumun sebebinin çoğunlukla basın yayın organlarında yer alan haberlerde rastlanılan detayların bu yönde değerlendirilmesi olduğu görülmektedir. Ayrıca çıkar kavramı ile iş hayatına dair detayların da katılımcıların algılarında birlikte yer edindiği de bir başka önemli saptama olarak dikkat çekmektedir. İş hayatı ve çıkar kavramları arasındaki algı ilişkisinin de çıkar kavramına atfedilen risk yaratma, tehlikeli olma gibi kavramlarla birlikte kurulduğu da görülmektedir. Aynı zamanda, rüşvet ve yolsuzluk etik dışı kavramlar olarak nitelendirilmektedir. Usta (2015), çıkar çatışmasının söz konusu olduğu durumlarda yolsuzluk yapılması olasılığının da yüksek olduğunu, fakat bu durumun yolsuzluk yapıldığı anlamına gelmediğini ifade etmektedir. Ona göre, çıkar çatışmasının ortaya çıkartılmasındaki amacın yolsuzluğun engellenmesidir.

Çıkar kavramının devamında bu kavramın kapsamını da genişletmek açısından ele alınan çıkar çatışması kavramına dair algının da benzer özellikler gösterdiği görülmektedir. Genel olarak tüm katılımcılar çıkar çatışmasını bireysel çıkarlar ile kurumsal çıkarların çatışması durumu üzerinden değerlendirmektedir. Çıkar çatışmasının bireylere çağrıştırdığı kavramlar da tıpkı çıkar kavramında olduğu gibi maddi kazanç elde etme, yolsuzluk, rüşvet gibi olumsuz unsurlar üzerinde yoğunlaşmaktadır. Çıkar çatışması teknik olarak, birincil çıkar olarak kabul edilen kamu çıkarının, ikincil çıkardan başka bir ifade ile bireysel çıkardan (maddi kazanç sağlama) etkilenmesi durumudur (Omobowale, Kuziw, Naylor, Daar ve Sinder, 2010: 1). Bu bağlamda, çıkar çatışmasının maddi kazanç elde etme ilgili bir kavram olduğunu söylemek mümkündür.

Çıkar çatışması özelinde katılımcıların sıklıkla dile getirdikleri noktalardan bir diğeri de şirket içi terfi gibi durumlarda yaşanan olumsuzların dikkat çeken çıkar çatışmalarına yol açtığıdır. Ayrıca yine günlük iş akışı içerisinde önemli yer tutan iş yüklerinin belirlenmesi, mesai saatleri ve mesai şekilleri gibi detayların da yine çıkar çatışması kapsamında değerlendirildiği görülmektedir. Bu açıdan işletmelerde yönetici konumunda olan kişilerin çıkar çatışması ile ilgili konularda önemli aktörlerden biri olarak görüldüğünü söylemek de mümkündür.

İşletmelerde çıkar çatışması kaynaklı gelişmelerin çalışanlar tarafından iş motivasyonunun düşmesi, adalet algısının zedelenmesi, itibar kaybı gibi ciddi olumsuz sonuçlara yol açabileceği görülmektedir. Usta da (2015), kamu kurumlarında yaşanan çıkar çatışmasının örgütsel verimliliği ve etkililiği azaltacağı; kurumsal performansı etkileyeceğini ifade etmektedir.

Bu durumların önüne geçme noktasında ağırlıklı olarak işletme yönetimlerine çeşitli sorumlulukların atfedildiği görülmektedir. Özellikle işletmedeki iş yapış şekillerinin adaletli bir ortamda gerçekleşmesi, işletme içinde liyakate uygun hareket etme, adil bir iş ortamı yaratma gibi konularda katılımcıların beklentilerinin genel olarak işletme yöneticileri üzerinde yoğunlaştığını söylemek mümkündür. Usta (2016), kamu görevlilerinin özellikle karar verirken ve hizmetlerini yürütürken uymaları gereken davranışlar olarak tarafsızlık, dürüstlük, liyakat, nesnellik, saydamlık, hesap verebilirlik, adalet, eşitlik, kamu yararını gözetme, profesyonellik, tutumluluk, etkinlik, hediye ve/veya rüşvet almama, çıkar

çatışmasından kaçınma gibi ilke ve değerler bütününe olduğunu ifade etmektedir. Bu görüş doğrultusunda, çıkar çatışmasında işletme içi liyakat uygulamasının da etik kurallar çerçevesinde yapılması gerektiğini söylemek mümkündür.

İşletmelerde çıkar çatışmasının önlenmesi adına atılması gereken en önemli adımların başında kurumsal yapının oluşturulması, etkin bir şekilde işleyen bir denetim mekanizmasının yaratılması, iş yerindeki görev tanımlarının belirlenmesi gibi eylemlerin geldiği saptanmıştır. Ayrıca kurumsal yapı ve yönetime yönelik yaklaşımların yanı sıra çıkar çatışmasının ortaya çıkmaması için bireylerin de kurum çıkarlarına odaklanan bir yaklaşımla iş süreçlerini devam ettirmelerinin önemli olduğu görülmektedir.

Araştırmadan elde edilen sonuçlara göre katılımcılar çıkar elde etme ile ilgili durumlar üzerinde yorum yaparken her zaman önceki dönemlerde çalıştıkları işlerine yönelik atıfları tercih etmektedir. Bu noktada her ne kadar çıkar çatışması sıklıkla kamu üzerinden ele alınan bir kavram olsa da özel sektörde faaliyet gösteren işletmelerde de bu konunun sıklıkla karşılaşılan bir durum olduğunun altının çizilmesi önemlidir.

Çıkar elde etme ile ilgili durumların değerlendirilmesine yönelik elde edilen en önemli sonuçlardan biri de katılımcıların özellikle hediye alma gibi durumlarda hediye maddi boyutu, verilmiş şekli ve genel olarak bir departmandaki tüm çalışanlara verilir verilmemesi gibi kriterler üzerinden bu değerlendirmeyi yapmayı tercih ediyor oluşlarıdır. Bu noktada tedarikçiler gibi işletme paydaşlarından kabul edilen ve düşük maddi özellikteki, günlük kullanım işlevine sahip kalem, bloknot gibi unsurların çıkar elde kapsamında değerlendirilmediği görülmektedir.

Fakat katılımcıların yanıtlarından elde edilen bulgulara göre özellikle yüksek meblağlı hediye alınması, iş yerindeki terfide yapılan haksızlık ya da bireysel çıkarlar nedeniyle kurum çıkarının zarar görmesi gibi durumlarla karşılaşılması halinde tepkisiz kalınmayarak gerek kişiler bazında gerekse de kurum yöneticileri bazında uyarma ve bilgilendirme eylemlerinin gerçekleştirileceği görülmektedir. İşletmelerde çıkar çatışmasının değerlendirilmesi noktasında katılımcıların böyle bir durumda da kalmamaya yönelik pro-aktif davranışlarla önlemler aldığı fakat yine de böyle bir durumla karşı karşıya kalınması halinde kurumsal çıkarlara uygun hareket etmeyi tercih edecekleri görülmektedir.

Araştırmanın önerileri olarak;

- ✓ İşletmelerde kurumsal yapıya dayalı bir işleyişin kurulmasının ve işletme içi pozisyon değişikliklerinin liyakati temel alarak yapılması önerilmektedir.
- ✓ Ayrıca iş yükleri, mesai gibi işletme paydaşlarıyla ilişkilerde standartların oluşturulması gibi alanlarda her konuda olduğu gibi çıkar çatışmasının önlenmesi noktasında da yöneticilere önemli görevlerin düştüğü görülmektedir.
- ✓ Çalışanlara örgütte çıkar çatışmasına neden olacak etkenlerin açık bir biçimde anlatılması önerilmektedir.
- ✓ Çıkar çatışmasının caydırıcılığı için, yöneticilerin çıkar çatışmasına neden olan kişi ya da gruplara farklı yöntemlerle yaptırımlar uygulanması önerilmektedir.

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## Muhasebe denetiminde büyük veri analizi kullanımına yönelik güven tutumunun incelenmesi: Nitel bir araştırma

### Examining the attitude of trust towards the use of big data analysis in auditing: A qualitative study

Merve Aygün<sup>1</sup> 

Nilgün Kutay<sup>2</sup> 

#### Öz

Bu çalışmada büyük veri analizi kullanımına ilişkin güven tutumunun muhasebe denetiminde incelenmesi amaçlanmıştır. Çalışmada nitel araştırma yöntemi benimsenmiştir. Teknolojiye Güven Ölçeğinden yararlanılarak oluşturulan yarı yapılandırılmış mülakat soruları 10 bağımsız denetçiye yöneltilmiştir. Güven tutumu; genel teknolojiye güven tutumu ve inanç, durumsal normallik, yapısal güvence ve belirli bir teknolojiye duyulan inanç; güvenilirlik, işlevsellik ve yardım sağlama temalarında incelenmiştir. Katılımcılarla yapılan görüşmelerde en yoğun ifade edilen düşüncelere göre ise kodlar ve kategoriler oluşturulmuştur. Verilerin analizinde Maxqda 22 programı kullanılmıştır. Çalışmaya dahil olan bağımsız denetçilerin genel teknoloji karşısındaki güven tutumları kontrol gibi şartlara bağlanmıştır. İş süreçlerine olumlu katkısıyla genel teknolojiye inanç duyulmaktadır. Yasal güvence katılımcıları güvende hissettirmektedir. Büyük veri analizi araçlarıyla çalışmaktan genelde memnun olunmaktadır. Büyük veri analizinin denetimde işlevsel, güvenilir ve yardım sağlamaya ilişkin inancı ise olumludur.

**Anahtar Kelimeler:** Muhasebe Denetimi, Teknolojiye Güven Ölçeği, Büyük Veri Analizi

**İel Kodları:** M42, O31, O33

#### Abstract

This study aims to examine the attitude of trust regarding using big data analysis in the audit. A qualitative research method was adopted in the study. Semi-structured interview questions created using the Trust in Technology Scale were directed to 10 independent auditors. Trust attitude was examined under trust and belief in general technology, situational normality, structural assurance and belief in a particular technology, reliability, functionality and helpfulness. In the interviews with the participants, codes and categories were created according to the most intensely expressed thoughts. Maxqda 22 program was used in the analysis of the data. The trust attitudes of the independent auditors involved in the study towards general technology are tied to conditions such as control. There is a belief in general technology's positive contribution to business processes. Legal assurance makes participants feel safe. They are generally satisfied with working with big data analysis tools. The belief that big data analysis is functional, reliable and helpful in auditing is positive.

**Keywords:** Auditing, Trust in Technology Scale, Big Data Analysis

**İel Codes:** M42, O31, O33

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## Extended Abstract

### Examining the attitude of trust towards the use of big data analysis in auditing: A qualitative study

#### Literature

Trust is a very important aspect of decision processes. As individuals' confidence in a certain technology increases, their intention to use this technology is also positive (Madhlangobe, 2018: 29). The use of big data analytics will be limited if users and decision-makers do not have confidence in the data (Bolonje and Wijewardene 2020: 151). Therefore, it is thought that the use of big data analysis in companies depends on the positive trust attitudes of individuals towards using this technology.

When the literature is examined, it has been seen that the trust factor is generally an important reservation in big data analysis in the research on audit companies. Shukla and Mattar (2019) examined the barriers to using Big Data Analytics in Audit Systems. Poor quality of data, data security concerns, the complexity of data management, the inadequacy of technological developments, lack of information sharing, lack of skilled workforce, scalability problems and organizational resistance to change are counted among these obstacles.

Perera and Abeygunasekera (2021), on the other hand, reveal that incompatibility of big data obtained from various sources, privacy concerns and data reliability issues are among the problems of using big data analysis in accounting auditing.

Stensjö (2020) addressed the challenges associated with audit support systems, big data and its analysis in his study "The Changing Nature of the Audit Profession". Technology dominance, employee support and information, data features and security, conversion of audit services to consulting services, less time spent with customers and increased competition are among the challenges. Individuals participating in the study stated that trusting technology without questioning creates the risk of technology dominance. In addition, the view that technology limits professional judgment and critical perspective were also expressed in the study.

In the study conducted to determine the changes of digital transformation on auditors' work, it has been observed that four large audit companies have a positive attitude towards new technologies and accompanying actions (Liew, Boxall, and Setiawan, 2022).

#### Research subject, purpose and importance

It examines the attitude of trust towards using big data analysis in accounting auditing. One of the biggest barriers to the use of emerging technologies is trust. Risk, uncertainty, and lack of user control create a negative trust in technology use. On the other hand, a positive attitude of trust in using technologies such as big data analysis adds value to business processes. Thus, it is thought that the ability to obtain value from big data analysis and use it in strategic business decisions is related to the attitude of trust. This study aims to examine the trust attitudes of the auditors active in the audit towards big data analysis.

#### Contribution of the article to the literature

When the literature review is done, it is seen that the attitude of trust regarding big data analysis in accounting auditing in Turkey has not been examined before. Therefore, it is thought that this study will add value to using big data analysis in accounting audits and other areas.

#### Design and method

In the study, the semi-structured interview technique, a qualitative research method, was used. Thematic analysis was made.

#### Research type

A qualitative research method was adopted in the study. Thematic analysis was made. Based on the Trust in Technology Scale, semi-structured interview questions were created.

#### Research problems

Audit practices are one of the main areas affected by the trend of using big data analytics, which handles large amounts of information. However, when the obstacles related to the use of big data analysis in audit systems are examined in the literature, it has been determined that the security problem is an important obstacle. For this reason, the study's starting point was to examine the attitude of trust towards using big data analysis among independent auditors.

#### Data collection method

Participants were first contacted via e-mail or telephone. Then, the purpose of the academic study was conveyed to them. Then, according to the workload of the participants, one-to-one interviews were conducted with them or interview questions were sent via Google Docs.

#### Quantitative / Qualitative analysis

The data obtained from the interviews with the independent auditors were analyzed by uploading to the MAXQDA 22 program.

#### Research model

Semi-structured interview questions were created based on The Trust in Technology Scale. Within the scope of this scale, seven components were emphasized. These components can be listed as Trusting Stance: General Technology, Faith in General Technology, Structural Assurance: Technology, Situational Normality: Technology, Trusting Belief-Specific Technology-Reliability, Trusting Belief-Specific Technology-Functionality and Trusting Belief-Specific Technology-Helpfulness

#### Finding and discussion

When the participant group included in the study is evaluated, it is seen that the attitude of trust towards the use of big data analysis in auditing is positive. However, since big data is obtained from many different sources today, the reliability of the data source, the condition of control with traditional methods, working with the right program and modelling, accurate analysis, reducing costs and the future of auditing make the attitude of trust conditional. Furthermore, factors contributing to business processes such as reducing the error rate, accelerating the tasks, increasing the capabilities, analyzing the entire data, facilitating the audit process, and increasing efficiency and quality positively shape the attitude of trust towards big data analysis. However,

the reasons such as the thought that the risk related to the results cannot be eliminated despite the use of big data analysis techniques and tools, the data is not healthy, the auditor takes the final decision. Furthermore, the infrastructure problem in the audit distracts the participants from a positive attitude towards the use of big data analysis.

#### **Finding as a result of the analysis**

The study focused on seven basic themes. The dimensions of Trust in Technology Scale shaped these themes. Participants emphasized that their confidence in general technology depends on certain conditions. Independent auditors believe in general technology in terms of its positive contributions to business processes. Another issue that the participants included in the study focused more on is that they feel safe with the advantages offered by data solutions. Independent auditors stated that they are mostly satisfied with working with big data analysis tools, but this situation will change according to some conditions. These requirements are the accuracy of the data and its analysis, accurate modelling and programs, and the necessity of manual control. The majority of the participants believe that big data analysis is reliable. Participants stated that big data analysis is functional in performing audit tasks. He sees the issues of easing the workload among the participants, facilitating the audit process and detecting errors among the outputs of assisting with big data analysis.

#### **Discussing the findings with the literature**

Shukla and Mattar (2019) examined the barriers to using Big Data Analytics in Audit Systems. Poor quality of data, data security concerns, the complexity of data management, the inadequacy of technological developments, lack of information sharing, lack of skilled workforce, scalability problems and organizational resistance to change are counted among these obstacles. In this study, obstacles that make the attitude of trust in big data analysis conditional or turn it into a negative attitude were found. Data source security, auditing infrastructure problems and independent auditors' manual control are among these obstacles. In particular, it is similar to the studies in the literature that the problem of trust in the data source and the risk of the results may always exist, especially because the data is obtained from many sources.

#### **Conclusion, recommendation and limitations**

When the participants' statements were examined, it was determined that trust in big data analysis depended on some conditions. This shows that the participants do not have full confidence in the technology. Therefore, it is recommended to invest in the right programs, employ information technology specialists from audit companies and carry out the studies jointly, apply the latest technologies in audit processes, and lead the assistant auditors in this regard.

#### **Result of the article**

It is seen that trust towards the use of big data analysis in auditing is positive. However, the fact that big data is obtained from many different sources today, the condition of control with traditional methods, working with the right program and modelling, accurate analysis, reducing costs and the future of auditing make the attitude of trust conditional. Furthermore, factors contributing to business processes such as reducing the error rate, accelerating the tasks, increasing the capabilities, analyzing the entire data, facilitating the audit process, and increasing efficiency and quality positively shape the attitude of trust towards big data analysis. However, the reasons such as the thought that the risk related to the results cannot be eliminated despite the use of big data analysis techniques and tools, the data is not healthy, the auditor takes the final decision. Furthermore, the infrastructure problem in the audit distracts the participants from a positive attitude towards using big data analysis.

#### **Suggestions based on results**

Suggestions for making the attitude of trust in accounting audit more positive for independent auditors are as follows:

Audit companies need to employ competent human resources in their field. Therefore, the role of data scientists in companies with multidisciplinary abilities in Mathematics, Statistics, data visualization, data engineering and predicting a possible hacking should be revealed.

Training activities to gain the efficiency and effectiveness of big data analysis tools should be supported and carried out.

Software engineers should also be employed in audit companies to overcome software-based business process problems.

Investment should be made in the right programs for big data analysis in auditing, and the infrastructure problem in auditing should be tried to be solved.

#### **Limitations of the article**

Due to the workload of the working group, participation from The Big Four Audit Companies could not be achieved. Still, the study was conducted with independent auditors actively working in other audit companies.

## Giriş

Büyük veri analizi örgütlenmemiş büyük miktardaki veriye anlam kalıpları bulma (Chaudhary ve Alam, 2022: 20); akıllı algoritmalar kullanarak verilerden yararlı bilgi ve kalıpları keşfetmek ve karar vermeyi desteklemek için büyük veriyi inceleme, temizleme, dönüştürme ve modelleme (Dagilienė ve Klovienė, 2019); çeşitli araçlar ve platformlar kullanılarak büyük hacimli verinin madenciliği ve analizi olarak ifade edilebilir. HBase, Tableau, Apache Spark, Excel, Storm, Pig, Hive ve NoSQL büyük veri analiz araçları kapsamında değerlendirilebilir. Büyük veri analizi için alınan deęişkene baęlı olarak bu analiz araçları kullanılmaktadır (Imran, Ahamad, Haque ve Shoaib, 2021: 80).

Büyük veri analizi; finansal muhasebe, yönetim muhasebesi ve muhasebe denetiminde farklı kullanım amaçlarıyla yer bulmaktadır. Veriye gerçek zamanlı erişim sağlama, riskin yönetimi, anomalilerin tespiti, stok bulundurma miktarını saptama, kaliteli denetim kanıtı elde etme gibi konular, büyük veri analizinin muhasebede kullanım amaçları arasında yer almaktadır.

Muhasebe denetimi alanında veri çeşitliliğinin artmasıyla daha hızlı ve gelişmiş analizlerin gereklilięi ortaya çıkmıştır. Denetim prosedürlerinin yürütülmesinde denetim verimliliğini ve etkinliğini arttıracak veri analizinin oluşturulması aynı zamanda müşterilerin de denetim şirketlerinden beklentisi durumuna gelmiştir. Baęımsız denetçiler artık büyük veri analizinde gelişmiş bilgisayar yazılımları kullanmaktadır. Denetim şirketlerinin doęru veri analizi araçları ve yetenekleri, büyük verileri denetim sürecine entegre etmelerinde etkili olmaktadır. Büyük veri analizinin muhasebe denetiminde kullanımı; veri setinin tamamının analizi, risk ve hile tespiti, anomalilerin tespiti, denetim kalitesinin artması ve denetim sonuçlarının güvenilirliğinin artmasında temel avantajlar sağlamaktadır (Vanbutsele, 2018: 30-31). Muhasebe denetiminde büyük veri analizi kullanımı büyük veri teknolojilerinin benimsenmesi ve uygulanmasıyla bağlantılıdır. Ancak büyük veri analizini benimseme çekinceleri de oldukça fazladır. Bu çekinceler; belli bir teknolojiye ilişkin güven tutumu, büyük veriyi kullanabilme ve yönetebilme konusunda yetkinlik boyutu ve veri güvenliği sorunları olabilir. Donanım altyapısı, yüksek boyutlu veri, veri kalitesi, veri entegrasyonu, gerçek zamanlı veri ve veri kaynaęı (verinin heterojenlięi), veri depolama ve analizi, yanlış verilerin güvenli olmayan sonuçları verebilmesi (Goundar, Bhardwaj, Singh, Singh ve Gururaj: 2021: 13) de çekinceler arasındadır. Ayrıca istatistiksel paradokslar; yapay zekâ, makine öğrenimi dięer bir zorluk alanıdır. Paradokslar, otomatik veri analizi sonuçlarındaki hata olasılıklarını belirtir. Verilerin yansıttığı ve gerçekte var olan birbirinin aynı olmadığında veri analizleri hatalı sonuçlar ortaya çıkarabilir. Veri kümelerinde çelişen faktörler uygun şekilde ele alınmazsa, veri analizinin sonuçları tamamen zıt olabilir (Sharma, Kaushik, Peious, Shahin, Vidarthi, Tiwari ve Draheim: 2022: 61).

Bireyler güvenmedikleri ya da yanlış yapmaktan korktukları bir teknolojinin kullanımına şans vermemektedir. Bireylerin güven tutumu bu durumda büyük önem taşımaktadır. Büyük veri analizinden deęer elde edilebilmesinin ve stratejik iş kararlarında kullanılabilmesinin güven tutumuyla ilişki olduęu düşünülmektedir.

Bu araştırmada, muhasebe denetiminde büyük veri analizi kullanımına ilişkin güven tutumunun baęımsız denetçilerin deneyimleri aracılığıyla ortaya çıkarılması amaçlanmıştır. Güven tutumunun incelenmesi amacıyla Teknolojiye Güven Ölçeğinden yararlanılmıştır. Teknolojiye Güven Ölçeęi temel alınarak yarı yapılandırılmış mülakat teknięiyle katılımcılara sorular yöneltilmiştir. Araştırma yöntemi olarak nitel araştırma yöntemi ve fenomenoloji araştırma deseni benimsenmiştir. Araştırmada genel teknolojiye güven tutumu, genel teknolojiye inanç, durumsal normallik, yapısal güvence ve belirli bir teknolojiye duyulan inanç; güvenilirlik, işlevsellik ve yardım sağlama temalarında incelenmiştir.

Literatür kapsamında yapılan incelemelerde, ulusal ve uluslararası çalışmalarda muhasebe denetiminde büyük veri analizinde güven tutumunun sınırlı çalışıldığı saptanmıştır. Bu nedenle çalışmanın literatürdeki boşluęun doldurulmasına katkı sağlayacağı düşünülmektedir.

## Literatür

Güven, karar süreçlerinin çok önemli bir yönünü oluşturmaktadır. Bireylerin belirli bir teknolojiye olan güveni arttıkça, bu teknolojiyi kullanma niyetlerinin de olumlu olması bunun göstergesidir (Madhlangobe, 2018: 29). Kullanıcılar ve karar vericilerin verilere güveni olmadığı takdirde büyük veri analizinin kullanımı sınırlı olacaktır (Bolonne ve Wijewardene, 2020: 151). Şirketlerde büyük veri analizi kullanımının bireylerin bu teknolojiyi kullanmaya ilişkin olumlu güven tutumlarına baęlı olduęu düşünülmektedir.

Literatür incelendiğinde denetim şirketlerine yönelik yapılan araştırmalarda güven unsurunun genellikle büyük veri analizinde önemli bir çekince olduęu görülmüştür. Shukla ve Mattar (2019), Denetim Sistemlerinde Büyük Veri Analizi Kullanımına İlişkin Engelleri İncelemiştir. Verilerin

kalitesizliği, veri güvenliği endişeleri, veri yönetiminin karmaşıklığı, teknolojik gelişmelerin yetersizliği, bilgi paylaşımı eksikliği, yetenekli işgücü eksikliği, ölçeklenebilirlik sorunları ve değişime karşı örgütsel direnç bu engeller arasında sayılmıştır.

Perera ve Abeygunasekera (2021) ise çeşitli kaynaklardan elde edilen büyük verilerin uyumsuzluğu, gizlilik endişeleri ve verilerin güvenilirliği konularının muhasebe denetiminde büyük veri analizi kullanımı sorunları arasında olduğunu ortaya koymaktadır.

Stensjö (2020), 'Denetim Mesleğinin Değişen Niteliği' konulu çalışmasında denetim destek sistemleri, büyük veri ve analiziyle ilgili zorluklara değinmiştir. Teknoloji egemenliği, çalışan desteği ve bilgisi, veri özellikleri ve veri güvenliği, denetim hizmetlerinin danışmanlık hizmetine dönüşmesi, müşterilerle daha az zaman geçirilmesi ve artan rekabet zorlukları arasındadır. Çalışmaya katılan bireyler, teknolojiyi sorgulamadan güvenmenin teknoloji egemenliği riskini oluşturduğu belirtmiştir. Ayrıca çalışmada teknolojinin mesleki muhakeme ve eleştirel bakış açısını sınırlandırdığı görüşü de ifade edilmiştir.

Dijital dönüşümün denetçilerin işi üzerindeki değişimlerini saptamaya yönelik yapılan çalışmada; Deloitte, Pricewaterhouse Coopers, KPMG ve Ernst & Young gibi dört büyük denetim şirketinin yeni teknolojilere ve buna eşlik eden eylemlere karşı olumlu bir tutum sergilediği gözlemlenmiştir (Liew vd., 2022).

## Araştırma

### Araştırmanın amacı ve araştırma soruları

Büyük veri teknolojisine dayanan denetim uygulamalarını kullanma tutumunun denetçilerin bu konudaki kabiliyetlerine bağlı olduğu düşünülmektedir. Kabiliyetlere etki eden faktörler ise, büyük verinin kaynakları olarak da ifade edebileceğimiz soyut/somut faktörler ve kişilerin yetenekleri tarafından şekillenmektedir (Gupta ve George, 2016: 47). Bireylerin büyük veri analizi araçları ve programlarını kullanabilme kabiliyetleri olmasına rağmen güven tutumlarının olumlu olmaması durumunda bu teknolojilerin kullanımına şans vermeyecekleri düşünülmektedir. Risk, belirsizlik, kullanıcının kontrol eksikliği gibi faktörlere bağlı olarak büyük veri analizi kullanımına karşı olumsuz güven tutumu oluşmaktadır. Bu nedenle yeni çıkan teknolojilerin kullanımında güven unsurunun önemli bir sorun olduğu düşünülmektedir. Araştırmaya da bu problem yön vermiştir.

Büyük veri analizinden değer elde edilebilmesinin ve stratejik iş kararlarında kullanılabilmesinin güven tutumuyla ilişkili olduğu düşünülmektedir. Muhasebe denetiminde büyük veri analizi kullanımına ilişkin güven tutumunun olumlu olması durumunda; kalite, verimlilik, hataların tespiti ve denetim sürecine değer sağlaması beklenmektedir. Bu araştırmanın amacı muhasebe denetiminde büyük veri analizi kullanımına ilişkin güven tutumunun bağımsız denetçilerin deneyimleri aracılığıyla ortaya çıkarılmasıdır. Güven tutumunun incelenmesi amacıyla McKnight, Carter ve Clay (2009) tarafından geliştirilen Teknolojiye Güven Ölçeği boyutlarından yararlanılmış ve araştırma soruları oluşturulmuştur.

Tablo 1'de Teknolojiye Güven Ölçeği boyutları ve tanımlarına yer verilmiştir (McKnight, Carter, Thatcher ve Clay, 2011):

**Tablo 1:** Teknolojiye Güven Ölçeği Boyutları

Teknolojiye Güven Ölçeği Boyutları	
Boyut	Tanım
Güvenen Tutum: Genel Teknoloji	Teknolojiye güvenebileceğini varsayarak daha iyi sonuçlara ulaşılacağı varsayımı
Genel Teknolojiye İnanç	Teknolojilerin genellikle tutarlı, güvenilir, işlevsel olduğu ve ihtiyaç duyulan yardımı sağladığı varsayımı
Yapısal Güvence: Teknoloji	Destek ve güvence gibi yapısal koşulların genel teknoloji türünde mevcut olduğuna inanma
Durumsal Normallik: Teknoloji	Kişinin belirli bir teknoloji türünü kullandığında kendini rahat hissetmesi
Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik	Belirli bir teknolojinin tutarlı bir şekilde düzgün çalışacağına olan inanç
Belirli Bir Teknolojiye Duyulan İnanç: İşlevsellik	Belirli bir teknolojinin, yapılması gerekeni yapabilecek kapasiteye, işlevselliğe veya özelliklere sahip olduğu inancı
Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlama	Belirli bir teknolojinin kullanıcılar için yeterli ve hızlı yardım sağladığı inancı

Kaynak: (McKnight vd., 2009)

Muhasebe denetiminde büyük veri analizi kullanımına ilişkin güven tutumunun incelenmesi amacıyla Teknolojiye Güven Ölçeğine bağlı olarak aşağıdaki sorulara cevap aranmıştır:

### **Güvenen Tutum: Genel Teknoloji**

Bir teknolojiyi ilk kullandığınızda tutumunuz nasıl olur? (Genellikle doğru olduğunu mu varsayarınız? Cevabınız 'Hayır' ise nedenini açıklar mısınız?)

#### **Genel Teknolojiye İnanç**

Çoğu teknolojinin yapmak için tasarlandıkları işte verimli olduğuna inanıyor musunuz? (Aşağıdaki şıklara göre cevaplandırınız.)

- Görevlerinize hız kazandırıyor mu?
- Yaptığınız işlerde hata oranını azaltıyor mu?
- Maliyet tasarrufu sağlıyor mu?

### **Yapısal Güvence: Teknoloji**

Büyük veri analiz ürünlerini kullanırken yasal mevzuat ve süreçlerin desteğine sahip olmak güvende hissetmenizi sağlar mı? (Aşağıdaki şıklara göre cevaplandırınız.)

- Ürün garantileri büyük veri analiz yazılımını kullanmanın doğru olduğunu hissettiriyor mu?
- Kullanıcılara sunulan avantajlı yasal yapılar analiz ürünleriyle çalışırken kendinizi güvende hissetmenize yardımcı oluyor mu?

#### **Durumsal Normallik: Teknoloji**

Büyük veri analiz araçlarıyla çalışmaktan memnun musunuz? (Aşağıdaki şıklara göre cevaplandırınız.)

- Denetimde büyük veri analizi araçlarını kullandığınızda her zaman doğru sonuçlar alacağınızı düşünüyor musunuz?
- Büyük veri analizi araçlarını kullandığınızda gerçekleştirdiğiniz işlerin daha iyi olacağını öngörüyor musunuz?

#### **Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik**

Denetimde büyük veri analizi kullanımını güvenilir buluyor musunuz?

#### **Belirli Bir Teknolojiye Duyulan İnanç: İşlevsellik**

Büyük veri analizi denetimle ilgili görevlerinizi gerçekleştirmeniz için gerekli özelliklere sahip midir? (Büyük veri analizinin ihtiyacınız olan yeteneklere sahip olduğunu düşünüyor musunuz?)

#### **Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlama**

Büyük veri analizi gerektiğinde ihtiyacınız olan yardımı sağlıyor mu? (Kararlarınızı 'veri odaklı' aldığınız düşünüldüğünde; denetimde büyük veri analizi kullanımı size mantıklı ve faydalı tavsiyeler sağlıyor mu?)

### **Araştırma yöntemi ve örnekleme**

Çalışmada nitel araştırma yöntemi benimsenmiştir. Çalışmaya bir nitel araştırma deseni olan fenomenoloji (olgubilim) araştırma deseni yön vermiştir. Fenomenoloji deseni, bize tümüyle yabancı olmayan ancak derinlemesine ve ayrıntılı bir anlayışa sahip olmadığımız olguları temel almaktadır (Yıldırım ve Şimşek, 2021: 66).

Çalışmada fenomenolojik araştırmalarda en çok kullanılan amaçlı örnekleme yöntemlerinden ölçüt örnekleme ve kartopu örnekleme (Çarpar, 2020: 696) kullanılmıştır. Fenomenolojik araştırmada, örneklem genel olarak fenomenle ilgili tecrübesi olan bireylerden oluşmaktadır. Bu nedenle çalışmaya muhasebe denetiminde büyük veri analizi kullanımını deneyimlemiş bireyler dahil edilmiştir. Örneklem sayısının ise fenomenle ilgili deneyim sahibi 5 ile 25 katılımcıyı kapsaması önerilmektedir (Güçlü, 2021: 297). Bir diğer çalışma ise fenomenolojik çalışmalarda örneklem sayısını 3 ile 10 katılımcı arasında belirtmektedir (Creswell ve Creswell, 2018: 262). Çalışmaya Kamu Gözetimi Muhasebe ve Denetim Standartları Kurumu tarafından yetkilendirilen bağımsız denetim kuruluşlarında faal olarak denetim yapma yetkisine sahip on (10) bağımsız denetçi dahil edilmiştir. Bağımsız denetçiler çalışmaya dahil edilmeden önce <https://www.kgk.gov.tr/> üzerinden *Bağımsız Denetçi Yetkilendirmesi/Bağımsız Denetçi Resmi Sicili* temel alınarak katılımcıların faal olduklarına ilişkin bilgi doğrulanmıştır. Ayrıca çalışma grubunu denetçi olmasının dışında 3568 Sayılı Serbest Muhasebeci Mali Müşavirlik ve Yeminli

Mali Müşavirlik Kanunu kapsamında ruhsat sahibi Serbest Muhasebeci Mali Müşavir (SMMM) ve Yeminli Mali Müşavir (YMM) meslek grupları oluşturmaktadır.

Fenomenoloji araştırmalarında genellikle veri toplama aracı fenomeni deneyimleyen bireylerle gerçekleştirilen mülakatları içerir (Creswell, 2018: 81). Bu nedenle bağımsız denetçilerin büyük veri analizi kullanımına yönelik güven tutumlarını keşfetmek amacıyla Teknolojiye Güven Ölçeği temel alınarak yarı yapılandırılmış mülakat soruları oluşturulmuştur. Teknolojiye Güven Ölçeğindeki yedi (7) boyut üzerinde durulmuştur. Teknolojiye Güven Ölçeği Boyutları: Güvenen Tutum: Genel Teknoloji, Genel Teknolojiye İnanç, Yapısal Güvence: Teknoloji, Durumsal Normallik: Teknoloji, Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik, Belirli Bir Teknolojiye Duyulan İnanç: İşlevsellik ve Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlama (Madhlangobe, 2018: 84-85; Mcknight vd., 2011) olarak sıralanabilir. Ayrıca katılımcılara yöneltilen soruların kendileri tarafından daha iyi anlaşılabilmesi için ek sorular da sorulmuştur. Böylece çalışmaya derinlik katmak amaçlanmıştır.

Katılımcılarla ilk olarak e-posta veya telefon yoluyla iletişime geçilmiştir. Akademik amaçlı yapılan çalışmanın amacı kendilerine aktarılmıştır. Katılımcıların iş yoğunluklarına göre kendileriyle birebir görüşmeler yapılmış ya da görüşme soruları Google Docs üzerinden iletilmiştir. Araştırmanın verileri Haziran 2022 - Ağustos 2022 tarihleri arasında toplanmıştır.

## **Veri analizi ve bulgular**

### **Verilerin analizi**

Nitel araştırma süreci; problemin farkına varma, problemin analiz edilerek detayların belirlenmesi, problemin çözümüne ilişkin yaklaşım süreci, çalışmanın tasarlanması, veri toplama işlemleri, verilerin sınıflandırılması ve analiz edilmesi, verileri yorumlama ve verilerin raporlaştırılması aşamalarından oluşmaktadır (Creswell, 2002).

Nitel veri analizi, üzerinde çalışılan veriyle ilgili anlam üretmek ve veri setinde neyin temsil edildiğine dair açıklamalar geliştirmek ve alan sorunlarını da keşfetmek amacıyla yapılan bir sınıflandırma ve yorumlama sürecidir. Nitel çalışmalarda analiz süreci, verilerin hacmini azaltarak büyük miktardaki verinin temelini anlamayı, önemli örüntüleri tanımlamayı ve verilerden anlam çıkarmayı hedefler niteliktedir. Böylece nitel veri analizinin ham veriden anlam çıkarmak olduğu söylenilebilir (Çelik, Baykal ve Kılıç Memur, 2020: 380-381).

Nitel araştırmalarda verinin içerdiği anlam analiz süreci için oldukça önemlidir. Temalar yoluyla kavramlar arasındaki anlamlı örüntülerin açıklanması sürecin temelini oluşturur (Yıldırım ve Şimşek, 2021: 240). Bu çalışmada tümünden gelimci veri analiz süreci (kavramsal çerçeve-araştırma soruları-veri toplama-kavramsal çerçeveye bağlı analiz) hakimdir.

Bağımsız denetçilerle yapılan görüşmelerden elde edilen veriler MAXQDA 22 programına yüklenerek kodlama aşamasına geçilmiştir. Nitel bir araştırmada kod, dil temelli ya da görsel bir veriyi betimlemek amacıyla sembolik olarak kullanılan özetleyici, çarpıcı, özü yansıtan ve/veya çağrışımsal ifadelerdir. Nitel veri analizinde ise kod, eldeki veriyi temsil etmek amacıyla ileride örüntüler saptamak, veriyi kategorize etmek, temellendirilmiş kuramlar geliştirmek amacıyla her bir veriye yorumlanmış anlamlar yüklemek amacıyla araştırmacı tarafından üretilmiş yapılardır (Saldana, 2022: 4). Temalar ve alt temalara bağlı kodlama gerçekleştirildikten sonra tematik analiz yapılmıştır. Tematik analiz, veriler içindeki temaları tanımlama, analiz etme ve raporlama yöntemi olarak tanımlanabilir. Ayrıca araştırmacıya diğer birçok analiz yöntemi için temel beceriler kazandıran bir yöntemdir (Vaismoradi, Turunen, ve Bondas, 2013: 3). Ayrıca çalışmada betimsel analiz de temel alınmıştır. Böylece vurgulanması istenen katılımcı ifadelerine doğrudan yer verilmiş ve çalışmanın geçerliğinin artırılması sağlanmıştır.

Teknolojiye Güven Ölçeği kapsamında yedi (7) farklı tema oluşturulmuştur. Temalara bağlı kategoriler ve alt kodlar oluşturulmuştur. Çalışma kapsamında MAXQDA 22 programında oluşturulan Tema/Kategori/Kod diziliminin örneği Şekil 1'de verilmiştir.





**Şekil 1:** Tema-Kategori-Kod Dizilimi Örneği

**Kaynak:** Yazar tarafından üretilmiştir.

Şekil 1’de Durumsal Normallik: Teknoloji temayı; Şarta Bağlı Büyük Veri Analizi (BVA) Araçlarıyla Çalışma Memnuniyeti, BVA Araçlarıyla Çalışma Memnuniyetsizliği ve BVA Araçlarıyla Çalışma Memnuniyeti kategorileri; Verinin ve Analizinin Doğruluğu, Doğru Modelleme Gerekliliği, Manuel Kontrol Şartı, Sonuçlara İlişkin Risk, Verilerin Güvenilir Olmayışı, Doğru Sonuçlar Elde Etme ve Doğru Modelleme ve Programlara Sahip Olma kodları göstermektedir. Katılımcıların görüşme verileri MAXQDA 22 nitel veri analizi programıyla analiz edilmiştir.

## Bulgular

Araştırma problemine açıklık getirmesi adına yapılan görüşmelerden elde edilen bulgular bu başlık altında sunulmuştur. Çalışmaya katılan katılımcılar D1’den D10’a kadar kodlanmıştır.

### Katılımcıların demografik özelliklerine ilişkin bulgular

Bağımsız denetçilere demografik sorular kapsamında denetim sektöründeki çalışma yılları sorulmuştur. Katılımcıların denetim sektöründe çalışma yılları Tablo 2’de verilmiştir.

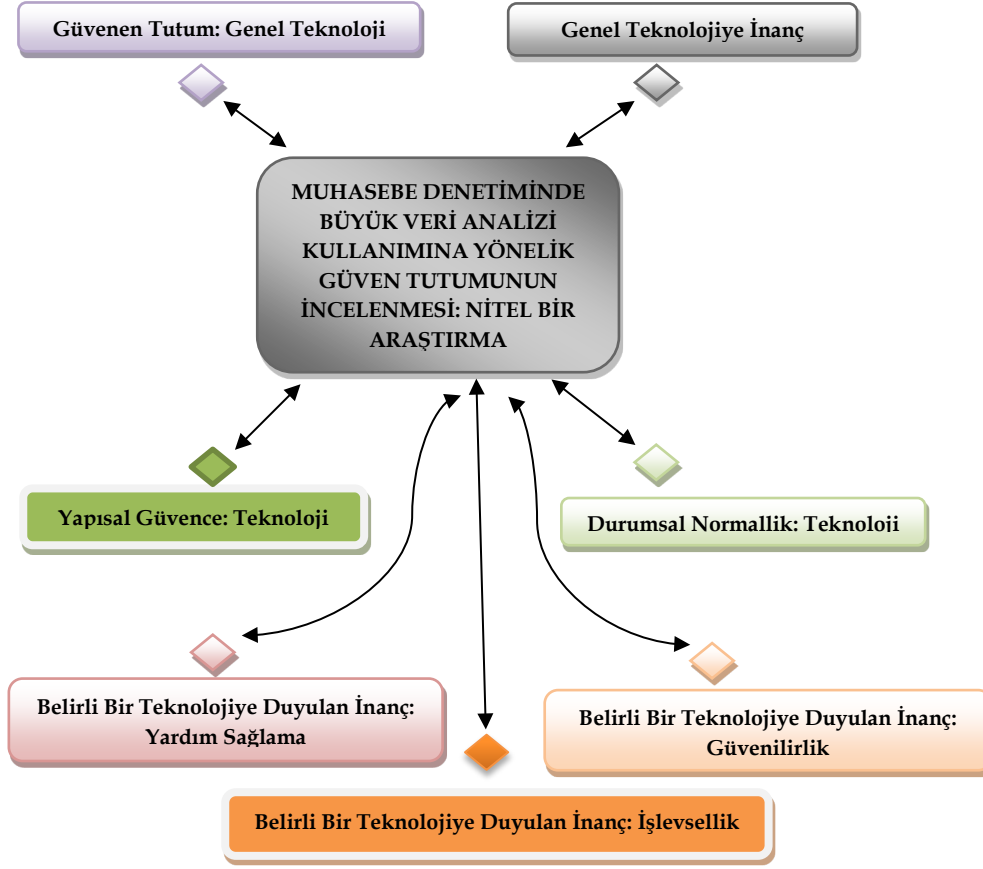
**Tablo 2:** Katılımcıların Mesleki Kıdemleri

Belge Adı	Denetim Sektöründe Çalışma Yılı
D1	5-10 Yıl
D2	5-10 Yıl
D3	15 Yıl ve Üzeri
D4	15 Yıl ve Üzeri
D5	10-15 Yıl
D6	5-10 Yıl
D7	10-15 Yıl
D8	5-10 Yıl
D9	15 Yıl ve Üzeri
D10	10-15 Yıl

**Kaynak:** Yazar tarafından üretilmiştir.

Araştırmaya katılan 4 katılımcının denetim sektöründe çalışma yılları 5-10 yıl, 3 katılımcının 10-15 yıl, 3 katılımcının ise 15 yıl ve üzeridir.

### Muhasebe denetiminde büyük veri analizi kullanımına yönelik güven tutumunun incelenmesi çalışmasının tema gösterimine ilişkin bulgular

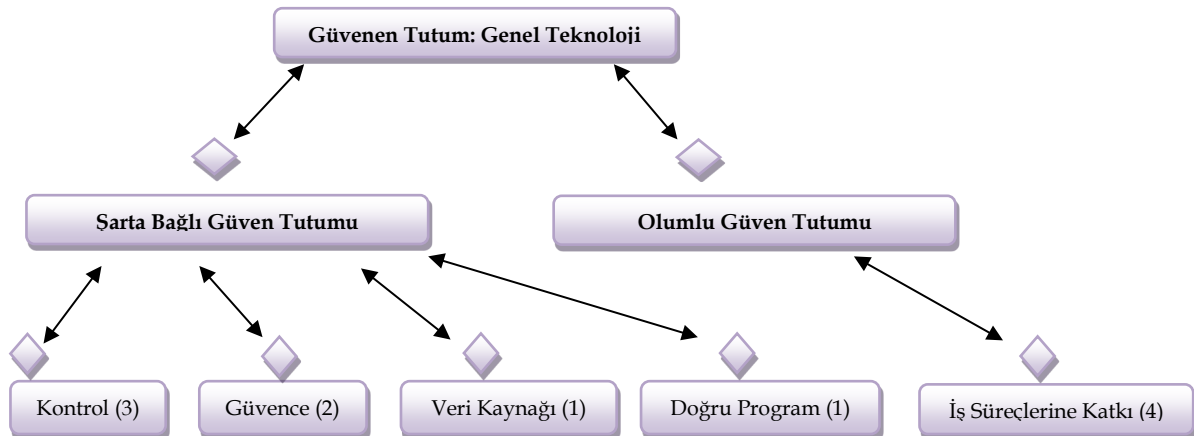


**Şekil 2:** Muhasebe Denetiminde Büyük Veri Analizi Kullanımına Yönelik Güven Tutumunun İncelenmesi: Nitel Bir Araştırmaya Ait Temalar Gösterimi

Teknolojiye Güven Ölçeği temel alınarak hazırlanan çalışma Şekil 2’de görüldüğü üzere 7 tema altında toplanmıştır. Bunlar, Güvenen Tutum: Genel Teknoloji, Genel Teknolojiye İnanç, Yapısal Güvence: Teknoloji, Durumsallık Normallik: Teknoloji, Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik, Belirli Bir Teknolojiye Duyulan İnanç: İşlevsellik ve Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlamadır.

### Güvenen Tutum: Genel Teknoloji Temasına Ait Hiyerarşik Kod Alt Kod Modeli Bulguları

Araştırmanın ilk teması olan Güvenen Tutum: Genel Teknoloji temasına ait hiyerarşik kod alt kod modeli Şekil 3’te görülmektedir.



**Şekil 3:** Güvenen Tutum: Genel Teknoloji Temasına Ait Hiyerarşik Kod Alt Kod Modeli

Güvenen Tutum: Genel Teknoloji teması 2 kategori altında incelenmiştir. Bu kategoriler şarta bağlı güven tutumu ve olumlu güven tutumudur.

### Şarta Bağlı Güven Tutumu

Güvenen Tutum: Genel Teknoloji temasının ilk kategorisi olan şarta bağlı güven tutumu katılımcıların ifadeleri doğrultusunda; kontrol, güvence, veri kaynağı ve doğru program olmak üzere 4 kod ile ifade edilmiştir. Katılımcılar tarafından yoğun olarak ifade edilen kod kontrol kodudur. Katılımcılar teknolojiye güvendiklerini fakat gerekli incelemeleri yaparak kontrol ettiklerini ifade etmişlerdir. D7 ve D8 kodlu katılımcıların konu ile ilgili ifadeleri şu şekildedir:

“Güvenilir olmadığımı düşündüğüm yeni teknolojiyi kullanma sırasında, gerekli incelemeleri yaparım.” (D7)

“Güvenirim. Ancak geleneksel yöntemlerle test ederim.” (D8)

### Olumlu Güven Tutumu

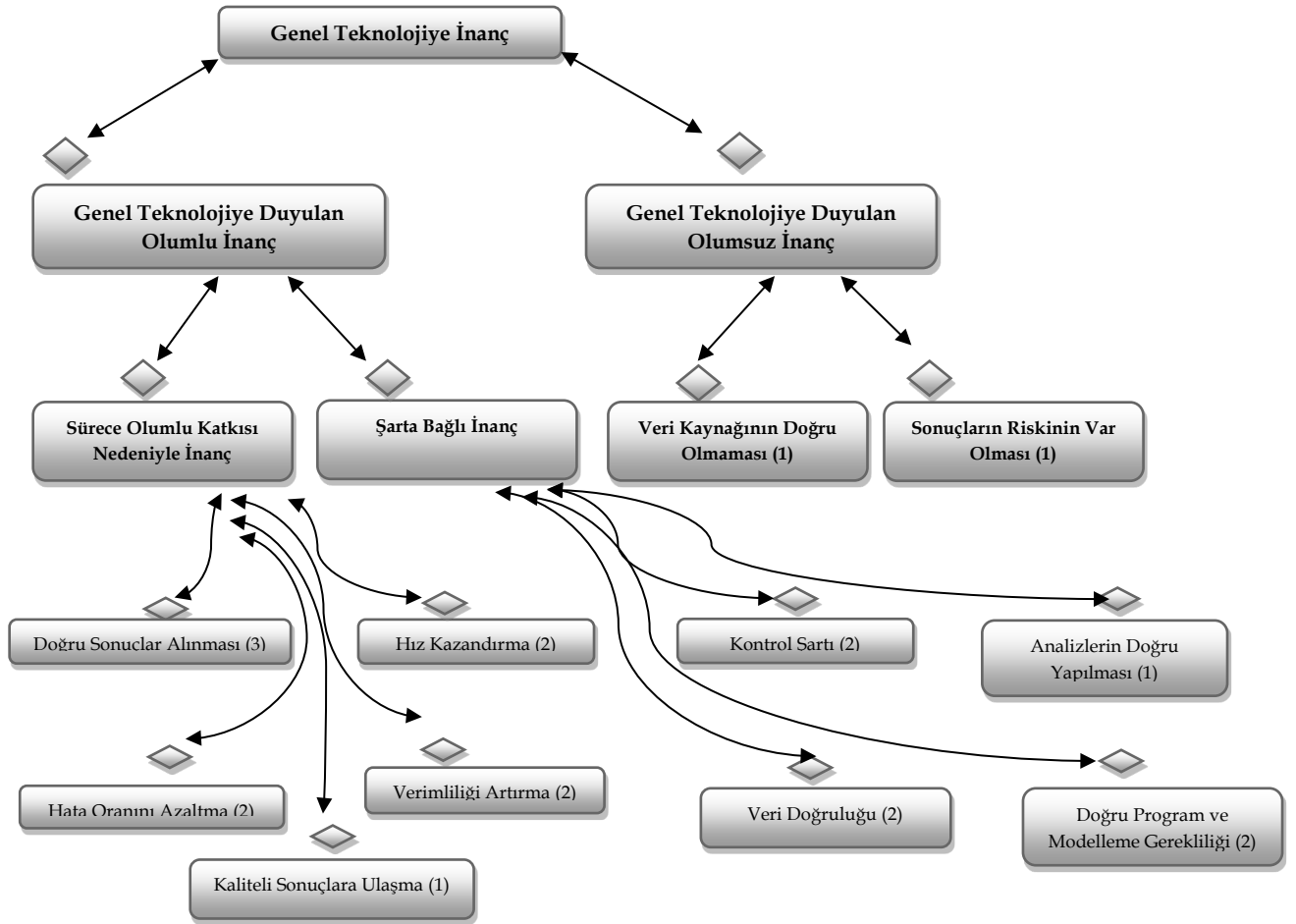
Güvenen Tutum: Genel Teknoloji temasının ikinci kategorisi olan olumlu güven tutumu katılımcıların ifadeleri doğrultusunda; iş süreçlerine katkı olmak üzere 1 kod ile ifade edilmiştir. Katılımcılar tarafından ifade edilen kod iş süreçlerine katkı kodudur. Katılımcılar teknolojinin iş süreçlerine katkısı nedeniyle güven duyduklarını ifade etmişlerdir. D5 ve D6 kodlu katılımcıların konu ile ilgili ifadeleri şu şekildedir:

“İşlerimizi kolaylaştırılması bakımından teknolojiye güvenmek zorundayız.” (D5)

“Tutumumuz olumludur, gelen her türlü yenilik, iş yükünü hafifletecekse ve fayda/maliyet anlamında tarafımızdan değerlendirilerek uygulaması konusunda karar verilir.” (D6)

### Genel teknolojiye inanç temasına ait hiyerarşik kod alt kod modeli bulgular

Araştırmanın ikinci teması olan genel teknolojiye inanç temasına ait hiyerarşik kod alt kod modeli Şekil 4’te görülmektedir.



Şekil 4: Genel Teknolojiye İnanç Temasına Ait Hiyerarşik Kod Alt Kod Modeli

Genel teknolojiye inanç teması 2 kategori altında incelenmiştir. Bu kategoriler genel teknolojiye duyulan olumlu inanç ve genel teknolojiye duyulan olumsuz inançtır.

### Genel Teknolojiye Duyulan Olumlu İnanç

Genel teknolojiye inanç temasının ilk kategorisi olan genel teknolojiye duyulan olumlu inanç 2 alt kategori altında incelenmiştir. Bu kategoriler sürece olumlu katkısı nedeniyle inanç ve şarta bağlı inançtır.

#### Sürece olumlu katkısı nedeniyle inanç

Katılımcıların ifadeleri doğrultusunda; doğru sonuçlar alınması, hız kazandırma, hata oranını azaltma, verimliliği artırma ve kaliteli sonuçlara ulaşma olmak üzere 5 kod ile ifade edilmiştir

Katılımcılar tarafından yoğun olarak ifade edilen kod doğru sonuçlar alınması kodudur. Katılımcılar teknolojinin doğru sonuçlar alınmasına neden olduğunu belirtmişlerdir. D1 ve D10 kodlu katılımcıların konu ile ilgili ifadeleri şu şekildedir:

*"Doğru sonuçlar alınması açısından oldukça önemlidir. Ancak, doğru modelleme ve iş süreçlerinin bilinmesi gerekmektedir."* (D1)

*"Büyük veri analizi gibi teknolojiler denetimde doğru kararların verilmesini sağlamakta."* (D10)

#### Şarta bağlı inanç

Katılımcıların ifadeleri doğrultusunda; kontrol şartı, veri doğruluğu, doğru modelleme ve program gerekliliği ve analizlerin doğru yapılması olmak üzere 4 kod ile ifade edilmiştir. Bu kodlara ilişkin deşifre örnekleri şu şekildedir:

*"Kontrol etmek şartıyla evet doğru sonuçlar alınıyor. Yapılan işlerde hata oranını azaltarak kaliteli sonuçlar alınmasına yardımcı olmaktadır."* (D2)

*"İşin doğru sonuçlanması verinin de doğru olmasına bağlıdır. Veri doğru değilse her türlü analiz sonucu yanlış sonuç verecektir."* (D6)

*"Evet. Ancak özellikle bazı programların verilerin analizini yaparken bilgi girişlerinin nasıl yapılması gerektiği yönünde yönlendirici deşiller ve bu konuda girilen bilgiler hatalı sonuçlara neden olmaktadır."* (D8)

### Genel Teknolojiye Duyulan Olumsuz İnanç

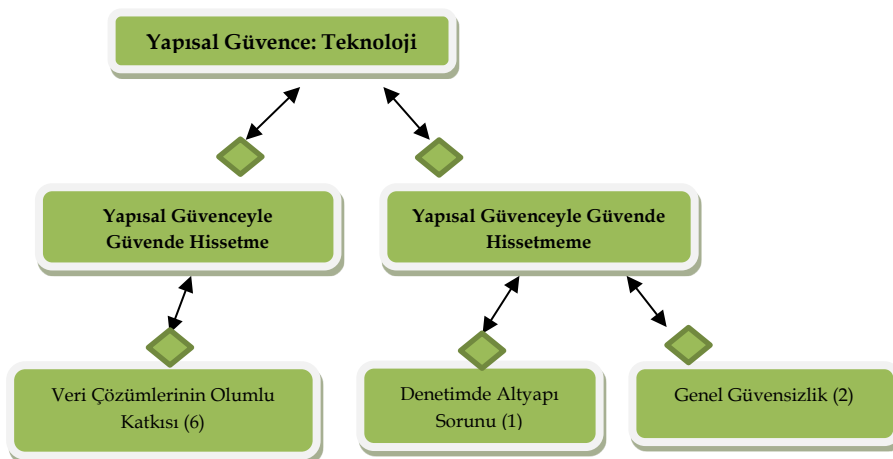
Genel Teknolojiye İnanç temasının ikinci kategorisi olan genel teknolojiye duyulan olumsuz inanç katılımcıların ifadeleri doğrultusunda; veri kaynağının doğru olmaması ve sonuçların riskinin var olması olmak üzere 2 kod ile ifade edilmiştir. Bu kodlara ilişkin katılımcıların deşifre örnekleri şu şekildedir:

*"Her zaman hata oranını azaltacağını zannetmiyorum, çünkü veriler sağlıklı olmayabilir."* (D4)

*"Yapılan işlerle ilgili hata oranını her zaman azaltmaz sonuçlarla ilgili risk her zaman vardır."* (D5)

### Yapısal Güvence: Teknoloji Temasına Ait Hiyerarşik Kod Alt Kod Modeli Bulguları

Araştırmanın üçüncü teması olan yapısal güvence: teknoloji temasına ait hiyerarşik kod alt kod modeli Şekil 5'te görülmektedir.



Şekil 5: Yapısal Güvence: Teknoloji Temasına Ait Hiyerarşik Kod Alt Kod Modeli

Yapısal Güvence: Teknoloji teması 2 kategori altında incelenmiştir. Bu kategoriler yapısal güvenceyle güvende hissetme ve yapısal güvenceyle güvende hissetmemedir.

### Yapısal Güvenceyle Güvende Hissetme

Yapısal Güvence: Teknoloji temasının ilk kategorisi olan yapısal güvenceyle güvende hissetme katılımcıların ifadeleri doğrultusunda; veri çözümlerinin olumlu katkısı olmak üzere 1 kod ile ifade edilmiştir

Bu tema içerisinde katılımcılar tarafından en yoğun ifade edilen kod veri çözümlerinin olumlu katkısı kodudur. Katılımcılar veri çözümlerinin şirkete olumlu etki yarattığını ifade etmişlerdir. D2 ve D5 kodlu katılımcıların konu ile ilgili ifadeleri şöyledir:

“Evet, güvenlik ve gizlilik sorunu olmayacak şekilde büyük veri analizini kullanıyoruz.” (D2)

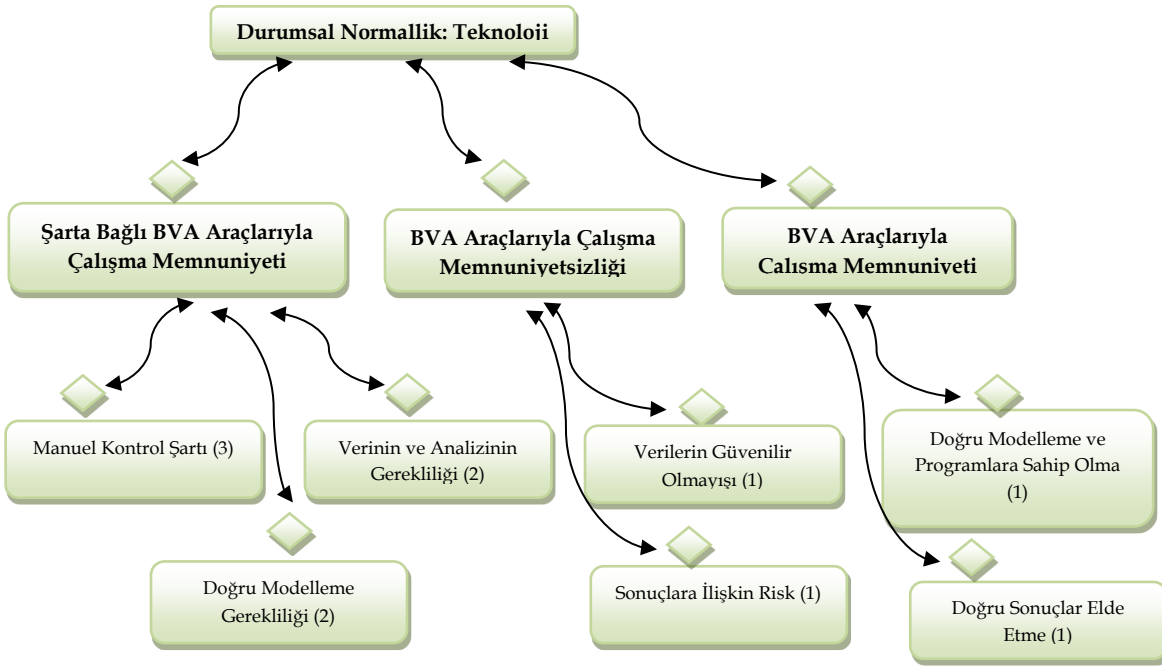
“Veri çözümleri büyük veri analizi konusunda etkili oluyor.” (D5)

### Yapısal Güvenceyle Güvende Hissetmeme

Yapısal Güvence: Teknoloji temasının ikinci kategorisi olan yapısal güvenceyle güvende hissetmeme katılımcıların ifadeleri doğrultusunda; denetimde alt yapı sorunu ve genel güvensizlik olmak üzere 2 kod ile ifade edilmiştir. Çalışma grubuna dahil olan katılımcıların genel ifadeleri yapısal güvencenin, veri çözümlerinin kendilerini güvende hissettirmedeği yönündedir.

### Durumsal Normallik: Teknoloji Temasına Ait Hiyerarşik Kod Alt Kod Modeli Bulgular

Araştırmanın dördüncü teması olan Durumsal Normallik: Teknoloji temasına ait hiyerarşik kod alt kod modeli Şekil 6’da görülmektedir.



Şekil 6: Durumsal Normallik: Teknoloji Temasına Ait Hiyerarşik Kod Alt Kod Modeli

Durumsal Normallik: Teknoloji teması 3 kategori altında incelenmiştir. Bu kategoriler şarta bağlı BVA araçlarıyla çalışma memnuniyeti, BVA araçlarıyla çalışma memnuniyetsizliği ve BVA araçlarıyla çalışma memnuniyetidir.

### Şarta Bağlı BVA Araçlarıyla Çalışma Memnuniyeti

Durumsal Normallik: Teknoloji temasının ilk kategorisi olan şarta bağlı BVA araçlarıyla çalışma memnuniyeti katılımcıların ifadeleri doğrultusunda; manuel kontrol şartı, doğru modelleme gerekliliği ve verinin ve analizinin doğruluğu olmak üzere 3 kod ile ifade edilmiştir

Katılımcılar tarafından yoğun olarak ifade edilen kod manuel kontrol şartı kodudur. Katılımcılar BVA araçlarıyla işlenen veriyi kontrol etmek şartıyla büyük veri analiz araçlarından doğru sonuçların alınacağını ve denetimde işlerin daha iyi sonuçlanacağını ifade etmişlerdir. D10 kodlu katılımcının konu ile ilgili ifadeleri şu şekildedir:

“Kontrol etmek şartıyla evet, doğru sonuçların alınacağını düşünüyorum.” (D2)

*“Büyük veriyi analiz etmek için kullanılan ileri düzeydeki programlar sayesinde işlerin doğru sonuçlanacağını düşünmekle birlikte yine de kontrol etmenin şart olduğunu düşünüyorum.” (D10)*

Katılımcılar tarafından ifade edilen diğer kodlar doğru modelleme gerekliliği, verinin ve analizinin doğruluğu şeklindedir. Bu kodlara ilişkin katılımcıların konu ile ilgili ifadelerine örnekler şöyledir:

*“Doğru modelleme ve iş süreçlerinin bilinmesi gerekmektedir, böylece doğru sonuçlar alınabilir.” (D1)*

*“İşin doğru sonuçlanması verinin de doğru olmasına bağlıdır. Veri doğru değilse her türlü analiz sonucu yanlış sonuç verecektir.” (D6)*

### **BVA Araçlarıyla Çalışma Memnuniyetsizliği**

Durumsal Normallik: Teknoloji temasının ikinci kategorisi olan BVA araçlarıyla çalışma memnuniyetsizliği katılımcıların ifadeleri doğrultusunda; verilerin güvenilir olmayışı ve sonuçlara ilişkin risk olmak üzere 2 kod ile ifade edilmiştir.

Katılımcılar tarafından yoğun olarak ifade edilen kod verilerin güvenilir olmayışı kodudur. D4 kodlu katılımcı BVA araçlarının her zaman doğru sonuçları vermeyeceğini verilerin güvenilir olmama ihtimaline bağlamıştır. Katılımcılar tarafından ifade edilen diğer kod sonuçlara ilişkin risk kodudur. D5 kodlu katılımcı sonuçlara ilişkin riskin her zaman olduğunu ifade etmiştir. D4 ve D5 kodlu katılımcıların deşifre örnekleri aşağıda sunulmuştur.

*“Her zaman doğru sonuçların alınabileceğini zannetmiyorum, veriler sağlıklı olmayabilir.” (D4)*

*“Sonuçlarla ilgili risk her zaman vardır.” (D5)*

### **BVA Araçlarıyla Çalışma Memnuniyeti**

Durumsal Normallik: Teknoloji temasının üçüncü kategorisi olan BVA araçlarıyla çalışma memnuniyeti katılımcıların ifadeleri doğrultusunda; doğru modelleme ve programlara sahip olma ve doğru sonuçlar elde etme olmak üzere 2 kod ile ifade edilmiştir

Katılımcılar tarafından ifade edilen diğer kodlar doğru modelleme ve programlara sahip olma ve doğru sonuçlar elde etme kodlarıdır. Katılımcıların bu kodlara ilişkin ifadelerine aşağıda yer verilmiştir.

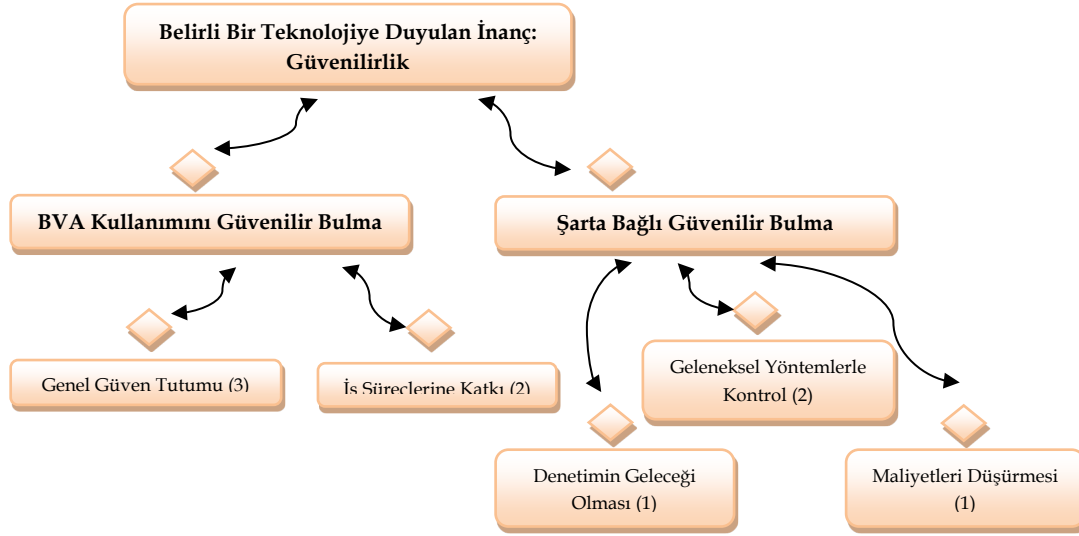
*“Büyük veriyi analiz etmek için kullanılan ileri düzeydeki programlar sayesinde işlerin doğru sonuçlanacağını düşünmekle birlikte yine de kontrol etmenin şart olduğunu düşünüyorum.” (D10)*

*“Evet, büyük veri analiziyle işler çoğu zaman doğru sonuçlanmaktadır.” (D7)*

D10 kodlu katılımcının BVA Araçlarıyla Çalışma Memnuniyetini kontrol şartına bağladığı aynı zamanda doğru modelleme ve program avantajı sunmasıyla BVA Araçlarıyla çalışmaktan memnun olduğunu belirttiği görülmektedir. Buradan katılımcının büyük veri analizinin sunduğu programlardan faydalanırken, kendi yargısıyla da sonuçları kontrol ettiği anlaşılmaktadır. Bu gibi ikili ifadelerde katılımcı görüşünün daha net anlaşılabilmesi için MAXQDA programında iki farklı şekilde kodlama (manuel kontrol şartı ve doğru modelleme ve programlara sahip olma) yapılmıştır.

## Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik Temasına Ait Hiyerarşik Kod Alt Kod Modeli Bulguları

Araştırmanın beşinci teması olan Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik temasına ait hiyerarşik kod alt kod modeli Şekil 7’de görülmektedir.



**Şekil 7:** Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik Temasına Ait Hiyerarşik Kod Alt Kod Modeli

Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik teması 2 kategori altında incelenmiştir. Bu kategoriler BVA kullanımını güvenilir bulma ve şarta bağlı güvenilir bulmadır.

### BVA Kullanımını Güvenilir Bulma

Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik temasının ilk kategorisi olan Şarta Bağlı BVA Kullanımını Güvenilir Bulma katılımcıların ifadeleri doğrultusunda; genel güven tutumu ve iş süreçlerine katkı olmak üzere 2 kod ile ifade edilmiştir.

Katılımcılar tarafından yoğun olarak ifade edilen kod genel güven tutumu kodudur. Katılımcılar tarafından ifade edilen diğer kod iş süreçlerine katkı kodudur. Katılımcıların ifade edilen kodlara ilişkin örnekleri aşağıda sunulmuştur.

*“Evet, büyük veri analizi kullanımını güvenilir buluyorum.” (D8)*

*“Evet, güveniyorum. Büyük veri analizi iş süreçlerinin yerine getirilmesinde ciddi katkılar sağlıyor.” (D5)*

### Şarta Bağlı Güvenilir Bulma

Belirli Bir Teknolojiye Duyulan İnanç: Güvenilirlik temasının ikinci kategorisi olan şarta bağlı güvenilir bulma katılımcıların ifadeleri doğrultusunda; geleneksel yöntemlerle kontrol, denetimin geleceği olması ve maliyetleri düşürmesi olmak üzere 3 kod ile ifade edilmiştir.

Katılımcılar tarafından yoğun olarak ifade edilen kod geleneksel yöntemlerle kontrol kodudur. D10 kodlu katılımcı güvenilir bulduğunu fakat geleneksel yöntemler ile kontrolün şart olduğunu ifade etmiştir.

*“Denetimde büyük veri analizi kullanımını güvenilir buluyorum ancak geleneksel kontrolün de şart olduğunu düşünüyorum.” (D10)*

Katılımcılar tarafından ifade edilen diğer kod denetimin geleceği olması kodudur. D1 kodlu katılımcının konu ile ilgili ifadeleri şöyledir:

*“Denetimde gelecekteki gelişmelerin bu yönde olacağını düşünmekteyim.” (D1)*

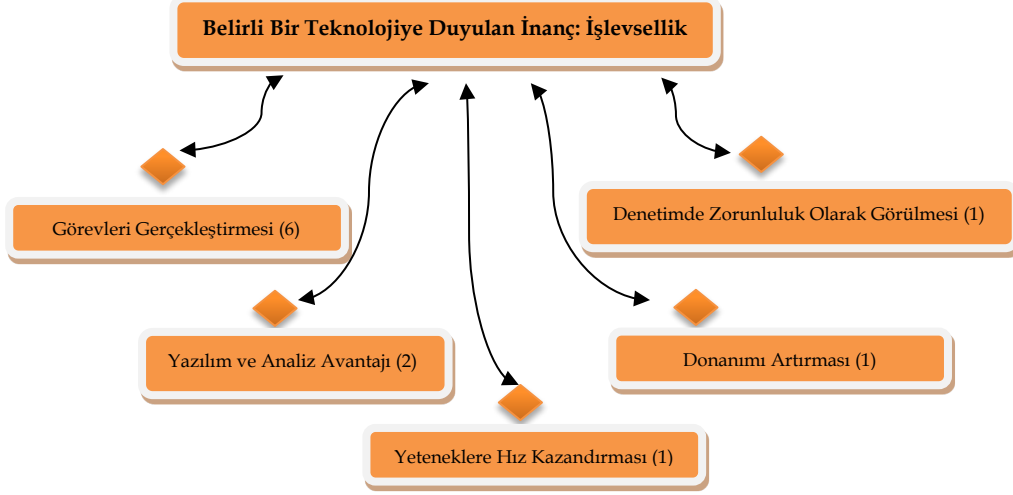
Katılımcılar tarafından ifade edilen diğer kod maliyetleri düşürmesi kodudur. D6 kodlu katılımcı güvenmek zorunda oldukları çünkü maliyetleri düşürdüğünü ifade etmiştir.

*“Güveniyorum. Bir yerde güvenmek zorundayız. Çünkü bu denli büyük anakütlelerin veri analizi teknolojisi olmadan denetime tabi tutulması maliyetleri çok artıracaktır.” (D6)*

D4 kodlu katılımcı büyük veri analizini güvenilir bulma konusunda kararsız olduğunu, bilmediğini ifade etmiştir.

## Belirli Bir Teknolojiye Duyulan İnanç: İşlevsellik Temasına Ait Hiyerarşik Kod Alt Kod Modeli Bulguları

Araştırmanın altıncı teması olan Belirli Bir Teknolojiye Duyulan İnanç: İşlevsellik temasına ait hiyerarşik kod alt kod modeli Şekil 8’de görülmektedir. Belirli Bir Teknolojiye Duyulan İnanç: İşlevsellik teması 5 kod altında incelenmiştir. Bu kodlar görevleri gerçekleştirme, yazılım ve analiz avantajı, yeteneklere hız kazandırması, donanımı artırması ve denetimde zorunluluk olarak görülmesi olarak görülmüştür.



### Şekil 8: Belirli Bir Teknolojiye Duyulan İnanç: İşlevsellik Temasına Ait Hiyerarşik Kod Alt Kod Modeli

Katılımcılar tarafından yoğun olarak ifade edilen kod görevleri gerçekleştirme kodudur. Katılımcılar büyük veri analizinin görevlerini gerçekleştirme konusunda gerekli özelliklere sahip olduğunu belirtmişlerdir. Tema içerisinde öne çıkan görevleri gerçekleştirme kodu olduğu için katılımcı ifadelerine bu kod kapsamında örnekler verilmiştir.

*“Büyük veri analizinin denetimle ilgili görevlerimi gerçekleştirmem konusunda gerekli özelliklere sahip olduğunu düşünüyorum.” (D3)*

*“Büyük veri analizi işlerin daha hızlı yapılmasını sağlaması ve verimliliği artırması yönüyle denetimle ilgili üstlendiğim görevlerde gerekli özelliklere sahiptir. Ayrıca yazılım ve analiz boyutlarında avantajlar sağlamaktadır.”(D9)*

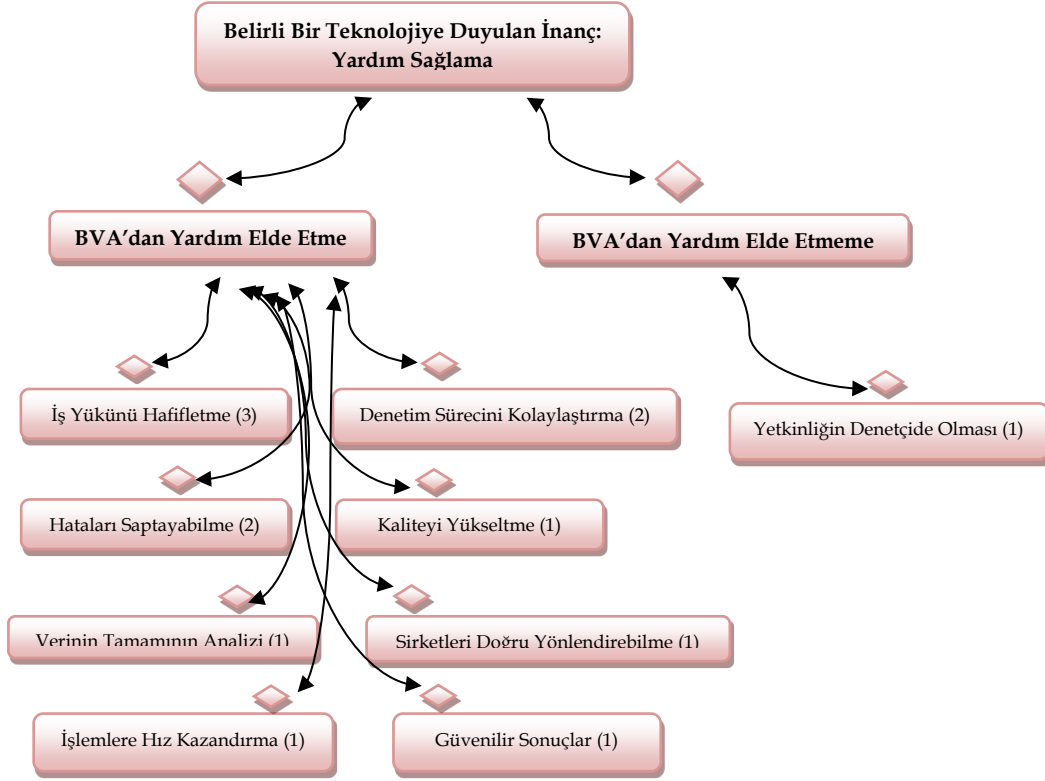
*“Denetimde büyük veriyi analizi için kullanılan Excel gibi programlar ve ana kütlenin tamamını test etmek yerine kullanılan örneklem programları zamandan tasarruf sağlamakta ve işlemlere hız kazandırmaktadır. Böylece evet, ihtiyacım olan yeteneklere sahiptir.” (D10)*

D4 kodlu katılımcı ise Büyük Veri Analizini işlevsel bulmadığını ifade etmiştir.

## Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlama Temasına Ait Hiyerarşik Kod Alt Kod Modeli Bulguları

Araştırmanın son teması olan Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlama temasına ait hiyerarşik kod alt kod modeli Şekil 9’da görülmektedir.





**Şekil 9:** Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlama Temasına Ait Hiyerarşik Kod Alt Kod Modeli

Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlama teması 2 kategori altında incelenmiştir. Bu kategoriler BVA'dan Yardım Elde Etme ve BVA'dan Yardım Elde Etmeme olarak oluşturulmuştur.

#### BVA'dan Yardım Elde Etme

Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlama temasının ilk kategorisi olan BVA'dan yardım elde etme katılımcıların ifadeleri doğrultusunda; iş yükünü hafifletme, denetim sürecini kolaylaştırma, hataları saptayabilme, kaliteyi yükseltme, verinin tamamının analizi, şirketleri doğru yönlendirebilme, işlemlere hız kazandırma ve güvenilir sonuçlar olmak üzere 8 kod ile ifade edilmiştir.

Katılımcılar tarafından yoğun olarak ifade edilen kod iş yükünü hafifletme kodudur. D10 kodlu katılımcının konu ile ilgili ifadesi şu şekildedir:

*"Kararlarımızı verileri de dikkate alarak veriyoruz. Bu noktada, Kişisel yetkinliklerimize ve tecrübelerimizin sınırına da bağlı olarak büyük veri analizinden sonuç alabildiğimizi ve iş süreçlerine yardım sağladığımızı düşünüyoruz."* (D10)

Katılımcılar tarafından ifade edilen diğer kod denetim sürecini kolaylaştırma kodudur. D6 kodlu katılımcı veri analizinin denetim sürecini kolaylaştırdığını ifade etmiştir.

*"Şirkette veri analizi konusunda herkes birbirine bildiğini aktarır çünkü bu denetim sürecini kolaylaştırmaktadır."* (D6)

Katılımcılar tarafından ifade edilen diğer kod hataları saptayabilme kodudur. D9 kodlu katılımcı veri analizinin hataların ortaya çıkardığını belirtmiştir.

*"Evet, veri analizi yapabilmek ve kısa zamanda denetimde hataların ortaya çıkarılmasında oldukça faydalıdır."* (D9)

BVA'dan yardım elde etme kategorisi altındaki diğer kodlara ilişkin katılımcı ifadelerine örnekler ise şu şekildedir:

*"Geçmişte yaptığım işlerde büyük verilerden ötürü maddi doğruluk testlerini gerçekleştiremediğim şirketler olmuştu. Ancak şu an büyük veri analizi kullanımıyla analizler gerçekleştirilmektedir."* (D1)

*"Büyük veri analizi firmalara yön vermede sağlıklı karar almamıza yardımcı olmuştur. Bu sayede müşterilerden olumlu dönüşler olmuştur."* (D8)

*"Büyük veri analizi denetim faaliyetlerinin daha güvenilir sonuçlar vermesi anlamında ciddi faydalar içermektedir."* (D5)

## BVA'dan Yardım Elde Etmeme

Belirli Bir Teknolojiye Duyulan İnanç: Yardım Sağlama temasının ikinci kategorisi olan BVA'dan Yardım Elde Etmeme katılımcıların ifadeleri doğrultusunda; yetkinliğin denetçide olması olmak üzere 1 kod ile ifade edilmiştir. D4 kodlu katılımcının konu ile ilgili ifadesi şu şekildedir:

*"Sorumlu denetçilik görevimde son kararlar tarafımdan verilmektedir." (D4)*

## Sonuç ve değerlendirme

Denetim uygulamaları büyük miktarda bilgiyi tamamen ele aldığından, büyük veri analizi eğiliminden etkilenen başlıca alanlardan biridir. Literatürde denetim sistemlerinde büyük veri analizi kullanımına ilişkin engeller incelendiğinde güvenlik sorununun önemli bir engel olduğu saptanmıştır. Bu nedenle çalışmanın çıkış noktası büyük veri analizi kullanımına yönelik güven tutumunun bağımsız denetçiler kapsamında incelenmesi olmuştur. Muhasebe denetiminde güven tutumunun incelenmesi için Teknolojiye Güven Ölçeğinden yararlanılmıştır.

Teknolojiye Güven Ölçeğiyle katılımcıların; genel teknolojiye inancı ve güven tutumu, yapısal güvencelerin desteğiyle teknolojiye bakış açıları, teknolojiyi kullanmanın kişilerde oluşturacağı memnuniyet ve belirli bir teknolojiye güvenmenin sağlayacağı temel avantajlar belirlenmiştir. Çalışma nitel araştırma olması nedeniyle genellenemez niteliktedir. Ancak çalışma grubuna dahil olan katılımcılarla yapılan görüşmelerdeki ifadelerin sıklık düzeyi dikkate alınmıştır.

Çalışmada yedi temel tema üzerinde durulmuştur. Bu temalar Teknolojiye Güven Ölçeği boyutlarıyla şekillenmiştir. Çalışmanın ilk temasıyla ilişkilendirilen görüşme sorusu "Bir teknolojiyi ilk kullandığınızda tutumunuz nasıl olur?" şeklindedir. Katılımcılar genel teknolojiye güvenmelerinin belli başlı şartlara bağlı olduğunu vurgulamışlardır. Veri kaynağının güvenilir olması, güvencesinin korunması, kontrol yapılması ve doğru programlarla çalışma teknolojiye güvenmelerinin şartları arasındadır. Ayrıca iş süreçlerine sağladığı katkı yönüyle de katılımcılar olumlu bir güven tutumu sergilemektedir. Ancak bu tema kapsamında şarta bağlı güven tutumuna ilişkin kodlar daha sık yinelenmesi için bağımsız denetçilerin genel bir teknoloji karşısındaki güven tutumlarının birtakım şartlara bağlı olduğu söylenilebilir.

Genel teknolojiye yönelik inançlarının anlaşılabilirliği için katılımcılara diğer bir temayla bağlantılı olarak "Çoğu teknolojinin yapmak için tasarlandıkları işte verimli olduğuna inanıyor musunuz?" sorusu yöneltilmiştir. Bağımsız denetçiler iş süreçlerine sunduğu olumlu katkılar yönüyle genel teknolojiye inanç sergilemektedir. İşlemlere hız kazandırma, kaliteli denetim sonuçlarına ulaşma, hata oranını azaltma ve verimliliği artırma daha fazla yinelenen ifadeler arasındadır. Denetimde analizlerin doğru yapılması, verilerin doğruluğu, kontrol ve doğru programlarla çalışma ise şarta bağlı inanca sahip olan katılımcıların ifadeleridir. Verinin günümüzde çok farklı kaynaktan elde edilmesiyle veri kaynağına güvenmeyen ve sonuçlarla ilgili riskin her zaman var olduğu ifade eden katılımcılar ise genel teknoloji konusunda olumsuz bir inanca sahiptir.

"Büyük veri analiz ürünlerini kullanırken yasal mevzuat ve süreçlerin desteğine sahip olmak güvende hissetmenizi sağlar mı?" diğer bir görüşme sorusudur. Çalışmaya dahil olan katılımcıların daha yoğun olarak üzerinde durdukları bir diğer konu, veri çözümlerinin sunduğu avantajlarla kendilerini güvende hissetmeleri şeklindedir. Ancak denetimde alt yapı sorunu ve genel güvensizlik gibi sebepler az da olsa yapısal güvenceyle güvende hissetmeme sebeplerini oluşturmaktadır. Ayrıca bir katılımcı konuyla ilgili kararsız olduğunu ifade etmiştir.

Çalışmanın bir diğer teması Durumsal Normallik: Teknolojidir. Teknoloji bağlamında durumsal normallik, kullanıcının güvenmeyi veya kullanmayı planladığı belirli teknolojinin ait olduğu bir teknoloji sınıfı ile rahatlık hissi olarak ifade edilebilir. Durumsal Normallik kapsamında katılımcılara "Büyük veri analiz araçlarıyla çalışmaktan memnun musunuz?" sorusu yöneltilmiştir. Bağımsız denetçiler çoğunlukla büyük veri analiz araçlarıyla çalışmaktan memnun olduklarını ancak bazı şartlara göre bu durumun değişeceğini belirtmişlerdir. Bu şartlar; verinin ve analizinin doğruluğu, doğru modelleme ve programların kullanımı ve manuel kontrolün gerekliliğidir. Verilere güvensizlik ve sonuçlara ilişkin risk nedenleriyle ise katılımcılar büyük veri analizi araçlarıyla çalışma memnuniyetinden uzaklaşmaktadır. Herhangi bir şarta bağlı olmaksızın denetimde doğru sonuçlar elde edebilme ve doğru program ve modellemeyle çalışabilme avantajları büyük veri analizi araçlarıyla çalışma memnuniyeti oluşturmaktadır.

Belirli bir teknolojiye duyulan inancın güvenilirlik boyutunda incelenmesine ilişkin katılımcılara "Denetimde büyük veri analizi kullanımını güvenilir buluyor musunuz?" sorusu sorulmuştur. Katılımcıların büyük veri analizinin güvenilir olduğu yönündeki inancı çoğunluktadır. Ancak

katılımcıların bir kısmı; büyük veri analizinin denetimin geleceği olacağı düşüncesi, denetim süreçlerinde maliyetleri düşüreceği ve geleneksel yöntemlerle kontrol gibi nedenlerle şarta bağlı güvenilirlik inancı taşımaktadır. Bir katılımcı ise denetimde büyük veri analizi kullanımını güvenilir bulma konusunda kararsızlık göstermiştir.

Belirli bir teknolojiye duyulan inancın işlevsellik boyutunda incelenmesine ilişkin katılımcılara “Büyük veri analizi denetimle ilgili görevlerinizi gerçekleştirirken için gerekli özelliklere sahip midir?” sorusu yöneltilmiştir. Katılımcılar denetimde görevleri gerçekleştirilmesi konusunda daha yoğun görüş belirtmiştir. Yazılım ve analiz avantajı sağlaması, büyük veri analizinin denetimde zorunluluk olarak görülmesi, yeteneklere hız kazandırması ve donanımı artırması diğer işlevsellik konusuna ilişkin vurgulanan ifadeler arasındadır. Bir katılımcı ise denetimde büyük veri analizi kullanımını işlevsel bulmadığını ifade etmiştir.

Belirli bir teknolojiye duyulan inancın yardım sağlama boyutunda incelenmesine yönelik “Büyük veri analizi gerektiğinde ihtiyacınız olan yardımcı sağlıyor mu?” sorusu katılımcılara yöneltilen bir diğer sorudur. Yetkinliğin kendisinde olduğunu ifade eden bir katılımcı dışında, katılımcıların hepsi büyük veri analizinden yardım elde ettiklerini ifade etmişlerdir. Katılımcılar arasında iş yükünü hafifletme konusu daha fazla ön plana çıkarken, denetim sürecini kolaylaştırma ve hataları saptayabilme konuları yardım sağlamanın diğer çıktıları arasında görülmektedir. Kaliteyi yükseltme, işlemlere hız kazandırma, verinin tamamını analiz edebilme, şirketleri doğru yönlendirebilme ve güvenilir sonuçlar elde edebilme de diğer vurgulanan konular arasındadır.

Çalışmaya dahil olan katılımcı grubuna ilişkin değerlendirme yapıldığında, denetimde büyük veri analizi kullanımına yönelik güven tutumunun olumlu olduğu görülmektedir. Ancak büyük verinin günümüzde birçok farklı kaynaktan elde edilmesiyle veri kaynağının güvenilir olması, geleneksel yöntemlerle kontrol şartı, doğru program ve modellemeyle çalışma, analizlerin doğru yapılması, maliyetleri düşürmesi ve denetimin geleceği olması güven tutumunu şarta bağlı kılmaktadır. İş süreçlerine katkı sağlayan; hata oranını azaltma, görevlere hız kazandırma, yetenekleri artırma, verinin tamamının analizi, denetim sürecini kolaylaştırma, verimlilik ve kaliteyi artırma gibi faktörler büyük veri analizine ilişkin güven tutumunu olumlu şekillendirmektedir. Sonuçlara ilişkin riskin büyük veri analizi teknolojisi ve araçları kullanılmasına rağmen giderilemeyeceği düşüncesi, verinin sağlıklı olmaması, son kararın yine denetçi tarafından alınması, denetimde altyapı sorunu gibi nedenler ise katılımcıların büyük veri analizi kullanımına yönelik olumlu güven tutumundan uzaklaştırmaktadır.

## Öneriler

Muhasebe denetiminde güven tutumunun bağımsız denetçiler açısından daha olumlu duruma getirilmesi için öneriler sunulmuştur.

- ✓ Denetim şirketlerinin alanında yetkin insan kaynağını istihdam etmesi önem taşımaktadır. Bu nedenle Matematik, İstatistik, veri görselleştirme, veri mühendisliği ve olası bir bilgisayar korsanlığını öngörebilen çok disiplinli yeteneklere sahip veri bilimcilerinin şirketlerdeki rolü ortaya çıkarılmalıdır.
- ✓ Büyük veri analizi araçlarının kullanım etkinliğini ve verimliliğini kazandırmaya yönelik eğitim çalışmaları desteklenmeli ve gerçekleştirilmelidir.
- ✓ Denetim şirketlerinde iş süreçlerinde yazılım temelli sorunların aşılabilmesi için yazılım mühendisleri de istihdam edilmelidir.
- ✓ Denetimde büyük veri analizine ilişkin doğru programlara yatırım yapılmalı ve denetimde altyapı sorunu çözülmeye çalışılmalıdır.

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## Evaluation of competition strategies applied in logistics management during the pandemic process: A research on logistics companies in Istanbul

Pandemi sürecinde lojistik yönetiminde uygulanan rekabet stratejilerinin değerlendirilmesi: İstanbul'daki lojistik firmaları üzerine bir araştırma

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### Abstract

This study aims to determine the changes in the changing competition, growth, and customer strategies within the scope of the logistics management of the COVID-19 process that affects the whole world. The study will be carried out in the form of an interview, and it will be evaluated how the changes in the supply chain processes during the pandemic process reflect on the competition, growth, and customer strategies business basis. According to the results, recommendations will be made to companies operating in the logistics sector in parallel with the changes in competition, growth, and customer strategies. The study results include the need for speed, digitization, improving the quality of customer relationships, working from home, and expanding e-commerce to create a competitive advantage.

**Keywords:** Logistics, Supply Chain Management, Strategic Management

**Jel Codes:** L99, M19

### Öz

Bu çalışmanın amacı, tüm dünyayı etkisi altına alan COVID -19 sürecinin lojistik yönetimi kapsamında değişen rekabet, büyüme ve müşteri stratejilerinde meydana gelen değişimleri belirlemektir. Çalışma görüşme şeklinde gerçekleştirilecek olup, pandemi sürecinde tedarik zinciri süreçlerinde yaşanan değişimlerin iş bazında rekabet, büyüme ve müşteri stratejilerine nasıl yansıdığı değerlendirilecektir. Elde edilen sonuçlara göre rekabet, büyüme ve müşteri stratejilerindeki değişimlere paralel olarak lojistik sektöründe faaliyet gösteren firmalara önerilerde bulunulacaktır. Çalışma sonuçları, rekabet avantajı yaratmak için hız, dijitalleşme, müşteri ilişkilerinin kalitesinin artırılması, evden çalışma ve e-ticaretin genişlemesi gerekliliğini içerir.

**Anahtar Kelimeler:** Lojistik, Tedarik Zinciri Yönetimi, Stratejik Yönetim

**JEL Kodları:** L99, M19

## Introduction

One of the most important topics in 21 st century is competition. Firms strategically focus on increasing their market share in a competitive area. Furthermore, firms must redesign their supply chain activities to achieve strategic competition in logistics. Strategic competition provides in improves the performance of the logistics functions.

COVID-19 completely changed the firms' critical supply chain strategy for improving competition. Additionally, according to the customer's expectations, firms focus on responsiveness and flexibility to support logistics functions. The competitive strategy illustrates having a well-managed supply chain and high profit. Therefore, through processes such as product development, distribution systems, and operation facilities, firms need to create a flexible network. Furthermore, to manage decisions, firms must perform initial decisions according to customers' requirements. On the other hand, agility constitutes a competitive advantage for logistics organizations.

The motivation for the research has been raised from the need to determine the strategies for the logistics companies for future needs, especially of the gained experiences during the pandemic.

The aim of this study is to evaluate competition strategies applied in logistics management during Pandemic Process and making research on logistics companies in Istanbul. Participants were selected from people between the ages of 30-45 who have worked in the logistics industry for at least five years. No gender difference was observed.

The following research questions have been developed:

RQ1: To what extent has e-commerce affected competitive strategies during the pandemic?

RQ2: How did digitalization affect management strategies during the pandemic?

RQ3: How did the pandemic affect the strategies in the logistics industry?

So, a questionnaire has been designed to measure the effects of the pandemic. The situation has been scrutinized first, and then questions have been constructed to be answered face to face. Reliabilities have been calculated. Answers were categorized according to keywords, and a figure regarding the frequencies of the answers revealed the change between pre-and-post periods of a pandemic. Finally, answers were categorized in the resultant and discussed in conclusion.

Novelty and the study's contribution involve the visualization of the needs in a single snapshot and able to determine flexible solutions for the logistics industry.

## Literature review

In the literature, among the logistics companies under the post-pandemic competition strategy, the transportation (maritime, road etc.) part of logistics has been discussed. However, the number of studies dealing with all the administrative parts covering storage, distribution, production, inventory management and order management within the scope of supply chain management is few. Evaluating the competitive strategies of the supply chain as a whole during the pandemic process is to fill the gap in the literature. 'Looking at the reliance of the Malaysian economy on maritime sectors, it was certain that the pandemic would have serious implications on individuals and organisations.' (Menhat, Zaideen, Yusuf, Salleh, Zamri., 2021). 'Recently, the COVID-19 pandemic has affected freight transport as a crisis' Gonzales, Camarero-Orive, Cancelas, Guzman., 2021). 'The unpredictable spread of the COVID-19 pandemic has caused massive global disruption, with significant economic, environmental, and social consequences worldwide, including freight transport by road' (Gonzales. et al., 2021). 'Response to the COVID-19 pandemic has had tremendous effects on the global economy and social life, and it has significantly disrupted transportation systems across the world' (Adanu, E. K., Brown, D., Jones, S., & Parrish, A.2021).

'The emergence of the COVID-19 pandemic, which hit almost all over the world, resulted in the joints of life such as education and the economy experiencing paralysis, which resulted in schools being closed, many companies reducing production activities, and many even being laid off. As a result, the economy impacts individuals, families, macro and micro companies, and the economies of all countries worldwide.' (Budiansyahusep, Y., Sudrajat, A., Sâri, O. Y., Saefudin, N., Dora, M. Y., & Sakti, W. I., 2021).

Acar and Zehir (2009) analyzed the impact of logistics capabilities and operational efficiency factors in competitive strategy practices. Their research determined that enterprises that develop their logistics capabilities and implement a competitive strategy increase their performance directly and positively.

In his study, Chan (2005) investigated the relationship between Competitive Strategy and production logistics based on causal analysis. According to the obtained results, it was determined that there is an important relationship between Competitive Strategy and the system performance of production logistics.

Laari, Toyli, and Ojala (2017) refined the competitive strategy approach in their study. They used a data set comprising 128 production companies, 110 trading companies, and 144 logistics companies in Finland. They examined external green supply chain strategies along with the layers of the supply chain in terms of logistic users and providers. The results highlight the need to understand the role of competitive strategy in green supply chain adoption, both in the academic and business field.

Liu and Atuahene-Gima (2018) evaluated the utility of competition strategies and market-based assets to help an innovating company deal with dysfunctional competition and improve innovation yields. According to data obtained in a survey conducted with the executives of 282 Chinese high-tech companies, cost leadership is at the forefront, and customer focus and creative marketing are at the forefront. This will provide better performance in product innovation in competitive environments with a lack of high-level functionality, and the differentiation and competitor orientation will have less impact.

Anwar and Shah (2021) examined the impact of every dimension of entrepreneurship orientation and each overall competition strategy (differentiation and cost leadership) on the performance of emerging SMEs (financial and non-financial). The findings from the empirical study show that innovation, proactivity, and risk-taking significantly improve financial performance while trivializing non-financial performance. Differentiation and cost leadership strategies significantly improve SMEs' financial and non-financial performance.

Danyluk (2019) examined the types of competition between businesses that affect logistics activities. In this direction, it has investigated the reasons, conditions, and consequences of this developing growth strategy by examining the dynamics surrounding the expansion of the Panama Canal, which was opened to ship traffic in June 2016. As a result, competitive strategies developed to attract the next generation of large-sized vessels between North American ports. The study determined that the partial variability and geographical specificity increase competition for variable production and logistics activities and makes logistics-oriented development a particularly risky growth strategy for cities.

Qin, Liu, and Tian (2020) developed an analytical model to investigate the phenomenon of logistics service sharing in the e-commerce platform. In this context, they examined the balance mode by considering the comparative effects of logistics service sharing and the interaction of competitive strategies in the e-commerce platform. The findings were obtained because the study provided executable management information for the vendors in the platform's e-commerce market.

Garnette and Permana's (2020) studies aim to determine the strategies of logistics enterprises operating in Indonesia with the PT XYZ model and develop suggestions in this direction. In this way, suggestions have been developed for logistics companies to reach standards that can compete in the international arena.

Esmizadeh and Mellat Parast (2020) conducted a systematic literature review to examine various logistics network designs and evaluate their performance in terms of cost, quality, delivery, flexibility, and durability. In this way, they assessed the strengths and weaknesses of each logistics design for different operational strategies. As a result, they determined that logistics systems have traditionally been designed to minimize costs and that businesses should balance different competitive strategies to evaluate multiple competing priorities, such as cost and service quality in logistics systems.

Dos Santos et al. (2021) aimed to propose a conceptual framework for integrating a maturity model developed in their study into supply chain (SC) strategy. The results show that a maturity model can be a parameter and guide for improving the capabilities of processes, resources, and activities to meet the RS strategy and the reach of the competitive strategy.

Singh et al. (2022) modelled the effect of spatial clustering on various dimensions of inter-firm competition among port logistics firms using Porter's three-force model (leadership, differentiation and differentiation cost) (in their study). As a result, they determined that when logistics firms are clustered spatially, competitive competition between firms increases significantly, and this effect increases when they are clustered around the connection point. This study, therefore, expanded the meaning of clustering from a geographical entity to a more useful functional structure to reflect inter-firm dependencies.



### Strategic competition in logistics

Over time, customer segments have been rapidly influenced by the covid-19 process. Furthermore, companies have integrated their processes in a more sustainable, more accurate planning, fast decision-making, innovative and easy-to-adapt manner to provide a competitive advantage in line with the expectations of their customers. "Organizations need to be aware of the trade-off among different competitive priorities if they intend to address multiple competitive priorities such as cost and service quality in their logistics system. (Esmizadeha & Parast, 2021)

However, the emergence of COVID-19 has increased the need for electronic commerce. As a result, the competitive environment in logistics companies has increased. 'With the globalization of products, e-commerce in the agri-supply chain has been trending, even in pre-COVID-19 times. After spreading the coronavirus disease, a significant percentage of the physical market stopped and converted into e-commerce portals. Different small and large retailers have started e-commerce portals. E-commerce is successfully Sustainability trending, even in the post-COVID-19 situation, because it offers retailers low risk in terms of inventory loss, price declination, and bargaining loss' (De & Singh, 2022)

Supply chain activities mostly depend on market competition. Indeed, in the market, many organisations create different implementations for the final customer. Additionally, some approaches, such as product variety, reducing lead time, outsourcing, and using digital applications, create a competitive strategy for logistics organizations.

There has been growing attention for logistics organizations to maximize operational performance transparency. In the traditional supply chain model, the importance given to information sharing among suppliers, retailers, manufacturers, and wholesalers has increased. Especially with the pandemic process, the processes have become more transparent, thanks to the importance of instant information sharing between stakeholders. The biggest contribution of this has been the reduction of supply time in the supply chain and the reduction of transportation costs. In addition, a proactive approach to risks occurring in the supply chain has become easier. As a result, a strategic competitive advantage was achieved by providing a flexible and agile structure.

The relationship between transparency and competition strategy enables closer relationships with customers and the processes in the supply chain to be more integrated. In addition, social responsibility awareness and environmentally friendly approaches are the results of a transparent structure. Planning sustainable resources in purchasing, transportation, and storage provide a competitive advantage for logistics companies during COVID-19.

### Competitive strategy and logistics

In markets where alternatives for consumers on a global scale are increasing day by day, enterprises need solid competitive strategies to survive. A competitive strategy is planning short-term and long-term activities to obtain a competitive advantage. In addition, it is involved by following up on the efforts of their competitors, assessing their strengths and weaknesses, and comparing the competitors and their operational policies and practices. This strategy must be strong against the market's competitive pressures, solidify the enterprise's position, and be customer oriented. When determining Competitive Strategies, enterprises must first select the goals and what actions they will use to achieve these goals, implementation policy, and competitive dynamics (Zerenler, 2007; Özçelik, 2016; Öztürk, 2018; Porter, 2010).

Since logistics requires all processes to be interconnected, digitalization plays a key role for businesses in gaining a competitive strategy. 'Digitalization of logistics and the supply chain is an important tool for logistics resilience in such situations, but digitalization poses certain challenges for developing countries. (Gupta, H., Yadav, A. K., Kusi-Sarpong, S., Khan, A. S., & Sharma, S. C 2022).

According to Porter (1992), the sustainability of competitive advantage depends on the sources of the superiority of the enterprise. In addition, Porter (1986) emphasizes that competitive power analysis impacts organisations that prioritize a differentiation strategy. The competitive strategy model developed by Michael Porter (1985) is the most common in the literature. This model is an important parameter for competitiveness and economic development in all economic platforms, from the enterprise market to the general national economy. According to the model, the factors affecting the decision mechanisms of the enterprises to gain competitive advantage in the sector are listed as new company threats, bargaining power of suppliers and buyers, and the threat of substitute products or services. Porter divided competitive strategies into three categories: cost leadership, differentiation, and differentiation focus.

- **Cost leadership strategy:** This strategy includes offering a product that meets the needs of the customer profile determined in a broad targeted market. In this framework, the enterprise determines strategies to produce and distribute its goods or services by realizing its costs at the lowest level compared to its competitors (Kaya, 2013: 110).
- **Differentiation strategy:** This strategy involves creating a value that will differentiate the product or service and make it perceived as unique by the buyer (Efil, 2010:53). In this direction, approaches such as giving importance to quality, process innovations, product innovations, and system innovations and privileged talent support are adopted (Eren, 2013: 280).
- **Differentiation focus strategy:** This strategy focuses on that unit by choosing a specific unit from the product-market units of the enterprise (Kaya, 2013:114). In focusing strategies, the business specializes in a certain market segment or region and concentrates all its strategic tools on this focus market. The business's marketing activities and the service's adaptation according to the determined customer segment are expressed as excluding other segments. The cost-focus strategy, on the other hand, involves being advantageous in terms of cost in the target segment of the enterprises compared to the competitors in the market.

In general, these strategies, which are implemented to provide competitive advantage and to be sustainable in the business market, are defined within the framework of two basic parameters: strategic scope and strategic power (Porter, 2010; Kırmızı, 1998; Tanwar, 2013; Ülgen & Mirza, 2014).

Apart from the strategy model developed by Porter, one of the most accepted models is the model developed by Prahalad and Hamel (1990). According to this model, the competitive strategy takes an approach that emphasizes flexibility, continuous learning, and getting experiences from mistakes. The model's most important strategic development element is determining the enterprise's competencies and objectives. The enterprise's competencies include quality customer service, differentiation, and adaptability to different areas. At the next stage, after determining competencies, the scope of their application areas, market analysis, and customer expectations are determined, and predictions about the sector are foreseen. The strategic intent created following these predictions should cover the goals and vision of the enterprise.

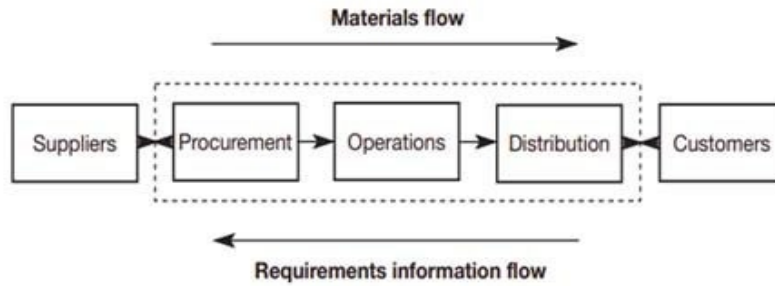
Another model in competition strategies is the "New Time Strategy" by Adrian Slywotzky (1996). According to this model, the classical understanding of competition is expressed as "tunnel vision". According to this model, enterprises should further expand the boundaries of the sector in which they are involved and develop competitive strategies to renew them. The focus of these developed strategy systems is based on customer demands. Considering these demands, the most appropriate products and services should be determined, and the most effective and competent practices should be applied. In an ever-changing global world, enterprises should be renewed according to changes and developments and develop new business designs within the strategy framework. They should always take customer priorities into account.

The operational excellence strategy aims to achieve cost leadership, facilitate strategy operations, reduce costs, manage business actions, and have quick and mass production processes. The product leadership strategy aims to develop a culture of enterprises improving the quality of the product offered to the market. Corporate disciplines developed by the strategy include product, talent, and research portfolio management, marketing, and teamwork. Finally, the customer intimacy strategy aims to combine customer information and intimacy of enterprises with operational flexibility to enable product personalization, meeting special requests, and rapid response to requests.

In the Competitive Strategy model developed by Grant (1998), an approach to resources that mainly covers human resources is adopted. These resources include financial, physical, human, and organizational capital. According to this model, the system consists of resource analysis, evaluation of capabilities, analysis of resources and capabilities that provide profitability, determination of strategy, and enrichment of business resources and capabilities (Grant, 1998).

Rapid developments globally, increasing competition among enterprises, and providing quality consumer requirements, efficient and minimal cost delivery of materials, products, or services to the end-consumers make the logistics services and the sector important. Competition in logistics has required companies to improve their quality and reliability. The logistics sector has a significant share in providing both value advantage and efficiency advantage in the activities carried out by enterprises from production to consumer. Within this context, the most crucial goal of the logistics sector is to provide quality and low-cost services between supply practices, production, the distribution system, and the market. These goals are the most important determinants of competition strategies in the logistics sector. As shown in Figure 1, the logistics process is a process between material and information

flow, and resources, supply, activities, distribution, and customer factors should be considered within the framework of these two parameters when determining Competitive Strategies (Christopher, 1998).



**Figure 1:** Logistics Management Process

**Source:** (Christopher, 1998)

For logistics companies to be successful and maintain their sustainability in an increasingly competitive environment, the generic competitive strategies implemented by businesses to reduce labour, transportation, and stock costs, measure employee performance. It also needs to be evaluated customer satisfaction and invest in warehouses, shelving systems, storage, information processing, and software systems, vehicle fleet renewal, product diversity, and contract sales transactions (Laari, Töyli, Ojala, 2018).

### Methodology

Increasing electronic commerce with the pandemic has also increased the need for logistics. Thus, logistics companies understood they needed to develop their management strategies in an increasingly competitive environment. The reason for choosing logistics companies in this study is to examine the changing competitive conditions in the logistics sector, where the demand is the highest and most intense.

The interview method will be used to evaluate logistics organisations' competition strategies during the pandemic. The reason for choosing the interview method is to give flexibility to the answers given to the questions. This way, respondents will be less constrained. Also, this method aimed to categorize answers rather than questions. The questions were prepared considering the experiences gained from the preliminary interviews and impressions before the survey design.

For the reliability of the test, the "test-retest" method has been applied (Middleton, 2022). The questionnaire was repeated after three weeks, and the Spearman correlation coefficients were calculated. Coefficients were observed to be changed between 0.80 and 0.98 with the p-values less than 0.05, which were all significant at  $\alpha=0.05$ . Those results confirm the reliability of the whole study.

Limitations of the survey have been organized with only the randomly selected logistics companies in Istanbul because the logistics operations in Turkey have been controlled from Istanbul. Thirty-five firms have been selected randomly from the first 50 companies, which perform nearly the 75% of the total. Participants consist of middle or senior managers.

According to the answers given by the participants after the interview, it will be evaluated to what extent the competition strategies they apply in electronic commerce change the company's performance. Furthermore, the results will be evaluated on how the companies affect their costs and customer satisfaction due to the increasing demand for electronic commerce in the pre-and post-pandemic period, and solution-oriented criticisms will be made.

**Table 2:** Interview Questions and Related Studies**Interview questions**

Question	Related Reference
1. Which management strategies has your company implemented pre- and post-pandemic period?	(Smite et al.,2022)
2. How were logistics operations affected by your competitive strategies?	(Raj et al., 2022)
3. How has the competitive strategy you implemented after the pandemic, especially in storage, distribution, and inventory management, affected your costs?	(Sumarliah, et al., 2021)
4. What competitive strategies do you apply to increase your market share in electronic commerce?	(Reardon et al., 2021)
5. What are the consequences of competition strategies you apply during the pandemic that positively impacts your company?	(Torres Montoya et al., 2021)
6. How do you evaluate the management strategies you implemented in logistics operations before the pandemic?	(Raj et al., 2022)
7. Have you used digital technologies in competitive strategy during the pandemic?	(Bettiol et al.,2021)
8. How have competitive strategies you implemented in logistics operations changed your customer satisfaction during the pandemic?	Schleper et al.,2022)
9. How have your new competitive strategies impacted supply chain agility?	(Raj et al., 2022)
10. Which different competitive strategies are you aiming to implement in electronic commerce in the period after the pandemic process?	(Orji et al., 2022)

**Results**

According to the interview, ten questions are asked of the participants. Participants were selected from people between the ages of 30-45 who have worked in the logistics industry for at least five years. No gender difference was observed. According to the participants' answers, it was observed how the changing conditions in the logistics sector after the pandemic affected the competitive strategy. Considering the answers given by all companies to the first question, some participants stated that they communicated with customers, customer visits, and the service they provided transparently to customers in the pre-pandemic period. For example, customers allowed their cargo to be seen whenever they wanted to load it.

Among the answers given, it was stated that a more comprehensive and wider study was started in the field of e-commerce with the strategic methods applied by their companies after the pandemic. However, with the positive effect of the company's work, it was stated that the workflow processes were defined as faster and more functional. Another company has not observed that the electronic commerce in which they work in their home office continues and progresses due to the orientation to the virtual network in this process. Another firm is that the digitalization process highly influences its working models. Online tools have announced 30% of external stakeholder promotions.

Another participant stated that they continue their meetings online, even though they are not very involved in processes such as working from home, because they are interested in health logistics. Apart from these, he stated that they did a lot of work in terms of both material and measure due to the pandemic process in the hospital, and as a result, COVID-19 floors were opened, and staff employment increased. In the answers to the second question, company x stated that its logistics operations positively affect its competitive strategy and are more trust oriented. It has also enabled customers to reach more audiences by sharing in digital environments in their communities.

Among the answers given to the second question, the answer given by another company explained that their competitive strategies do not negatively affect their operations due to being a corporate company.

In addition, another company stated that, in parallel with the previous company, its competitive strategies had developed positively after the more active use of electronic commerce in the logistics operation service network. In addition, they have transformed into the potential to provide more service in less time. Another firm, considering the situation in terms of costs, stated that the increasing serious costs caused the manufacturers to add logistics companies to their structure.

On the other hand, a company engaged in health logistics talked about the supply of patients and stated that it is a part of this health tourism, and they also supply medicines and devices. In the answers to the third question, one firm stated that the costs did not increase much, while another stated that the costs increased. Another company that answered the third question stated that all competitive strategies reduced the costs at a high rate in the logistics operations they developed and continued during the

pandemic period. In addition, the expense study carried out in the active e-commerce system determined that the costs decreased noticeably.

Another company has announced that they carry out free storage and handling processes of the products transported by the customer in their warehouses. They also stated that they not only give the best price for the products bought from anywhere in Turkey to the customs destination abroad but also ensure customer satisfaction and safe transportation by keeping the distribution costs at a minimum. Another company official said that he bought a lot of masks that had a storage process. Then, when the person wants to procure the product, they demand what is right from the hospital's system, and after this process, everyone is given the necessary products.

Among the answers to the fourth question, the company representative Although it is a sector that provides face-to-face services, small outpatient clinics can be held online. Moreover, it works meticulously on the advertisements of corporate communication units. Apart from these, he stated that with the pandemic, home health services processes were established to serve patients at home. Among the answers to the fourth question, it has been observed that many participating companies have not yet switched to electronic commerce during the pandemic. However, regarding the fifth question, it was observed that the competitive strategies implemented by most participant company officials during the pandemic positively affected their companies.

In addition, the answer given by the company was that they made more promotions, especially using digital tools and that they provided our promotions, especially by reaching distant geographies at a higher frequency. Finally, they stated that they implemented faster and less costly organizations using digital tools. On the other hand, another company wanted to ensure the company's annual budget and money flow in this period. Additionally, the company provided its turnover flow instead of making a profit in the works; they sometimes took projects at a loss for serious competition.

On the other hand, some companies stated that they were adversely affected. For example, a company has experienced serious problems with cost-oriented customers. It was stated that price and cost increases that are not under their control are not accepted. Among the answers given to the sixth question, they could have done the agility, quick decision-making, and adaptive style we have shown now. Among the answers to the sixth question, some companies stated they could do agility, quick decision-making and adaptation in the pre-COVID -19 situation. They stated that they saw that the company had entered a process where they had to adapt to the speed and development of e-commerce, especially by introducing quick commerce logic into their lives and taking faster action.

In the seventh question, in the answer given by one of the companies, they stated that they took digital technologies to the centre during the pandemic period. As a result, it has conserved Customer Relationship Management, and the capacity of performance of the operations and human resources have been increased for the organizations.

Another company replied that Digital technology is very important for advertising and accurate and quality service. He stated that competitive advantage is achieved after this sector's follow-up and supply of devices and new inventions. Among the answers to the seventh question, their company has had three main strategies for the last five years. They are investing in people, sustainability, and digitalization. Therefore, they stated that the pandemic shows how well they are on the right track.

The answer given by another company stated that they allocated a large budget to the development of digital technologies, and this situation increased their competitive advantage by improving customer service during the pandemic period.

When it comes to the eighth question, the answer given by the company representative was that they further strengthened their ties with their value-oriented customers who care about long-term cooperation and partnership. In addition, another firm stated that they further strengthened their ties with their value-oriented customers who seek long-term cooperation and partnership. Finally, another firm stated that due to the serious shrinkage, they are trying to establish closer contact with many of their companies and to make their customer portfolio permanent.

Most of the answers given by the participants to the ninth question were that competitive strategies increase supply chain agility. It has also been stated that it has a positive effect. Many companies today build their supply chain on agility. One of the main reasons for this is that it provides a competitive advantage in the national and international markets.

As for the answers to the tenth question, companies preferred speed, more globalization, efficient inventory management, and more digitalization in e-commerce after the pandemic. That is most

probably because of the long distances and diversification of the services. That shows a willingness the adaptation to the new era as well.

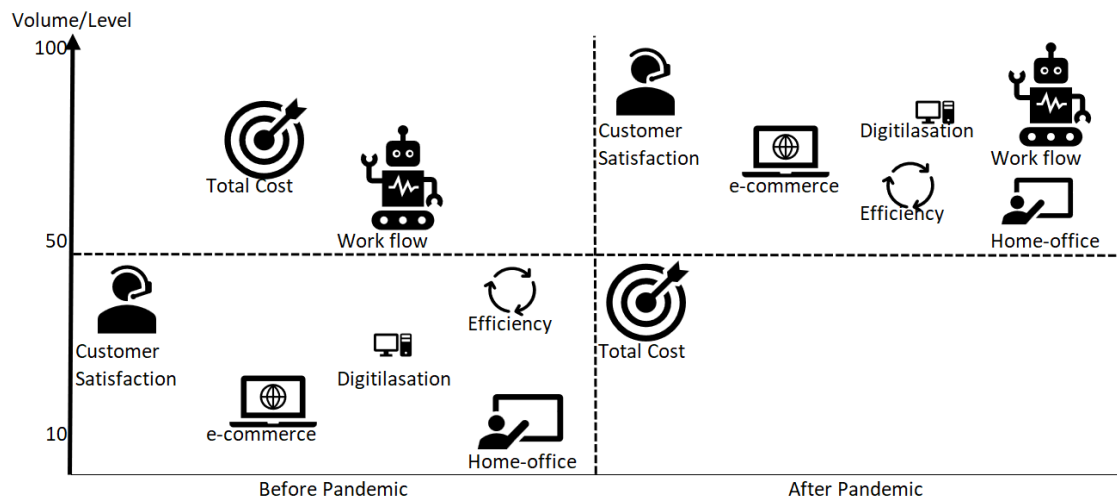


Figure 2. Model of Results

**Figure 2** summarizes the questionnaire results concerning the answers to the questions regarding the keywords repeated most frequently. Figure 2 also displays the change in the level of the answers with the same keywords. Results also give the answers to the research questions RQ1, RQ2, and RQ3 much wider than a single answer.

## Conclusion

This study discusses how competitive strategies in the logistics sector can change cyclically and the effects of these changes on the sector. The study's practical implications guide the managers in the light of real-life examples. Its managerial implications, on the other hand, will contribute to the theory.

This study includes the competitive strategies implemented by logistics companies during the pandemic period. It is explained in detail in the results section. For further studies, the competitive strategies applied by logistics companies in the post-pandemic period can be investigated, and the results can be compared with the current study. However, since the logistics companies in this study were examined, it also sheds light on the competitive strategies that other logistics companies operating in the sector will implement during the pandemic.

According to the answers given to the participants, they have invested more in digitalization after the pandemic period. Since this is a requirement of globalization, it may have significantly increased investment costs. However, it seems that supply chain performances have increased with digitalization. In addition, this situation has provided a competitive advantage by increasing the performance of the processes. Therefore, customer satisfaction has increased because of the management strategies implemented compared to the pre-pandemic period.

This study includes the pandemic period. Future studies will contribute to determining post-pandemic competitive strategies. In addition, it will contribute to developing competitive strategies in the sector for logistics companies. The next study will determine the changing competitive strategies post-pandemic period, and the results can be compared with the current study.

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## Conflict of interests:

The authors have no conflict of interest to declare.

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**Author Contributions:**

Idea/Concept/Design: C.U. Data Collection and/or Processing: . Analysis and/or Interpretation: G.A. Literature Review: C.U Writing the Article: G.A. Critical Review: G.A, Approval: G.A, C .U

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## A systematic review of e-commerce websites literature in 2010-2020 period

### 2010-2020 dönemi e-ticaret web siteleri literatürüne sistematik bir bakış

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#### **Abstract**

In parallel with the increasing e-commerce usage rates worldwide, academic papers on e-commerce have increased in the last decade. In this regard, in this study, the papers on e-commerce indexed in the Web of Science (WOS) database between 2010 and 2020 are examined and discussed by journals, published years, countries, sample size, main purposes, theories, variables and main findings. Therefore, 70 selected research articles were examined. The selection criteria of these articles are to be research articles and to collect data from consumers using e-commerce websites. Therefore, 70 selected articles were examined and evaluated by using the content analysis method. As a result of the analysis, selected articles are summarised in Appendix 1. The selected articles have some common inferences: the reputation of websites, size of websites, familiarity, perceived ease of use, recommendations, design, convenience, perceived usefulness, system quality, service quality and information quality in e-commerce positively influence perceived trust and purchase intention of consumers. Also, the perceived trust of the consumers positively affects their purchase and repurchase intention. Besides that, perceived usefulness, perceived ease of use, perceived value and perceived risk are important determinants of consumers' purchase and repurchase intention in e-commerce. Finally, perceived risk negatively affects the perception and purchase intention of consumers.

**Keywords:** E-commerce, Websites, Literature Review, Web of Science (WOS)

**JEL Codes:** L81, M31, Y10

#### **Öz**

Dünya genelinde artan e-ticaret kullanımına paralel olarak e-ticaret ile ilgili akademik makalelerin sayısı da son yıllarda artış göstermiştir. Bu kapsamda, bu çalışmada 2010-2020 yılları arasında Web of Science (WOS) veri tabanında taranan e-ticaret ile ilgili makaleler yayımlandıkları dergi, yayınlanma yılı, verilerin toplandığı ülke, örneklem büyüklüğü, amaç, teoriler, değişkenler ve temel bulgular bazında incelenmiş ve tartışılmıştır. İncelenen makaleler e-ticaret web sitelerini kullanan tüketicilerden veri toplanan araştırma makaleleridir. Seçilen 70 makale içerik analizi yöntemi kullanılarak incelenmiş ve değerlendirilmiştir. Seçilen makaleler Ek 1'de özetlenmiştir. Seçilen makaleler analiz edildiğinde, makalelerin bazı ortak çıkarımlara ve bulgulara sahip olduğu görülmektedir. Örneğin, e-ticaret web sitelerinin itibarı, web sitelerinin büyüklüğü, bilinirlik, algılanan kullanım kolaylığı, algılanan fayda, öneriler, tasarım, sistem kalitesi, servis kalitesi ve bilgi kalitesi gibi faktörler müşterilerin algıladıkları güveni ve satın alma niyetlerini pozitif yönde etkilemektedir. Ayrıca müşterilerin e-ticaret web sitelerinden algıladıkları güven satın alma ve yeniden satın alma niyetlerini pozitif yönde etkilemektedir. Bununla birlikte, algılanan fayda, algılanan kullanım kolaylığı, algılanan değer ve algılanan risk müşterilerin satın alma ve yeniden satın alma kararlarında önemli belirleyicilerdir. Son olarak, algılanan risk müşterilerin algısını ve satın alma niyetlerini negatif yönde etkilemektedir.

**Anahtar Kelimeler:** E-ticaret, Web siteleri, Literatür Araştırması, Web of Science (WOS)

**JEL Kodları:** L81, M31, Y10

## Introduction

Technological innovations have recently increased internet usage, and people's lives have become easier in many ways. In this regard, one of the most significant facilitating factors is e-commerce which allows companies to reach potential consumers simply and expeditiously (Shiau and Luo, 2012).

E-commerce refers to conducting sales and purchasing activities in an electronic environment. In this respect, e-commerce includes various systems like electronic data exchange (EDI) and electronic fund transfer (EFT) which have been used since the 1970s (Baourakis and Kourgiantakis, 2002). However, usage of e-commerce commenced increasing in the 1990s with the advancement of internet technologies and especially the discovery of the World Wide Web (www). In this context, conducting business and shopping over the internet has become easier and faster since the 1990s (Nanehkar, 2013).

The Internet has transformed many things worldwide, like communication, sharing information, conducting business, and people's shopping behaviour. Companies and consumers are quickly adapting to these transformations offered by the internet. Therefore, nowadays, there are millions of internet and e-commerce users worldwide (Statista, 2022).

In this perspective, a similar phenomenon is observed considering the academic papers within the internet and e-commerce advancements framework. With the widespread use of e-commerce, the subject of e-commerce has been discussed more over the years in academic papers. In this case, e-commerce has become a topic that has attracted more attention, especially since 2010. Thus, this study examines papers on e-commerce indexed in the Web of Science (WOS) between 2010 and 2020. Selected 70 research articles collecting data from consumers were examined in the context of journals, published years, countries, sample size, main purposes, theories, variables, and main findings.

## Purpose and method

The main objective of this study is to examine research articles written about e-commerce on the Web of Science. For this purpose, 70 selected research articles published in 2010-2020 were examined. The most significant criteria in selecting these articles are research articles and collecting data from consumers using e-commerce websites. Therefore, content analysis is used to evaluate and examine articles in this context. Initially, selected articles were evaluated in the context of journals in which they were published (Table 2), publication years (Figure 2), sample size, and countries where the data was collected (Table 3). After that, the main purpose of the articles, theories, dependent and independent variables, and main findings was presented in (Appendix 1). From this perspective, the findings of the selected articles are summarised below.

## Findings

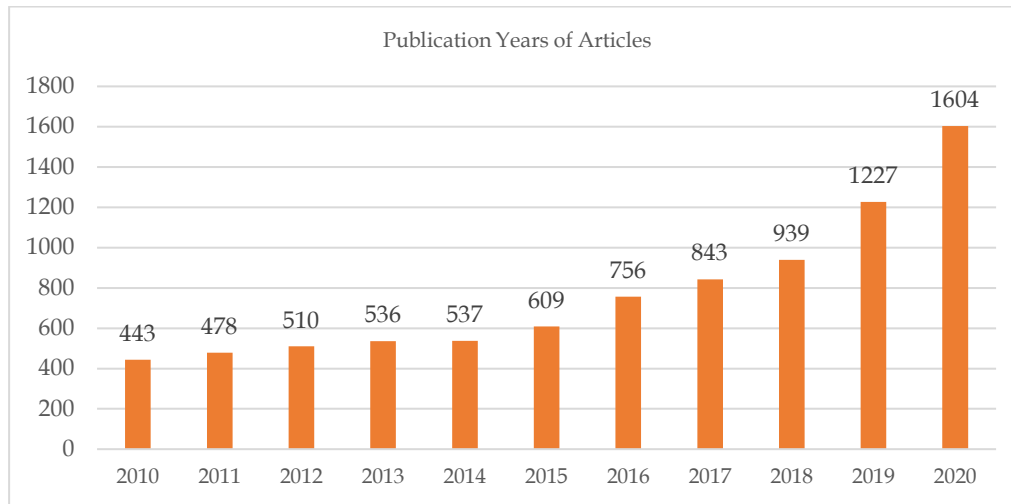
With the scope of this study, a search was carried out by topic using the e-commerce keyword. In this regard, the distribution of e-commerce papers in Web of Science between 2010 and 2020 is shown in Table 1.

**Table 1:** Distribution of Papers

Types of Paper	Number of Papers	%
Articles	8,482	47,3
Proceeding Papers	8,356	46,6
Book Chapter	455	2,5
Review Article	345	1,9
Editorial Materials	135	0,7
Early Access	54	0,3
Meeting Abstracts	49	0,3
New Items	20	0,1
Others	49	0,3
<b>Total</b>	<b>17.945</b>	<b>100</b>

Source: Web of Science

As a topic searched on the Web of Science, E-commerce has 17.945 papers between 2010 and 2020. However, 8.482 (47,3%) of these papers are articles that constitute the sample of this study. Additionally, the distribution of articles according to publication years is shown in Figure 1.



**Figure 1:** Distribution of Articles by Years

**Source:** Web of Science

According to Figure 1, the number of articles about e-commerce has increased over the years. While 443 articles related to e-commerce were published in 2010, 1.604 articles were published in 2020. Compared to 2010, the number of published articles approximately quadrupled in 2020. In this regard, it is estimated that the number of published articles on e-commerce will increase in the coming years because companies and consumers are being integrated with e-commerce more over the years, which leads to an increased usage of e-commerce.

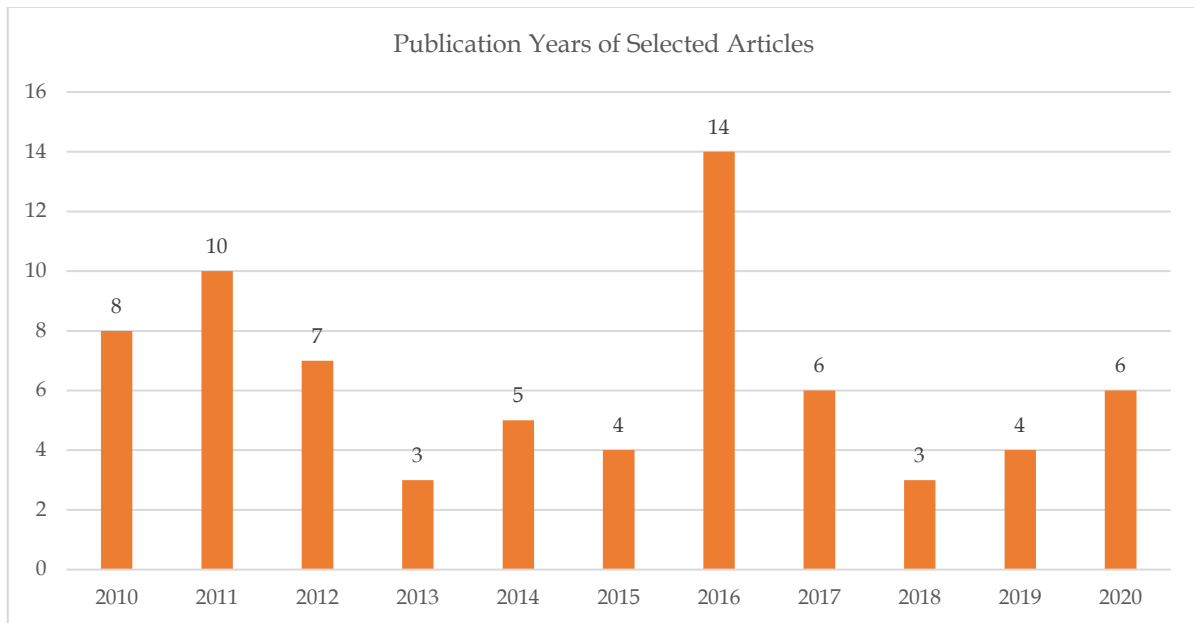
In this study, 70 research articles are examined in detail. Articles were selected based on the criteria they had written on e-commerce and gathered and analysed consumer data. In this context, the distribution of journals in which selected articles are published is shown in Table 2.

**Table 2:** Distribution of Journals

Journals	Number of Articles
Computers In Human Behavior	9
Electronic Commerce Research and Applications	8
International Journal of Information Management	6
Journal of Retailing and Consumer Services	6
Tourism Management	3
Decision Support Systems	3
Online Information Review	3
Journal of Electronic Commerce Research	3
Internet Research	2
Journal of Business Research	2
Management Information System	2
International Journal of Electronic Commerce	2
Sustainability	2
Information and Management	2
Tourism Review	1
Telematics and Informatics	1
Journal of Service Management	1
Journal of Travel Research	1
Journal of the Association for Information System	1
Journal of Destination Marketing and Management	1
Information System Journal	1
British Food Journal	1
Service Business	1
Journal of Hospitality and Tourism Technology	1
Journal of Enterprise Information Management	1
Journal of Management Information System	1
Information Systems Journal	1
Nankai Business Review International	1
Journal of Global Information Management	1
Technological Forecasting and Social Change	1
Journal of Computer Information Systems	1
<b>Total</b>	<b>70</b>

According to Table 2, research articles from a total of 32 different journals were examined. Correspondingly, the highest number of articles are published in the Computers in Human Behaviour (12,8%), Electronic Commerce Research and Applications (11,4%), International Journal of Information Management (8,5%), Journal of Retailing and Consumer Services (8,5%), Tourism Management (4,2%), Decision Support Systems (4,2%), Online Information Review (4,2%), Journal of Electronic Commerce Research (4,2%). Other journals listed in the table constitute 41,4% of the articles.

There are two criteria for article selection. First, only research articles are selected for evaluation. Secondly, articles that have collected consumer data are considered for assessment. In addition, the publication years of the examined articles are shown in Figure 2.



**Figure 2:** Distribution of Selected Articles by Years

According to Figure 2, 14 of the selected articles were published in 2016, 10 articles in 2011, 8 articles in 2010, 7 articles in 2012, 6 articles in 2017, 6 articles in 2020, 5 articles in 2014, 4 articles in 2015, 4 articles in 2019, 3 articles in 2013, and 3 articles were published in 2018.

Considering the sample size, the articles with the highest number of samples are respectively (Agag and El-Masry, 2017): 1.431, (Hsiao, Lin, Wang, Yu and Lu, 2010): 1.219 and (Rodríguez and Trujillo, 2014): 1.096. However, the articles with the least number of samples are (Weisberg, Te'eni and Arman, 2011): 115, (Yoon and Occena, 2015): 94, and (Hasan, 2016): 93. Additionally, the average sample size of 70 articles is 398. In addition, the data were collected by using the online survey in the selected articles.

The distribution of the countries where the data of articles were collected and applied is shown in Table 3.

**Table 3:** Distribution of Countries

Countries	Number of Articles	%
USA	15	21,4
China	14	20
Taiwan	8	11,4
South Korea	8	11,4
Spain	6	8,6
Egypt	3	4,3
Malaysia	2	2,8
Germany	2	2,8
India	2	2,8
North Ireland	1	1,4
England	1	1,4
Italy	1	1,4
Greece	1	1,4
Saudi Arabia	1	1,4
Portugal	1	1,4
United Arab Emirates	1	1,4
China/India/Malaysia	1	1,4
Israel	1	1,4
Australia	1	1,4
China/Finland	1	1,4
<b>Total</b>	<b>70</b>	<b>100</b>

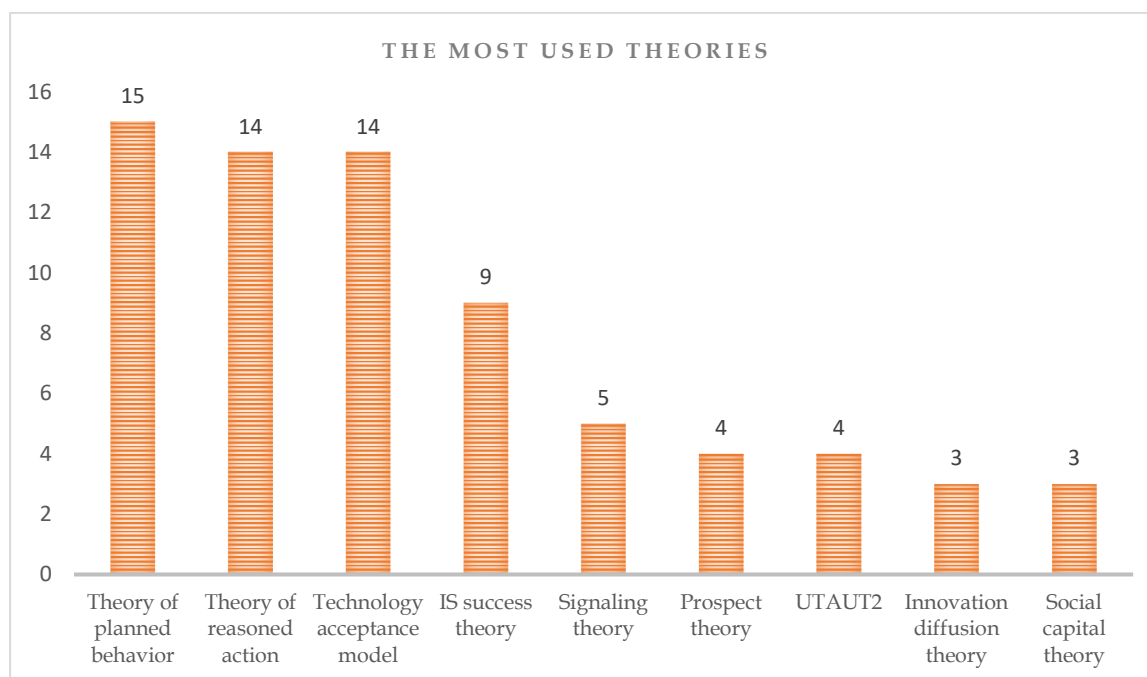
In parallel with e-commerce statistics worldwide, USA and China are the most studied countries in the research sample. According to Table 3, 15 articles collected data in the USA, while 14 articles collected data in China. Other mostly studied countries listed in Table 3 are Taiwan, South Korea, Spain, and Egypt, from which 8, 8, 6, and 3 articles collected data from those countries, respectively. Other countries with the number of articles are shown in Table 3. Based on these statistics, the USA, China, Taiwan, and South Korea are largely researched countries on e-commerce compared to other countries.

The word cloud regarding the most frequently used variables in the selected articles is shown in Figure 3.

**Figure 3:** Word Cloud of Variables

According to the word cloud, the most used variables in the examined articles are purchase intention, perceived usefulness, perceived ease of use, trust, satisfaction, perceived web quality, e-loyalty, perceived web reputation, perceived risk, and E-WOM.

The articles were also investigated according to fundamental theories, and in this context, the commonly used theories in the selected articles are shown in Figure 4.



**Figure 4:** The Mostly Used Theories in Articles

According to Figure 4, the theory of planned behaviour, the theory of reasoned action, and the technology acceptance model are used in 15, 14, and 14 articles, respectively. These three theories are highly used in articles in the research sample to sketch a theoretical framework. Other theories used in the articles are exhibited in Figure 4. Apart from these theories, complexity theory, adaption level theory, Hofstede's cultural typology, social learning theory, configuration theory, cognitive cost theory, transaction cost theory and expectancy-value theory were used as the ground theories in the articles.

## Results and discussions

Internet and e-commerce are increasing worldwide, expanding the number of academic papers. Especially after the years 2010, the subject of e-commerce has started to be discussed more than before. Therefore, interest in academic articles on e-commerce has been growing rapidly. For instance, the number of articles on the Web of Science has approximately quadrupled from 2010 to 2020. Therefore, the main goal of this study is to assess research articles about e-commerce in Web of Science. In this regard, 70 research articles, those that collected consumer data, were selected.

The selected articles are examined and evaluated with the content analysis method. Firstly, the selected articles were examined in journals, publication years, sample size, countries where the data was collected, main purposes, used theories, dependent and independent variables, and main findings. The analysis of previous studies on e-commerce offers some important insights for future studies. Therefore, this study is expected to guide future research about e-commerce.

Some common points were determined when considering the articles' main purposes. One of the most general-purpose is to identify the factors which affect consumers' purchase intention in e-commerce. Another major objective of the selected articles is how various features of e-commerce websites, such as system quality, service quality, information quality, design, size, content, etc., influence consumer perceptions and purchase intention. In addition, the selected articles aimed to investigate the factors affecting the consumers' perceived trust, perceived risk, satisfaction, and loyalty in e-commerce. Also, some articles investigated the effects of perceived usefulness, perceived ease of use, reputation, and quality of e-commerce websites on consumer perception, purchase, and repurchase intention. All these purposes are mostly discussed in the context of the theory of planned behaviour, theory of reasoned action, technology acceptance model, information system success theory, and signalling theory.

The main findings of selected articles were evaluated, and there are also common inferences. For instance, several articles found that trust in websites or e-commerce platforms positively influences consumers' purchase and repeat purchase intention. Therefore, consumers who trust websites more tend to stay longer on e-commerce websites, increasing the probability of purchase. However, the

consumers who trust e-commerce websites less desire to inform more to avoid uncertainty, and the probability of purchase decreases. Another main finding is consumers' purchasing experiences, the reputation of websites, size of websites, familiarity, perceived ease of use, recommendation, convenience, perceived usefulness, and website quality in e-commerce positively affect online trust and purchase intention.

Perceived risk, perceived trust, perceived usefulness, perceived ease of use, perceived value, and website reputation are significant factors of purchase and repurchase intention of consumers in e-commerce. Perceived risk negatively influences consumer perception and purchase intention. Also, service quality, system quality, information quality of websites, and relationship quality in websites significantly influence the trust, satisfaction, purchase, and repurchase intention of consumers. In these factors, if e-commerce websites are perceived as low quality, consumers do not shop and leave the websites quickly, which means a high bounce rate.

The signal theory could explain the prominence of factors of e-commerce websites, such as purchasing experiences, perceived ease of use, and perceived usefulness in the selected articles. This theory provides a practical framework for explaining how external signals influence consumers' decisions (Li, Fang, Wang, Lim and Liang, 2015). Especially in e-commerce, there is an information asymmetry between consumers and sellers. Therefore, the signals consumers receive from e-commerce websites-platforms help them make an accurate evaluation. In this context, the prominent factors in the selected articles play a significant role in consumers' evaluation process of e-commerce websites-platforms, perceived trust, and purchasing decisions (Chen, Huang, Davison, and Hua, 2015).

Although some articles deal with different dimensions of e-commerce in the selected articles, since the articles collected data from consumers, the articles focused heavily on how various features of e-commerce website platforms affect consumers' perception and purchase decision-intention. In this case, quality, usability, ease of use, reputation, and size are e-commerce website-related factors. On the other side, perceived trust, perceived risk, e-loyalty, satisfaction, purchase intention, and repurchase intention are attributed to consumer behaviour.

In addition to the prominent aspects in the selected articles, there are also differentiating aspects. For example, some articles focused on diverse dimensions of e-commerce for vendors and consumers. Some of these dimensions and accompanying articles are relationship quality (Zhang et al., 2011; Liang et al., 2011), structural assurance (Bock et al., 2012; Lu et al., 2010), information asymmetries (Wells et al., 2011), justice (Chiu et al., 2010), website personality (Rezaei et al., 2016), and culture (Hallikainen and Laukkanen, 2018; Diaz et al., 2020) (Please see Appendix 1 for other factors). These dimensions of e-commerce can be discussed primarily in future studies.

In addition to its contributions, this study has certain limitations, such as several selected articles. Another limitation is to search the articles only from the Web of Science Database. Thus, future studies can be conducted using a different database such as Scopus, EBSCO, etc., and more articles can be analysed. Also, bibliometric analyses could be performed in future research. Apart from this, future studies can focus on the single dimension of e-commerce which will provide in-depth comprehension and evaluation of the subject. In this study, the search was carried out by topic using the e-commerce keyword. Therefore, future studies can search articles within the scope of title, abstract, and keywords.

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## Appendix

## Appendix 1: Overview of Selected Articles

Authors & Year	Main Purpose	Theories	Variables	Main Findings
Lu et al. 2010	To understand which factors affect trust in online communities and websites, and how these affect the purchase intention of consumers.	Theory of planned behaviour, transaction cost theory	Familiarity, perceived similarity, structural assurances, trust propensity, integrity, benevolence, ability, intention to get information, purchase intention	The factors of trust in online communities and e-commerce websites positively affect getting information and purchase intention.
Kim et al. 2010	To find out the impact of personal innovativeness, mobile payment knowledge, MPS characteristics (mobility, reachability, compatibility, convenience) perceived ease of use, and perceived usability on mobile payment usage intention in online shopping.	Technology acceptance model, theory of planned behaviour, Theory of reasoned action	Innovativeness, M-payment knowledge, mobility, reachability, compatibility, convenience, perceived usefulness, perceived ease of use, intention to use M-payment	It has been found that strong predictors of intention to use mobile payments are perceived ease of use and perceived usefulness. Also, compatibility is not the main explainer of consumers' mobile payment adoption
Hsiao et al. 2010	To examine why consumers trust product recommendations on e-commerce websites and social shopping networks, and what is the impact of trust in product recommendation and trust in websites on purchase intention.	Not available	Perceived ability, perceived benevolence/integrity, perceived critical mass, perceived web reputation, perceived web quality, perceived institution assurance, trust in product recommendation, trust in websites, intention to purchase a product, intention to purchase a product from the websites	Perceived benevolence/integrity, perceived ability, perceived critical mass and trust in a website's significant antecedents of trust in product recommendation. Also, trust in product recommendations affects purchase intentions from websites.
Udo et al. 2010	To understand consumers' expectations and perceptions of web service quality in online shopping, to determine web service quality dimensions, and also to understand the impact of web service quality dimensions on consumer satisfaction and purchase intention.	Learning theories, expectancy-value theories, attribution theory, theory of reasoned action, theory of planned behaviour, technology acceptance model, unified theory of acceptance and use of technology, information systems continuance model, IS success model	Perceived risk, website content, service convenience, PC skills, web service quality, behavioural intention, satisfaction	Three dimensions determined for web service quality which is perceived risk, web content and web convenience. Although less perceived risk can lead to the positive perception of web service quality, it does not necessarily translate into satisfaction or positive behavioural intention.
Hernández et al. 2010	To evaluate what are the consumer perceptions to purchase over the internet and how to purchase experience moderate these relations. Also, they try to understand the effect of internet acceptance, internet use frequency, satisfaction with the internet, perceived self-efficiency, perceived ease of use, perceived usefulness and online shopping experience on future purchase intention	Theory of planned behaviour, technology acceptance model, social cognitive theory	Internet acceptance, internet use frequency, satisfaction with the internet, perceived self-efficiency, perceived ease of use of e-commerce, perceived usefulness of e-commerce, attitude to e-commerce, future purchase intention	They found some differences among experienced and inexperienced user groups in e-commerce perceptions. Also, their findings demonstrated that consumer behaviour changes because of evolving consumer perceptions based on experiences.
Chiu et al. 2010	To assess antecedents of trust in online auctions and the effect of trust on repeat purchase intention in online shopping	Justice theory, equity theory, social exchange theory, unified theory of acceptance and use of technology	Distributive justice, procedural justice, interpersonal justice, informational justice, bidding justice, trust, repeat purchase intention	Trust positively affects buyers' intention to repeat purchase. Also, distributive justice, procedural justice, interpersonal justice, and informational justice are significant components of bidding justice that positively affect trust.
Kim, Kim, and Park, 2010	To understand moderating and mediating effect of trust and product involvement towards websites in relation to the impact of web advertisement on purchase intention	Theory of reasoned action, elaboration likelihood model	Perceived informativeness, perceived entertainment, product involvement, trust toward websites, intention to purchase	Consumers who trust websites more tend to be influenced by web advertisement more and therefore they stay longer on e-commerce websites. However, consumers who trust less, desire to inform more to avoid obscurity. Also, consumers with higher product involvement tend to shop in malls, where they can obtain more information about products.
Hwang, 2010	To test the relationship between social norms (normative commitment) and perceived enjoyment (affective commitment) on e-commerce system adaptation. Also, they try to understand moderating effects of gender.	Theory of reasoned action, self-determination theory	Family influence, media influence, friends influence, social norms (normative commitment), perceived enjoyment (affective commitment), gender, intention to use	While the impact of social norms is stronger in the female, the impact of perceived enjoyment is stronger in male.
Kim et al. 2011	To figure out how does website's navigation functionality, perceived security, and transaction	Not available	Navigation functionality, perceived security, transaction cost, trust, satisfaction, loyalty	According to the results of the study, while perceived security and navigational functionality positively affect consumer trust,

	cost affects consumer trust, satisfaction, and loyalty in online shopping. They used trust and satisfaction as mediating variables. Also, loyalty is used as a dependent variable.			transaction cost has no effect on consumer trust. Also, consumer satisfaction is an antecedent of consumer loyalty with a positive effect.
Weisberg et al. 2011	To investigate the relationships between purchasing experiences and intention to purchase with the mediating effect of social presence and trust.	Theory of reasoned action, theory of planned behaviour, social presence theory	Purchasing experience, social presence, trust, intention to purchase	According to the results, purchasing experiences positively affect purchase intention, and trust and social presence act as partial mediator roles in this relationship.
Hernández et al. 2011	To analyse how age, gender, and income moderate consumers' online shopping behaviour.	Technology acceptance model	Acceptance of the internet, frequency of use of the internet, satisfaction with the internet, perceived self-efficiency, ease of use of online shopping, the usefulness of online shopping, online shopping attitude, current online shopping behaviour, future online shopping behaviour, age, gender, income	According to the results, age, gender, and income do not moderate consumers' online shopping behaviour.
Fang et al. 2011	The main object of the study is to develop and extend DeLone and McLean's IS success model with justice theory (distributive justice, procedural justice, interactional justice).	Justice theory, IS success model	Distributive justice, procedural justice, interactional justice, trust, information quality, system quality, service quality, satisfaction, repurchase intention, net benefit	According to the results, distributive, procedural and interactional justice are significant determinants of online trust. Besides that, trust, net benefits, and satisfaction positively affect consumers' repurchase intention in online shopping. Also, system quality, information quality, trust, and net benefits significantly influence consumer satisfaction.
Zhang et al. 2011	To explain which components of vendor characteristics affect online relationship quality and how does online relationship quality affects consumers' online repurchase intention?	Relationship marketing theory	Vendor characteristic (perceived website usability, perceived expertise in order fulfilment, perceived reputation), vendor behaviour (distrust in vendor behaviour), online relationship quality, online repurchase intention	According to the finding, online relationship quality positively influences online consumers' repurchase intention. Also, while perceived expertise in order fulfilment, perceived reputation and perceived website usability positively affect online relationship quality, distrust in vendor behaviour negatively affect online relationship quality.
Liang et al. 2011	To understand how does social support, relationship quality and website quality influence the consumers' future social commerce intention and continuance intention?	Theory of reasoned action, theory of planned behaviour, social support theory	Social support (emotional support, informational support), relationship quality (trust, satisfaction, commitment), website quality (system quality, service quality), social commerce intention, continuance intention	According to the results, website quality and social support positively affect consumers' intention to social commerce and continuance intentions. In addition, relationship quality has a mediating effect in these relationships.
Wells et al. 2011	To consider the relationship between website quality and perceived product quality and to understand the moderating effects of information asymmetries and signal credibility of this relationship.	Signalling theory	Information asymmetries, website quality, signal credibility, perceived product quality, intention to purchase from websites	According to the results, website quality affects perceived product quality, which subsequently influences consumers' online purchase intention. Besides, information asymmetries and signal credibility have moderating effects.
Eid, 2011	To determine and consider the factors that influence consumer trust, satisfaction and loyalty in B2C e-commerce.	Theory of reasoned action, technology acceptance model, expectation-confirmation theory	User interface quality, information quality, perceived security, perceived privacy, e-consumer satisfaction, e-consumer trust, e-consumer loyalty	According to the findings, consumer satisfaction strongly, and consumer trust weakly affects consumer loyalty. Additionally, perceived security and perceived privacy weakly affect e-consumer satisfaction. However, they strongly affect e-commerce trust. Also, the interface quality positively influences e-commerce trust but, information quality weakly influences e-commerce trust.
Wells et al. 2011	To consider the relationship between individual impulsiveness, website quality, and impulsive buying behaviour.	Latent state-trait theory.	Individual characteristic: impulsiveness, environmental characteristic: website quality, urge to buy impulsively	According to the results, as an environmental characteristic, website quality directly affects consumers' impulsive buying behaviour. Besides, highly impulsive consumers are more influenced by website quality, both positively and negatively.
Wen et al. 2011	To evaluate how utilitarian factors (perceived usefulness, perceived ease of use), hedonic factors (perceived enjoyment) and social/psychological factors (trust, satisfaction, and confirmation) affect consumers' repurchase intention in online shopping?	Technology acceptance model, IS success model, expectation confirmation theory, theory of reasoned action, marketing theory, flow theory	Perceived ease of use, confirmation, trust, perceived usefulness, satisfaction, perceived enjoyment, online repurchase intention	According to the findings, both utilitarian and hedonic factors significantly explain consumers' online repurchase intention. Also, the utilitarian factors play a more significant role in online repurchase intention.
Shiau and Luo, 2012	To consider the impact of reciprocity, reputation, trust, and vendors' creativity on consumer satisfaction and intention to online group buying.	Social exchange theory, theory of reasoned action	Reciprocity, reputation, trust, vendors' creativity, satisfaction, intention to online group buying	According to the findings, consumer satisfaction, vendors' creativity, and trust predict intention to online group buying. Also, trust and consumer reciprocity primarily predict consumer satisfaction.

Kim et al. 2012	To figure out the effects of various e-commerce websites' qualities on the consumers' utilitarian and hedonic values in online shopping. Additionally, they try to consider the influence of consumers' perceived utilitarian and hedonic values on consumer satisfaction and online repurchase intention.	IS success model	System quality (security, accessibility), information quality (variety, currency), service quality (quickness, receptiveness), utilitarian shopping value, hedonic shopping value, consumer satisfaction, intention to repurchase	According to the findings, while utilitarian shopping values are affected by system and service quality, hedonic shopping values are affected by information and service quality. That means service quality is critical for both hedonic and utilitarian shopping values.
Kim, Xu and Gupta. 2012	To consider how perceived trust and perceived price affects consumers' perceived value? Besides, they investigate how perceived trust, perceived price and perceived value affect consumer purchase intention?	Prospect theory, mental accounting theory	Perceived trust, perceived price, perceived value, purchase intention	According to the results, perceived trust has stronger impact than perceived price on consumers' online purchase intention. Also, perceived value has an important effect on online purchase intention.
Benlian et al. 2012	They try to analyse the model of product recommendation and consumer reviews with the four consumer beliefs which are perceived usefulness, perceived ease of use, perceived affective quality, trust) in the searched product and experienced product.	Cognitive fit theory, technology acceptance model, theory of planned behaviour, social responses theory	Online product recommendation (OPR), online consumer review (CR), product type, trusting beliefs in OPR/CR, perceived usefulness of OPR/CR, perceived ease of use of OPR/CR, perceived affective quality of OPR/CR, intentions to reuse OPR/CR, intention to purchase based on OPR/CR.	According to the results, perceived usefulness and perceived ease of use affect OPR more than CR. Also, trusting belief and perceived affective quality influence CR more than OPR. Additionally, while CR was found to extract higher perceived affective quality, trust, and perceived usefulness for experience goods, OPR was found to elicit higher effects on whole variables for searched goods.
Lee and Kozar, 2012	To investigate the common components of websites usability and they also investigate the relationship between these components and consumer purchase intention with the user perceptions.	IS success model	Website usability, determinants of user perceptions, user perceptions toward a websites, action	According to the findings, the dimensions of websites usability strongly influence consumers' purchase intentions. As websites usability increases, consumers tend to purchase from websites more.
Shen, 2012	To consider the impact of perceived ease of use, the tendency to social comparison and social presence on perceived usefulness, and perceived enjoyment. Besides, they investigate the effects of perceived usefulness and perceived enjoyment on purchase intention.	Technology acceptance model, social comparison theory, social presence theory, flow theory	Perceived ease of use, tendency to social comparison online, social presence, perceived usefulness, perceived enjoyment, behavioural intention	According to the results, consumers' social comparison tendency in online shopping affects their perceived enjoyment of the website and perceived usefulness. In addition, while social presence affects perceived usefulness and perceived ease of use, perceived enjoyment and perceived usefulness also affects purchase intention.
Bock et al. 2012	To understand the impact of different antecedents of online trust for multichannel retailers with taking into account the moderating effects of product types.	Transference-based trust theory, information integration theory (IIT)	Perceived structural assurance on internet, word of mouth, offline trust, perceived efficiency of sanctions, perceived website quality, online trust, product type, online purchasing intention	According to the results, trust is shifted from offline channels to online in multichannel retailers. Besides, perceived sanction of online shopping increases online trust, and perceived website quality positively affects online trust. Also, product type plays a mediating role between the trust antecedents and online trust.
Cheng and Huang, 2013	To determine the antecedents of intention to online group buying participation and to investigate the relationship between these antecedents and intention and behaviour.	Theory of planned behaviour, IS success model	Professional e-WOM, experiential e-WOM, structural embeddedness, relational embeddedness, system quality attitude, information quality attitude, service quality attitude, intention, behaviour	According to the results, experiential e-WOM, service quality attitude, and relational embeddedness positively affect intention to participate in online group buying for potential consumers. Additionally, structural embeddedness, relational embeddedness, and system quality positively influence intention to participate, and also intention positively influence online group buying behaviour.
Floh and Madlberger, 2013	To investigate the effects of virtual atmospheric cues (e-store content, e-store design, e-store navigation) on impulsive buying behaviour in online shopping. Also, they investigate mediating roles of shopping enjoyment, browsing and impulsiveness.	Stimulus organism responses theory (S-O-R)	E-store content, e-store design, e-store navigation, shopping enjoyment, impulsiveness, browsing, impulse buying behaviour, impulse buying expenditures	According to the findings, e-store content has no impact on the shopping enjoyment while, e-store navigation and e-store design positively affect shopping enjoyment. Also, shopping enjoyment positively influence impulsiveness and browsing. In addition, browsing and impulsiveness positively affect impulsive buying behaviour of consumers.
Jiang et al. 2013	To determine the key convenience components of online shopping.	SERVCON (Service convenience)	Access convenience, search convenience, evaluation convenience, transaction convenience, possession convenience, post purchase convenience	According to the results, they determine the five components of convenience which are access, search, evaluation, transaction, possession and post purchase convenience.
Chiu et al. 2014	To investigate the effects of both utilitarian and hedonic values of consumers on repeat purchase intention. Also, they investigate the influence of perceived risk on repeat purchase intention.	Means-end chain theory and prospect theory	Utilitarian benefits (product offering, product information, monetary saving, convenience), hedonic benefits (adventure, gratification, role, best deal, social, idea), perceived risk, repeat purchase intention	According to the results, both utilitarian and hedonic values of consumers positively influence repeat purchase intention in online shopping. Besides, a higher level of perceived risk decreases the impact of utilitarian value and increases the impact of hedonic value on repeat purchase intention.
Rodríguez and Trujillo, 2014	To find out determinants of purchasing behaviour from low cost carrier websites by using the extended unified theory of acceptance and use of technology (UTAUT2).	The extended unified theory of acceptance and use of technology (UTAUT2)	Performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, price-saving orientation, behavioural intention, habit,	According to the results, trust, price saving orientation, habit, ease of use, social factors, hedonic motivation, and performance and expended efforts are determined as key components of purchasing

			trust, information quality, perceived security, perceived privacy use behaviour	behaviour. Among these components habit, ease of use, and online purchase intention are determined the most significant ones.
Fang et al. 2014	To consider the moderating effect of perceived effectiveness of e-commerce institutional mechanism (PEEIM) to the relationships between satisfaction, trust and online repurchase intention.	Prospect theory, theory of trust	Perceived effectiveness of e-commerce institutional mechanisms (PEEIM), satisfaction with vendor, trust in vendor, repurchasing intention, website quality, reputation, familiarity with the vendor, satisfaction (internet), gender, income, education, expertise, product characteristic	According to the results, the perceived effectiveness of e-commerce institutional mechanism (PEEIM) negatively moderates the relationship between trust and online repurchase intention. Besides, the perceived effectiveness of e-commerce institutional mechanism (PEEIM) positively moderates the relationships between trust and satisfaction.
Hsu et al. 2014	To investigate the antecedents of repurchase intention in e-commerce websites for group buying behaviour by using the Delone and Mclean IS success model and literature of trust.	IS success model	Reputation of website, perceived size of website, reputation of seller, perceived size of seller, trust in website, trust in seller, perceived quality of website, perceived quality of seller, satisfaction with website, satisfaction with seller, repurchase intention	According to the results, satisfaction with sellers and websites and perceived quality of websites positively affect the online repurchase intention of consumers. Additionally, perceived website quality and perceived seller quality strongly influence satisfaction from website and seller. Finally, while the perceived size of websites positively affect trust in website, the reputation of the website and seller strongly influence trust in the website and seller.
Clemes et al. 2014	To develop a theoretical research model and investigate the key components which affect shopping adoption on e-commerce of consumers.	Not available	Website factors, perceived risk, service quality, convenience, price, product variety, consumer resources, subjective norms, product guarantee, demographic characteristic, online shopping adoption	Findings show that they identified seven significant components of online shopping adoption. These components are perceived risk, consumer resources, service quality, subjective norms, product variety, convenience, and website factors.
Ponte et al. 2015	To assess the effects of perceived privacy, perceived security, and information quality on trust. Besides, they try to consider the impact of trust and perceived value on online purchase intention. Also, they determine antecedents of perceived privacy and security.	Prospect theory, signalling theory	Perceived privacy (internet privacy concern, familiarity with the website, disposition to third-party certification, understanding of seals), perceived security (security policy, website investment, vendor reputation, assurance seal), information quality, trust, perceived value, purchase intention	Findings show that perceived value and trust significantly affect the online purchase intention of consumers. Perceived information quality and perceived security are the main predictors of perceived trust. Additionally, perceived security depends on website investment, reputation of vendor, assurance seal, familiarity with the website, internet privacy concern, and disposition to third-party certification.
Bilgihan and Bujisic, 2015	To develop and test a theoretical model of utilitarian and hedonic features of website, consumer commitment, consumer trust, and consumer loyalty in e-commerce.	Theory of planned behaviour	Hedonic features, utilitarian features, affective commitment, calculative commitment, trust, loyalty	According to the results, utilitarian and hedonic features of the website significantly impact e-loyalty. Hedonic features influence affective commitment more while utilitarian features influence calculative commitment. Also, affective and calculative commitment affects trust and trust is significant for e-loyalty.
Yoon and Occena, 2015	To develop and test a C2C e-commerce trust model which consists of four components that are natural propensity to trust, perception of website quality, others' trust of buyer/seller, third-party recognition. In addition, they investigate the role of gender and age.	Social network theory	Natural propensity to trust, perception of website quality, others' trust of buyer/seller, third-party recognition, trust in C2C e-commerce, gender, age	According to the results, perception of website quality and third-party recognition significantly influence the trust in e-commerce. Also, age plays a moderating role in trust.
Chen et al. 2015	To consider the moderating effects of perceived effectiveness of e-commerce institutional mechanisms (PEEIM) and perceived website quality of the seller on the relationships between trust-in-platform, trust-in-seller, and purchase intention in C2C e-commerce.	Trust transfer theory, signalling theory	Perceived effectiveness of e-commerce institutional mechanisms (PEEIM), trust in platform, trust in seller, perceived website quality of the seller, purchase intention	According to the findings, trust in platform positively influences trust in sellers and trust in seller positively affects consumer purchase intention in e-commerce. Besides, perceived effectiveness of e-commerce institutional mechanisms negatively moderates the relationship between trust in platform and seller while it positively moderates the relationship between trust in seller and online purchase intention. Also, perceived website quality negatively moderates the relationship between trust in platform and seller, whereas it positively moderates the relationship between trust in seller and online purchase intention.
Agag and El-masry, 2016	To develop and test a comprehensive model and determine the antecedents of intention of consumer to participate in online community.	Innovation diffusion theory, technology acceptance model, social constructivist theory	Relative advantages, compatibility, perceived ease of use, perceived usefulness, intention to participate, attitude, trust, religiosity, intention to purchase, positive WOM	According to the findings, innovation diffusion theory and technology acceptance model with trust ensure the proper model to participate intention of consumers. Participate intention positively affects purchase intention costumers and e-WOM. Also, religiosity is significant for the behavioural intention of consumers.
Wang et al. 2016	To determine which factors influence online consumers' intention to commit to specific group buying website in online group buying. For this reason, they focused on B2C e-commerce by	Commitment-trust theory, IS success model	Information quality, system quality, service quality, perceived value, consumer satisfaction, relationship commitment, trust, stickiness intention	Results indicate that trust, satisfaction, and relationship commitment are the key antecedents of consumers' stickiness intention. Also, perceived value positively influences consumer satisfaction, and perceived value and consumer satisfaction have a significant positive impact on relationship commitment and trust.



	integrating the framework of the e-commerce success model and commitment trust theory.			Besides, system, information and service quality positively influence both perceived value and consumer satisfaction.
Bilgihan, 2016	To develop and test a comprehensive model which clarify how Gen Y is loyal to e-commerce website by using generalisation and flow theory.	Generalisation theory, flow theory	Hedonic features, utilitarian features, flow, brand equity, trust, e-loyalty	According to the results, trust is the most significant determinants of e-loyalty for Gen Y in e-commerce. Additionally, brand equity and flow (positive online experience) are a key antecedent of e-loyalty.
Elbeltagi and Agag, 2016	To develop and test a comprehensive model for consumer perceptions of retailing ethics by using commitment-trust theory in e-commerce.	Commitment-trust theory, consumer behaviour theory	Consumer perceptions of online retailing ethics (CPORE), privacy, security, reliability, non-deception, service recovery, trust, commitment, power distance, satisfaction, repurchase intention, individualism	Findings show that consumer perceptions of retailing ethics strongly affect consumer satisfaction in e-commerce. Also, trust and commitment significantly mediate the relationship between consumer perceptions of retailing ethics and consumer satisfaction.
Jiang et al. 2016	To investigate the effects of e-service quality components (care, reliability, product portfolio, ease of use, security) on consumer perceived value and loyalty in B2C e-commerce.	Equity theory	Care, reliability, product portfolio, ease of use, security, perceived value, consumer loyalty	Results indicate that e-service quality components positively influence consumer perceived value and which increase consumer loyalty in e-commerce. Consumer perceived value partially mediates the relationship between four e-service quality components and consumer loyalty. Consumer perceived value fully mediates the relationship between security and loyalty.
Yan et al. 2016	To consider the effects of e-WOM volume, integrity, rate extremism and source credibility on e-WOM usefulness and credibility for both e-commerce websites (EC- e-WOM adoption) and social media platforms (SM-e-WOM adoption).	Cognitive cost theory, elaboration likelihood model,	E-WOM volume, e-WOM rate extremism, e-WOM integrity, e-WOM source credibility, e-WOM credibility, consumer characteristic (cognitive level, involvement degree), e-WOM usefulness, e-WOM adoption,	According to the results, EC-e-WOM usefulness and credibility positively affect EC-e-WOM adoption, however, negatively affect SM-e-WOM adoption. Also, adoption of EC-e-WOM negatively influences the adoption of SM-e-WOM and plays a mediating role in the relationship between usefulness, credibility, and the adoption of SM-e-WOM.
Fang et al. 2016	To investigate the influence of e-service quality, sacrifice, product type on perceived value and repurchase intention in e-commerce. Also, they try to consider the impact of age and gender in these relationships.	Means-end chain theory	E-service quality, sacrifice, product quality, perceived value, repurchase intention, age, gender	Findings indicate that age and gender play a moderating role in the relationship between product quality, e-service quality, the perceived value of consumers, and online repurchase intention. In addition, perceived value acts a mediating role in the relationship between e-service quality, sacrifice, product quality, and online repurchase intention, but this mediating role of perceived value on the relationship between sacrifice and repurchase intention is not valid for experiential shoppers.
Rezaei et al. 2016	To explain the relationship between website personality (solidity, enthusiasm, genuine, sophisticated, unpleasant), utilitarian value, hedonic value, online impulse buying in e-commerce.	Not available	Website personality (solidity, enthusiasm, genuine, sophisticated, unpleasant), utilitarian value, hedonic value, online impulse buying	Results indicate that website personality positively affects utilitarian value, hedonic value and online impulse buying behaviour of consumers. In addition, utilitarian value and hedonic value positively affect online impulse buying behaviour of consumers.
Nilashi et al. 2016	To propose and examine a new trust model based on Webqual Model. They investigate the effects of website quality, recommendation quality, and transparency on trust and purchase intention.	WebQual Model	Website quality (usability, information quality, service interaction), recommendation quality (recommendation accuracy, recommendation novelty, recommendation diversity), transparency (explanation), trust, purchase intention.	According to the results, website quality, recommendation quality, and transparency are significant for consumer trust in e-commerce. Also, consumer trust strongly influences purchase intention.
Faqih, 2016	To investigate the impact of popular IS/IT adoption theories which consist of perceived ease of use, perceived usefulness, perceived compatibility, social influence, trust, perceived risk privacy, security, internet shopping anxiety, internet self-efficacy, price on behavioural intention. Also, they examine moderating effect of gender on these relationships.	Technology acceptance model, innovation diffusion theory, gender theory, theory of planned behaviour	Perceived ease of use, perceived usefulness, perceived compatibility, social influence, trust, perceived risk, privacy, security, internet shopping anxiety, internet self-efficacy, price, gender, behavioural intention	The results show that perceived ease of use, perceived usefulness, perceived compatibility, social influence, trust, internet shopping anxiety, internet self-efficacy, price significantly influence the behavioural intention of consumers. Gender plays a moderating role in the relationship between five components (perceived ease of use, social influence, trust, perceived risk, privacy) and consumers' behavioural intention.
Mavlanova et al. 2016	To evaluate the effects of internal and external signals of e-commerce websites on consumers' evaluation of product quality, seller quality, deception risk, and purchase intention.	Signalling theory	External signals, internal signals, perceived trust, perceived seller quality, perceived deception, perceived product quality, purchase intention	According to the findings, believable external and internal signals of e-commerce websites significantly influence perceptions of consumers. Consumers find external signals more distinctive than internal signals.
Chen et al. 2016	To examine the effects of e-WOM source, neutral/third-party source, and manufacturer/retailer source on consumers' attitude toward the brand and purchase intention	Not available	E-WOM source, neutral/third party source, manufacturer/retailer source, attitude toward brand, purchase intention	According to the results, information from e-WOM source, neutral/third party source, manufacturer/retailer source positively affect consumer attitudes towards brands and online purchase intention. E-WOM source is found more useful with high

	with susceptibility to information influence in e-commerce.			susceptibility to information influence than other two information source. Besides, all of the tree information source are significant with low susceptibility to information influence.
Huang et al. 2017	To investigate the effect of social capital (cognitive capital, structural capital, and relational capital) on consumer satisfaction (economic satisfaction and social satisfaction) in e-commerce. Also, they examine moderating effects of perceived effectiveness of e-commerce institutional mechanisms (PEEIM) on the relationship between consumer satisfaction and consumer loyalty.	Social capital theory	Social capital (cognitive capital, structural capital, relational capital), satisfaction (economic satisfaction, social satisfaction), perceived effectiveness of e-commerce institutional mechanisms (PEEIM), loyalty, gender, age, shopping frequency, internet experience	According to the findings, social capital increases consumer satisfaction that subsequently influence consumer loyalty in e-commerce. Besides, perceived effectiveness of e-commerce institutional mechanisms negatively moderates the impact of economic satisfaction while positively moderating the impact of social satisfaction on consumers' loyalty in e-commerce.
Hasan, 2016	To evaluate the effects of visual design, navigation design, information design of websites on consumers' perceived irritation in e-commerce.	Not available	Visual design, navigation design, information design, perceived irritation	According to the results, visual design, navigation design, information design of websites negatively affects consumers' perceived irritation in e-commerce.
Oliveira et al. 2017	To develop and test a path model of trust in e-commerce. They investigate the effects of consumer characteristics, firm characteristics, website infrastructure, and interaction on consumer trust and purchase intention.	Not available	Consumer characteristics (Trust stance, attitude toward online shopping), firm characteristics (reputation, brand recognition), interaction (service quality, consumer satisfaction), website infrastructure (lack of integrity, privacy and security, likability), dimension of consumer trust (competence, integrity, benevolence), overall trust, intention to purchase	Results show that three key components of trust which are competence, integrity, benevolence positively affect the overall trust of consumers. Also, consumer characteristics, firm characteristics, likability, interaction and lack of integrity, privacy and security significantly influence the tree main components of trust. Finally, the overall trust of consumers positively affects intention to purchase in e-commerce.
Natarajan et al. 2017	To consider the effects of perceived risk, perceived usefulness, perceived ease of use, perceived enjoyment, and personal innovativeness on consumer satisfaction, intention to use and, price sensitivity by using Technology acceptance model and innovation diffusion theory in e-commerce. They also investigate moderating effects of gender, usage frequency and user experience.	Technology acceptance model, innovation diffusion theory	Perceived risk, perceived usefulness, perceived ease of use, perceived enjoyment, personal innovativeness, satisfaction, intention to use, price sensitivity, gender, experience, frequency of use	Findings show that personal innovativeness and perceived risk are the most significant variables for usage intention. Also, highly innovative people who use e-commerce and m-commerce more, are less sensitive to product and service price.
Yeo et al. 2017	To investigate the relationship between hedonic motivation, prior online purchase experience, time-saving orientation, price-saving orientation, convenience motivation, post-usage usefulness, consumer attitude, behavioural intention in e-commerce.	Theory of planned behaviour, theory of reasoned action, technology acceptance model	Hedonic motivation, prior online purchase experience, time-saving orientation, price-saving orientation, convenience motivation, post-usage usefulness, consumer attitude, behavioural intention	According to the results, hedonic motivation, time-saving orientation, and price-saving orientation positively influence convenience motivation and post usage usefulness. Prior online purchase experience positively affects convenience motivation while it does not significantly affect post usage usefulness. Also, convenience motivation and post usage usefulness positively influence consumer attitude and behavioural intention.
Agag and El-Masry, 2017	To determine and test the relationship between antecedents of trust (Consumer experience and proficiency, propensity to trust, reputation of website, perceived size of website, perceived ease of use, perceived usefulness, website quality) and consequences of trust (perceived website trust, consumer attitude, perceived risk, intention to purchase)	Theory of reasoned action, technology acceptance model	Consumer experience and proficiency, propensity to trust, reputation of website, perceived size of website, perceived ease of use, perceived usefulness, website quality, perceived website trust, attitude, perceived risk, intention to purchase	Results show that propensity to trust, reputation of website, perceived size of website, perceived ease of use, perceived usefulness, website quality influence consumer trust in e-commerce. Additionally, consumer trust influences consumer attitude, perceived risk and, purchase intention.
Chen et al. 2017	To develop a model and investigate how the website quality (information, system, service) influences social capital (cognitive capital, structural capital, relational capital) between sellers and consumers in C2C e-commerce. Also, they investigate the effect of social capital on consumer loyalty.	Signalling theory, social capital theory, IS success model	Web site quality (Information quality, system quality, service quality), social capital (cognitive capital, structural capital, relational capital), loyalty	Results show that information quality and system quality positively influence cognitive capital, while service quality is not related to cognitive capital. Also, service quality positively affects structural capital. There is an insignificant relationship between Information quality, service quality, and structural capital. Furthermore, cognitive capital and relational capital positively influence loyalty, while structural capital does not associate with consumers' loyalty.
Pappas et al. 2017	To develop a conceptual model and examine consumers' purchase behaviour in personalised online shopping by considering complexity theory, based on the online shopping experience and online shopping motivation.	Complexity theory, configuration theory	Quality of personalisation, shopping enjoyment, persuasion, price sensitivity, promotion sensitivity, service quality sensitivity, brand sensitivity, innovativeness, intention to purchase	According to findings, the components of online shopping experiences (quality of personalisation, shopping enjoyment, persuasion), and online shopping motivations (price sensitivity, promotion sensitivity, service quality sensitivity, brand sensitivity, innovativeness) increase consumers' purchase intention in e-commerce.

Sullivan and Kim, 2018	To propose a research model and to investigate the relationship between perceived risk, perceived usefulness, online trust, website reputation, repurchase intention, perceived value, product quality and perceived competitive price.	Equity theory, adaptation level theory, technology acceptance model	Perceived risk, perceived usefulness, online trust, website reputation, repurchase intention, perceived value, product quality, perceived competitive price	According to results, perceived risk, perceived usefulness, online trust, website reputation, perceived value, product quality, and perceived competitive price are critical factors of repurchase intention. Also, perceived competitive price and website reputation influence the perceived quality of the website, which in turn affects perceived value. Besides, perceived value website reputation and perceived risk affect online trust, which in turn affects repurchase intention.
Hallikainen and Laukkanen, 2018	To examine the effects of national cultural dimensions on disposition to trust, and also they examine the effect of disposition to trust on dimensions of trustworthiness in e-commerce. Furthermore, they investigate the mediating role of disposition of trust in the relationship between national culture and trustworthiness.	Hofstede's cultural dimensions theory	National culture (collectivism, uncertainty avoidance, long-term orientation, power distance, masculinity), disposition to trust, trustworthiness (ability, integrity, benevolence)	According to findings, dimensions of national culture explain 23% of the variance in the disposition to trust of consumers, which significantly influences the trustworthiness of consumers in e-commerce. Besides, mediating role of disposition to trust in the relationship between national culture and trustworthiness is based on the individualism components of national culture.
Lu et al. 2018	To figure out the effects of perceived restrictiveness on online communication and purchase intention. Also, they investigate the influence of online communication on uncertainty reduction and the effects of uncertainty reduction on online purchase intention.	Social learning theory	Perceived restrictiveness, online communication, uncertainty reduction, purchase intention	Results shows that perceived restrictiveness significantly influence online communication between consumers to sellers and consumers to costumers. Also, online communication is significant for online purchase intention of consumers. Perceived restrictiveness negatively affects online purchase intention.
Faroni et al. 2019	To investigate the effects of security/privacy, e-relationship investment, and website design on e-trust, e-relationship satisfaction, and e-affective commitment in the context of B2C e-commerce. Also, they examine the relationship between e-trust, e-relationship satisfaction, e-affective commitment, and e-loyalty.	Theory of planned behaviour	Security/privacy, e-perceived relationship investment, website design, e-trust, e-relationship satisfaction, e-affective commitment, e-loyalty	According to the results, e-trust significantly contributes to the development of e-satisfaction. Also, the relationship between e-relationship satisfaction and e-affective commitment is found to be important. E-affective commitment positively influences e-loyalty. Besides, e-perceived relationship investment positively affects e-trust.
Zhou et al. 2019	To develop and test a model which consists of product cognition stage, platform emotion stage, and behaviour intention in cross-border e-commerce. They aim to consider the relationship between these stages of the proposed model.	Hierarchy-of-effects model, commitment-involvement theory	Product description, product awareness, platform involvement (enduring involvement, situational involvement), perceived trust (benevolence, integrity, ability), purchase intention	Results show that product description and product awareness positively influence the perceived trust of consumers. Besides, both enduring and situational involvement of the platform positively affect perceived trust. Purchase intention of consumers occurs with the positive impact of perceived trust, situational and enduring platform involvement. Also, perceived trust mediates the whole relationships in the three-stage model.
Lee et al. 2019	To determine the intention of continuing to use e-commerce (food delivery software) based on Unified theory of acceptance and use of technology 2. They investigate the effects of Information quality, performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, price value, habit on continuance intention.	Unified theory of acceptance and use of technology 2 (UTAUT2)	Information quality, performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, price value, habit, continues intention	According to the results, habit, performance expectancy, and social influence have the strongest influence on continuous intention respectively. Also, information quality indirectly affects continuous intention through performance expectancy.
Sohaib et al. 2019	To investigate the effects of consumer cognitive and innovativeness on new product purchase intention in B2C e-commerce and also, the moderating effect of individual consumer uncertainty avoidance on this relationship.	Stimulus-organism-response (S-O-R) theory	Website accessibility, colour, product images, social networking services, cognitive innovativeness, uncertainty avoidance, new product purchase intention	Findings show that atmosphere of the e-commerce websites affects consumer cognitive innovativeness to buy new products with different levels of uncertainty. Also, cognitive innovativeness which is regarding the e-commerce website accessibility, colour, product images, and social influence strongly affect new product purchase.
Sharma and Klein, 2020	To consider the consumers intention to participate in online group buying (OGB) and therefore they used perceived value, perceived trust, consumer involvement, and susceptibility to interpersonal influence of consumers.	Not available	Consumer perceived value, perceived trust, susceptibility to interpersonal influence, consumer involvement in online group buying, intention to participate in online group buying	Results show that consumer involvement is key antecedents of intention to participate in online group buying. Besides, perceived value, perceived trust, and susceptibility to interpersonal influence of consumers significantly affect consumer involvement. Also, perceived value strongly influences perceived trust, which, in turn, significantly influence intention to participate in OGB.
Kock et al. 2020	To investigate the purchase motivations of Generation Y and Generation Z during the Covid-19 pandemic period in e-commerce. They try to understand the relationship between perceived	Descriptive choice theory	Perceived usefulness, internal subjective norms, external subjective norms, hedonic motivation, behavioural intention	Findings show that external subjective norms positively affect purchase intention, while internal subjective norms don't have a significant effect. Normative motives such as media reports about an economic situation influence to purchase intention of consumers

	usefulness, internal subjective norms, external subjective norms, hedonic motivation and purchase intentions.			in e-commerce. Also, the hedonic motivation of consumers is a better predictor of purchase intentions than utilitarian motivation.
Buhalis et al. 2020	To examine the effects of external variables (site design, e-WOM) and internal variables (trust, satisfaction) on purchase intention and e-loyalty of young consumers in e-commerce.	Theory of planned behaviour, theory of reasoned action	External variables (Site design, e-WOM), internal variables (trust, satisfaction), purchasing intention, site loyalty	According to the findings, internal variables (trust, satisfaction) affect purchase intention and e-loyalty more than external variables (Site design, e-WOM). Also, they confirmed that satisfaction positively affects purchase intention and willingness to recommend on websites. Also, the impact of satisfaction on purchase intention is stronger than on e-loyalty because achieving loyalty is difficult in e-commerce.
Ongsakul et al. 2020	To investigate the relationship between hotel website quality (website usability, website functionality, website security and privacy), hotel website utilitarian and hedonic performance, telepresence and behavioural intention of consumers.	Not available	Hotel website quality (website usability, website functionality, website security and privacy), hotel website utilitarian performance, telepresence, hotel website hedonic performance, behavioural intention	According to the results, hotel website quality positively influences telepresence, utilitarian and hedonic performance. Also, telepresence positively affects utilitarian and hedonic performance. Finally, telepresence, utilitarian and hedonic performance positively influence behavioural intention of consumers.
Lou et al. 2020	To investigate the effects of service quality and virtual community quality on perceived trust, and the effect of perceived trust on purchase intention in e-commerce. Also, they examine the moderating effect of virtual community quality on the relationship between e-commerce service quality and perceived trust.	Social capital theory	System quality, security assurance, product variety, service support, e-commerce service quality, virtual community quality, trust, transaction intention	Results show that service quality (system quality, security assurance, product variety, service support) and virtual community quality directly influence the perceived trust of consumers, which consequently influences purchase intention. Also, virtual community quality moderates the relationship between e-commerce service quality and perceived trust.
Diaz et al. 2020	To consider the effects of cultural dimensions (uncertainty avoidance, collectivism) on online purchasing behaviour (perceived product quality, perceived risk, purchase intention).	Theory of planned behaviour	Cultural dimensions (uncertainty avoidance, collectivism), online purchasing behaviour (perceived product quality, perceived risk, purchase intention)	According to the results, uncertainty avoidance and collectivism significantly influence perceived product quality, perceived risk and purchase intention in e-commerce.

## Flow experience of consumers in global coffee shops: Evidence from an emerging market

### Küresel kahve dükkanlarında tüketicilerin akış deneyimi: Gelişmekte olan bir pazardan bir kanıt

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#### Abstract

This study aimed to examine the effect of the flow experience of global coffee shop consumers on the intention to recommend and revisit and the effect of satisfaction on the intention to recommend and revisit. It also aimed to determine whether satisfaction mediates the relationship between flow experience and intention to recommend and revisit. Data were obtained through an online questionnaire by young consumers in Türkiye, an emerging market. Simple linear regression and mediation analysis were applied to test the hypotheses. The major findings indicated that both flow experience and satisfaction significantly affected these behavioural intentions. Moreover, the findings empirically confirmed and theoretically proved that satisfaction was important due to its direct effect on behavioural intention and its indirect effect on how flow experience affects behavioural intention as a mediator. This study is expected to provide significant evidence that expands the knowledge of consumer behaviour by identifying and explaining the relationship between flow experience and behavioural intention.

**Keywords:** Flow Experience, Satisfaction, Behavioural Intention

**Jel Codes:** M30, M31, M39

#### Öz

Bu çalışmanın amacı, küresel kahve dükkanı tüketicilerinin akış deneyiminin tavsiye etme eğilimi ve tekrar ziyaret etme eğilimi üzerindeki etkisini ve memnuniyetin tavsiye etme eğilimi ve tekrar ziyaret etme eğilimi üzerindeki etkisini incelemektir. Ayrıca çalışma, akış deneyimi ile tavsiye etme ve tekrar ziyaret etme eğilimi arasındaki ilişkiye memnuniyetin aracılık edip etmediğini belirlemeyi de amaçlamıştır. Veriler, gelişmekte olan bir pazar olarak Türkiye'deki genç tüketiciler tarafından doldurulan çevrimiçi bir anket aracılığıyla elde edilmiştir. Hipotezlerin test edilmesinde, doğrudan etki ile ilgili hipotezler için basit doğrusal regresyon analizi, verilen ilişkilerde memnuniyetin aracı değişken olup olmadığını belirlemek için aracılık analizi kullanılmıştır. Başlıca bulgular, hem akış deneyiminin hem de memnuniyetin bu davranışsal eğilimler üzerinde önemli bir etkiye sahip olduğunu göstermiştir. Ayrıca bulgular, davranışsal eğilim üzerindeki doğrudan etkisi ve akış deneyiminin davranışsal eğilimi nasıl etkilediği üzerindeki dolaylı etkisi nedeniyle memnuniyetin önemli olduğunu ampirik olarak doğrulamakta ve teorik olarak kanıtlamaktadır. Bu çalışmanın, akış deneyimi ile davranışsal eğilim arasındaki ilişkinin doğasını belirleyerek ve açıklayarak tüketici davranışındaki mevcut bilgiyi genişleten önemli kanıtlar sağlaması beklenmektedir.

**Anahtar Kelimeler:** Akış Deneyimi, Memnuniyet, Davranışsal Eğilim

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## Introduction

Coffee is among the most traded commercial products in the global business environment (Kim, Kim, and Lee, 2019), while its industry is also one of the most lucrative industries in food/beverage globally (Han, Nguyen, Song, Chua, Lee, and Kim, 2018) that is addressed as “*a high value-added business*” (Jang and Lee, 2019: 1). In the postmodern era, coffee is claimed as a global product that pleasures belonging to the majority through a sense of owning global products, and global coffee shops are important actors in coffee consumption preferences (Değerli and Değerli, 2019). Besides selling speciality coffees and various food/beverage (Han et al., 2018), these shops provide music, cable TV, free internet etc., for consumers, creating a service atmosphere where they feel comfortable (Susanty and Kenny, 2015). Its atmosphere is an important reason to choose these shops (Bayındır and Öncel, 2019). They also enable consumers to socialize in a decent environment while hanging out and having meetings where possible (Dhisasmito and Kumar, 2020). Previous studies demonstrate that spending time with friends in these shops is an important factor in consumers' preference for them (Arslan, 2019; Bayındır and Öncel, 2019). The rapid growth in a number of these shops and the high competition among them lead to sustainability and new marketing strategies to achieve sustainability of business and growth (Jang and Lee, 2019).

Sustainable marketing is defined as “*meeting current needs in a way that preserves the right and options of future generations of consumers and businesses*” by Kotler and Armstrong (2021: 583). This concept covers customer-oriented and customer-value marketing as principles that aim to fulfil targeted customers' needs by creating value for consumers and enhancing customer experience (Kotler and Armstrong, 2021). Moreover, consumer experience and post-purchase comments are suggested as valuable new research frontiers for marketing (Sheth, 2021).

The importance of flow refers to the optimal experience of individuals (Csikszentmihalyi (1975, 2002). It is stressed in marketing because it encourages both cognitive response and attitudinal and behavioural response (Noort, Voorveld, and Van Reijmersdal, 2012). Satisfaction is also vital for businesses because of ensuring customer loyalty, acquiring new customers thanks to satisfied customers, repurchasing, and profitability (Kim, Park, and Jeon, 2021a; Kim, Yoo, and Jeon, 2021b). However, a research gap is pointed out regarding studies examining customer satisfaction in coffee shops (Lee, Moon, and Song, 2018). Behavioural intention is claimed as a critical indicator for understanding business success, as it relates more to actual behaviour (Kang, Lee, and Namkung, 2018). In addition, mediation can explain the causal relationship between variables (MacKinnon, 2001), and mediation analysis can provide an understanding of why and how a relationship exists between two parameters (MacKinnon, 2008), emphasizing the importance of mediation in marketing science. Therefore, examining the mediating role of satisfaction can provide further insights into why and how there exists a relationship between flow experience and behavioural intentions. Satisfaction is addressed as a significant mediator variable (Kang et al., 2018) in marketing; however, there is a gap in the literature interrogating the mediator role of satisfaction in the relationship between flow experience and behavioural intentions in the context of global coffee shops. In addition, during the pandemic period, global coffee shops were temporarily closed and reopened with some restrictions. It has been observed that the demand for coffee shops has revived with the stretching and lifting of the pandemic restrictions. It is stated that consumers tried to make their coffee experiences at home during the pandemic, and the lack of socializing environment provided by these shops was also felt (Danışmaz, 2021).

The purposes of this study were to explore both the effect of the flow experience of global coffee shop consumers on behavioural intentions such as intention to recommend (ITRECO) and intention to revisit (ITREV) and the effect of satisfaction on these behavioural intentions. It also examined whether satisfaction mediates the relationship between the flow experience of global coffee shop consumers and ITRECO and ITREV. Thus, the research questions were: a) does flow experience have a significant effect on behavioural intention (ITRECO and ITREV) b) does satisfaction have a significant effect on behavioural intention (ITRECO and ITREV) c) does satisfaction mediate the relationship between flow experience and ITRECO d) does satisfaction mediate the relationship between flow experience and ITREV. The main findings demonstrated that flow experience significantly affects these behavioural intentions. In contrast, satisfaction has a fundamental role in the given relationships due to its direct and indirect effects as a mediator variable on how to flow experience affects behavioural intentions. The major contribution of the current research is to present clear and fresh insight into (1) the outcome of the flow experience about behavioural intention and (2) the role of satisfaction as a mediator in the given relationships. Moreover, it is also expected to be useful to researchers and practitioners in service marketing by explaining the causal relationship between flow experience and behavioural intention, providing clear evidence for innovative marketing offerings. In addition, marketing authority draws

attention to emerging markets, which are claimed to be markets where many multinational companies fail even if they succeed in developed countries for the same product (Sheth, 2021). Thus, this study also presents some beneficial insight into consumers in emerging markets because the study was conducted in Türkiye, one of the emerging markets.

## Theoretical background and hypotheses

Csikszentmihalyi (1975: 36) has defined the concept of flow as *“the holistic experience that people feel when they act with total involvement”*. The author proposed the theory of optimal experience through the flow concept, which refers to a situation where people are completely focused on an activity, and other activities are perceived as unimportant. The flow experience is so enjoyable for individuals that even high costs can't stop them from doing it. (Csikszentmihalyi, 2002). Because of this enjoyment, individuals want to relive the experience (Aykol, Aksatan, and İpek, 2017) and/or continue the activity that gives a flow experience (Gao and Bai, 2014). It is also claimed that the flow experience contributes positively to personal development and can lead to happiness by increasing the life experiences of individuals (Kaya, Metin, and Kozak, 2015). It is noteworthy that studies examining the consequences of flow experience in the literature dominantly focus on the effects of flow on emotional (such as satisfaction) and behavioural variables (such as behavioural intention). The detected effects are predominantly positive (Aykol et al., 2017). The research on flow experience in Türkiye has focused on conceptual studies (Turan, 2019; Ozkara and Ozmen, 2016; Akyol and Aksatan, 2013), theatrical consumption (Aykol et al., 2017), consumers' flow experience in online purchases (Ozkara, Ozmen, and Kim, 2017), the behaviour of online search (Ozkara, Ozmen, and Kim, 2016), indoor recreation facilities (Kaya et al., 2015).

Coffee shops can appeal to consumers' five senses, and these senses encourage consumers' behavioural intentions and favourable emotions (Jang and Lee, 2019). Global coffee shops offer marketing offers stimulating the emotions, experiences, novelty, enjoyment, and desires of their customers, which call for a flow experience. Allegra Strategies has proposed a five-wave group of coffees for its evolution in coffee consumption, and the common point of these five waves is coffee enjoyment. The first wave, which focused on the quality of coffee in the 20th century, was followed by the second wave, which focused on the concept of global coffee chains and enjoyment, with the effect of globalization. In the middle of 2000, the third wave of coffee began, in which the customer's feeling was defined by "love". The 4th wave was described as the “science of coffee”, and customers' emotions were defined as “research”. The last wave, the 5th wave, which started in mid-2010, is a customer-focused, aspirational, and consumer-experience-driven wave. In Wave 5, the next big step in the global coffee shop evolution, these shops offer targeted customers enjoyable and inspiring experiences (Alegra, 2019). Additionally, the global coffee shop market is projected to capture \$201.4 Billion by 2027 (ReportLinker, 2022). The growing market and intensifying competition make it important for these shops to understand consumer behaviour, specifically satisfaction and behavioural intentions (Kim et al., 2021a; Song, Wang, and Han, 2019; Jang and Lee, 2019; Susanty and Kenny, 2015).

The concept of satisfaction is determined by Oliver (1999) as *“pleasurable fulfilment”* and also proposed as *“a function of expectation and expectancy disconfirmation”* (Oliver, 1980: 460). Satisfaction refers to consumers' sense which fulfils some of their needs and wants and achieves goals via consumption that provides contentment (Oliver, 1999). In a service context, customer satisfaction means the overall level of pleasure or gratification customers feel about a service based on its capacity to meet their expectations, needs, and desires (Hellier, Geursen, Carr, and Rickard, 2003). Satisfaction occurs in the case of positive perception when a consumer's expectation about the relevant product is met with the actual performance of the product and/or it performs above their expectation (Kotler and Armstrong, 2021).

The behavioural intention in the consumer behaviour can be considered an important indicator of whether the customers will remain with or leave the company. These intentions consist of not only positive behaviours of consumers in favour of the firm, like a recommendation, word of mouth, spending and paying more, but also negative behaviours against the given firm, such as unfavourable word of mouth, switching, and spending less (Zeithaml, Berry, and Parasuraman, 1996).

Flow experience that is an optimal experience can encourage favourable perception and drive satisfaction of individuals (Gao and Bai, 2014). Csikszentmihalyi and LeFevre (1989) state that the satisfaction levels of individuals in flow are higher than in the absence of flow. In a study examining individuals' happiness according to their activities, socializing and eating were found to provide instant emotional and physiological satisfaction (Csikszentmihalyi and Wong, 2014). Therefore, it seems possible to experience these results in global coffee shops where socializing and eating/drinking occur

in decent conditions. Also, many previous findings have provided empirical evidence about the effect of flow experience on satisfaction (Lu, Wang, and Lu, 2019; Kang et al., 2018; Ali, 2016; Gao and Bai, 2014). Additionally, flow experience is associated with satisfaction (Lu et al., 2019), and favourable experience is more likely to improve satisfaction (Kim et al., 2021a). It can be inferred that the optimal psychological state makes individuals more prone to pleasure or gratification, which means satisfaction. It was expected that the consumer flow experience would affect satisfaction in the context of global coffee shops. Therefore;

*H<sub>1</sub>: Flow experience will have a positive effect on satisfaction.*

Flow experience is an important antecedent of many positive outcomes like satisfaction and behavioural tendency (Kang et al., 2018). The empirical evidence in many previous studies indicates that flow experience significantly impacts behavioural intention (Kim, 2022; Min, 2022; Ryu, Kim, and Kim, 2022; Jang and Lee, 2019; Kang et al., 2018; Ali, 2016; Gao and Bai, 2014). Individuals with flow experience, meaning optimal experience, can feel pleasure and hope to relive that experience, which encourages them to continue acting (Gao and Bai, 2014). In research related to coffee shops, flow experience is determined to significantly affect ITRECO and ITREV (Jang and Lee, 2019). It was expected that consumers' flow experience in global coffee shops could increase their propensity to revisit (due to repeat positive experiences) and recommend. Thus;

*H<sub>2</sub>: Flow experience will have a positive effect on ITRECO.*

*H<sub>3</sub>: Flow experience will have a positive effect on ITREV.*

Customer satisfaction leads to many positive results for service businesses to have competitive advantages. Satisfaction is argued to significantly affect attitude and purchase intention (Oliver, 1980) and be critical in consumer decision-making and behaviour (Han et al., 2018). Many previous findings have claimed that customer satisfaction affects brand loyalty (Dhisasmito and Kumar, 2020; Song et al., 2019; Han et al., 2018), trust (Song et al., 2019), and relationship commitment (Han et al., 2018). They have also addressed the positive effect of satisfaction on (positive) behavioural intentions (Lu et al., 2019; Kang et al., 2018), more specifically in the context of coffee shops (Kim et al., 2021a; Kim et al., 2021b). It has been found that consumers' satisfaction with coffee shops is positively associated with revisiting (Cha and Seo, 2018; Son, 2010) and a tendency of positive word of mouth (Son, 2010). In a study conducted on 3rd wave coffee shops in Ankara, customer satisfaction was found to affect behavioural intention (Kement, 2019) positively. Depending on previous findings, the next hypotheses were as follows:

*H<sub>4</sub>: Satisfaction will have a positive effect on ITRECO.*

*H<sub>5</sub>: Satisfaction will have a positive effect on ITREV.*

It is claimed that mediation occurs if an independent variable creates a mediator which generates a dependent variable (MacKinnon, Warsi, and Dwyer, 1995). According to the common findings (mentioned above) in the literature, flow experience is an antecedent of satisfaction, while ITREV and recommend are determined by satisfaction. Therefore, it can be expected in the context of global coffee shops that satisfaction has a mediator role when flow experience produces satisfaction that generates ITREV and recommendations. Thus, the questions of how and why a relationship is observed between flow experience and behavioural tendencies can be clarified through satisfaction as a mediator. Based on these, the next hypotheses were as follows:

*H<sub>6</sub>: Satisfaction will mediate the relationship between flow experience and ITRECO.*

*H<sub>7</sub>: Satisfaction will mediate the relationship between flow experience and ITREV.*

## Methods

This study examined the effect of flow experience and satisfaction in global coffee shops on ITRECO and ITREV. Additionally, it aimed to determine whether the mediator role of satisfaction existed in relationships between flow experience, ITRECO and flow experience and ITREV. Data were collected from consumers who were born between 1980-2003 in Türkiye through an online survey. The surveys were conducted between April and June 2022 using convenience and snowball sampling techniques to participate safely and comfortably and obtain data from various cities of Türkiye. Participants were also asked to invite friends born between 1980 and 2003 to fill out the questionnaire form. The determined age range of participants was preferred because these shops mostly have customers in this age range. By using the sample size formula for infinite populations and all elements cannot be determined, the sample size was found to be 381(n) with a 95% confidence interval (Z),  $\pm 5\%$  margin of error (e), and 0.50



population ratio (p) (Nakiboğlu, 2007). A total of 381 questionnaire forms were obtained without missing values.

The first part of the questionnaire form asked whether their participation was voluntary, answering yes/no to confirm the participants' voluntary participation. The form also included statements about flow experience, satisfaction, ITRECO and ITREV, which were used to measure research variables, and questions about determining the demographic characteristics of the participants. In the literature review, in addition to the use of a multidimensional scale for flow experience, it was seen that a one-dimensional scale was used for flow experience, especially in studies examining the effect of flow experience on satisfaction/continuance (Gao and Bai, 2014) and behavioural intention (Jang and Lee, 2019; Lu et al., 2019). Similarly, this study used one-dimensional scales to measure flow experience and other research variables. The scales with proven validity and reliability in previous studies were used to assess the research variables. Flow experience was measured using scales from Gao and Bai (2014), Ali (2016) and Kang et al. (2018); satisfaction was adapted from Dhisasmito and Kumar (2020) and Lee et al. (2018), while ITRECO was taken from Lu et al. (2019) and Aykol et al. (2017). ITREV was adapted from Lu et al. (2019) and Jang and Lee (2019). The study used a 7-point Likert scale to determine whether the respondents agreed with the statements in the form with "7, I strongly agree... 1, I strongly disagree". In order to avoid missing values, the form was designed, so the participants had to fill in all statements and questions. Evaluations were obtained from three academicians to support the content validity of the scales. A pre-test was carried out to understand the statements better and prevent meaning and measurement problems. As a pre-test, the first version of the form was conducted with the participation of 50 consumers. The final version of the questionnaire was applied after the necessary corrections were made.

Participants' demographic features were as follows: 60% of total participants were women, half of them were in the 21-30 age group, 35% of them had a personal income higher than 7500TL, and 60% of them were in graduate level. As to the characteristics of the participants based on research variables, they had flow experience (mean was 5.194), satisfaction (mean was 5.166), ITRECO (mean was 4.950), and revisit (mean was 5.413).

The normality was assumed to be satisfied based on the Central Limit Theorem (CTL), which indicates that the means of the samples demonstrate normal distribution as the sample size gets larger (Nakip, 2003). Additionally, to use CTL, the required sample size should be larger than 30 to 50. (Kurtulus, 2004). Simple linear regression analysis was used for the hypotheses about the direct effect. Baron and Kenny's (1986) mediation analysis was also utilized to determine if satisfaction is a mediator in the given relationships. The authors claim the following requirements for mediation: a) the mediating variable should be significantly affected by the independent variable; b) the dependent variable should be significantly affected by mediating variable; c) the independent variable should have a decreased effect (partial mediation) or no effect (full mediation) on a dependent variable if the mediating variable is included in the analysis as an independent variable. The Sobel Test (Sobel, 1982) was also applied to determine whether the mediation effect is significant (Preache and Leonardelli, 2012).

## Results

According to the factor analysis for determining the validity, KMO and Bartlett's sphericity test results indicated that KMO: 0.968, Approx. Chi-square: 8593.245, df: 153,  $p < 0.01$  and % Variance: 84.215. Also, each item was significantly loaded under the relevant factor, and the factor loads were determined between 0.810 and 0.511. Thus, all the factor loading values fulfilled the criterion of 0.5 (Hair, Babin, Anderson, and Black, 2019). Furthermore, the calculated Cronbach's alpha value was as follows: for flow experience: 0.911, for satisfaction: 0.941, for ITRECO: 0.962, and for ITREV: 0.957. Thus, each Cronbach's alpha value calculated to examine the reliability satisfied the criterion of 0.70 (Hair, Celsi, Money, Samouel and Page, 2011).

Table 1 presents the results of the regression analyses for analysing the effects. It was found that flow experience had a significant effect on satisfaction ( $\beta = 0.924$ ,  $p < 0.01$  as in Model 1) and intention to both recommend ( $\beta = 1.023$ ,  $p < 0.01$  as in Model 2) and revisit ( $\beta = 0.960$ ,  $p < 0.01$  as in Model 3), which supported  $H_1$ ,  $H_2$ , and  $H_3$ . The results also showed the significant effect of satisfaction on both ITRECO ( $\beta = 0.976$ ,  $p < 0.01$  as in Model 4) and revisit ( $\beta = 0.859$ ,  $p < 0.01$  as in Model 5). Thus,  $H_4$  and  $H_5$  were also supported.

**Table 1:** The Linear Regression Analysis Results

		<b>B</b>	<b>SE</b>	<b>p</b>
Model 1 R <sup>2</sup> = 0.717				
	constant	0.366	0.160	0.023
	flow experience	0.924	0.030	0.000
Dependent v: satisfaction				
Model 2 R <sup>2</sup> = 0.665				
	constant	-0.366	0.200	0.069
	flow experience	1.023	0.037	0.000
Dependent v: intention to recommend				
Model 3 R <sup>2</sup> = 0.720				
	constant	0.428	0.165	0.010
	flow experience	0.960	0.031	0.000
Dependent v: intention to revisit				
Model 4 R <sup>2</sup> = 0.719				
	constant	-0.090	0.168	0.593
	satisfaction	0.976	0.031	0.000
Dependent v: intention to recommend				
Model 5 R <sup>2</sup> = 0.686				
	constant	0.975	0.165	0.013
	satisfaction	0.859	0.030	0.000
Dependent v: intention to revisit				

Flow experience: FlowE; Satisfaction: SAT; Intention to recommend: ITRECO; Intention to revisit: ITREV

The results of the mediation analysis performed to examine whether satisfaction had a mediator role in the relationship between flow experience and the ITRECO and the relationship between flow experience and ITREV were summarized in Table 2. The results of the first step pointed out that flow experience (independent variable) significantly affected satisfaction (mediating variable). In contrast, the second step indicated a significant effect of satisfaction (mediating variable) on both ITRECO (dependent variable) and ITREV (dependent variable). These results met the conditions mentioned earlier (a) and (b). As seen in each fourth step (satisfaction as the mediating variable was included in the analysis as an independent variable), both flow experience and satisfaction affected ITRECO [VIF: 3.538 (VIF value < 10 (Sipahi, Yurtkoru, and Cinko, 2010), which satisfied multicollinearity condition and D.W. test: 1.925 (range from 1.5 to 2.5 Kucuksille, 2014), which met autocorrelation condition] and ITREV [VIF: 3.538; D.W. test: 2.109], separately. When the third and fourth steps were compared, the results indicated that flow experience affected the ITRECO ( $\beta$ : 1.023;  $p < 0.01$ ), while the effect of the flow experience on ITRECO ( $\beta$ : 0.431;  $p < 0.01$ ) declined (partial mediation) when satisfaction was included as an independent variable in the analysis. Similarly, the effect of flow experience on ITREV ( $\beta$ : 0.960;  $p < 0.01$ ) was observed, while this effect ( $\beta$ : 0.587;  $p < 0.01$ ) reduced (partial mediation) when satisfaction was included in the analysis. Satisfaction partly mediated not only the relationship between flow experience and ITRECO but also the relationship between flow experience and ITREV. The mediating variable can demonstrate only a part of the observed relationship between the dependent and independent variables, defined as partial mediation (Yilmaz and Dalbudak, 2018). Therefore, H<sub>6</sub> and H<sub>7</sub> were supported.

**Table 2:** The Mediation Analysis Results

Satisfaction will mediate the relationship between	step1	step2	step3	step4	result
H <sub>6</sub> : flow experience and intention to recommend	FlowE-SAT β: 0.924 p:0.000 R <sup>2</sup> :0.717	SAT-ITRECO β: 0.976 p:0.000 R <sup>2</sup> :0.719	FlowE-ITRECO β: 1.023 p:0.000 R <sup>2</sup> :0.665	FlowE,SAT-ITRECO <u>FlowE</u> : β: 0.431 SE:0.060 p:0.000 <u>Sat</u> : β: 0.641 SE:0.055 p:0.000 R <sup>2</sup> :0.752	partially mediated
H <sub>7</sub> : flow experience and intention to revisit		SAT-ITREV β: 0.859 p:0.000 R <sup>2</sup> :0.686	FlowE-ITREV β: 0.960 p:0.000 R <sup>2</sup> :0.720	FlowE, SAT-ITREV <u>FlowE</u> : β: 0.587 SE:0.053 p:0.000 <u>Sat</u> : β: 0.403 SE:0.049 p:0.000 R <sup>2</sup> :0.762	partially mediated

Flow experience: FlowE; Satisfaction: SAT; Intention to recommend: ITRECO; Intention to revisit: ITREV

**Table 3:** The Sobel Test Results

Mediator role of satisfaction in the relationship between:	z	SE	p
flow experience and the ITRECO	22.016	0.040	<0.01
flow experience and the ITREV	20.970	0.037	<0.01

Table 3 shows the results of the Sobel Test. The test results verified the mediator role of satisfaction in the relationship between flow experience and the ITRECO, as well as in the relationship between flow experience and the ITREV.

### Discussion and recommendations

While many studies have examined the effects of flow experience, particularly in the consumer behaviour literature, research gaps appear to exist in examining the effect of flow experience for global coffee shops. Therefore, this study attempted to examine the effect of flow experience on satisfaction and behavioural intentions and the mediation role of satisfaction in relationships between flow experience and behavioural intentions by performing empirical research in Türkiye.

The findings of the study are consistent with previous studies (Kim, 2022; Min, 2022; Ryu et al., 2022; Jang and Lee, 2019; Lu et al., 2019; Kang et al., 2018; Ali, 2016; Gao and Bai, 2014), demonstrated that flow experience has a significant positive effect on satisfaction, ITRECO, and revisit. Thus, as the flow experience gets stronger, the ITRECO, ITREV, and satisfaction will also increase. This finding can present empirical evidence that satisfaction and these intentions can be predicted by flow experience. In the context of global coffee shops, flow experience was a significant driver of satisfaction and behavioural intentions, which supported previous findings about restaurant customers (Kang et al., 2018). Flow experience is more likely to contribute positively to individuals' level of satisfaction, as the optimal psychological state makes consumers more prone to pleasure or gratification. The findings also showed that flow experience could lead to consumers' tendency to revisit (repeat positive experiences), share positive experiences with partners, and give them advice.

The major findings in this study confirmed and explained the importance of satisfaction. The findings provided evidence that satisfaction had a significant direct effect on both intentions to recommend and revisit, which is in line with previous research. These findings confirmed that satisfaction is essential to retain and attracting customers (Lee et al., 2018). Furthermore, the findings indicated that the

relationship between flow experience and ITREV and the relationship between flow experience and ITRECO were partially mediated by satisfaction. These findings highlight the causal relationship between the given variables: consumers who experience flow are more likely to feel satisfaction and, in turn, more likely to have ITREV and recommend. Thus, it can be claimed that satisfaction has a fundamental role due to its direct impact on the given behavioural intentions and indirect impact as a mediator on how each intention is affected by flow experience.

The findings of this study present significant suggestions for both researchers and practitioners. First, considering that the competition will become fiercer as the number of coffee shops increases, the importance of providing a competitive advantage will increase gradually. Based on the finding that customer satisfaction, which is one of the important ways of providing a competitive advantage (Dhisasmito and Kumar, 2020), is positively affected by the flow experience, the first recommendation is that companies present a service encounter and service space providing a flow experience. Secondly, innovative marketers, who are engaged in new and better practices that create superior value for targeted customers, should take their experience of them into account to gain satisfaction from a wide range of new product development to the design of the service space. Practitioners wishing to enhance the favourable experience during service encounters must consider flow experience. Thirdly, the findings suggest marketing offerings that create a flow experience in consumers are more likely to be successful in maintaining and promoting customer satisfaction and in positive behavioural intention in favour of firms. For this reason, the fourth recommendation is that the products offered in these stores provide a flow experience, the service delivery atmosphere should be designed in a way that allows socializing and having a good time, and the processes that support the flow experience in the distribution and delivery of services are designed and implemented effectively. Finally, creating message content with flow experience in marketing communication efforts is suggested.

This study can contribute to the marketing literature by confirming the important role of flow experience and satisfaction in consumer behaviour and service marketing. Consistent with previous research (Lu et al., 2019), the flow experience of the consumer was addressed as a key antecedent of satisfaction in this study. The findings imply that customers with experienced flow through the coffee shops are more likely to have higher satisfaction and positive behavioural intentions. It is confirmed that consumers' flow experience can positively affect emotional and behavioural tendencies. Furthermore, it provided empirical evidence that flow experience in global coffee shops could also confirm these results. This study also clarifies the causal relationship between flow experience and behavioural intentions with empirical evidence.

Although the study has some limitations, it sheds light on many critical subjects. Firstly, the sample size and the sampling method used in the study limit the generalizability of the study results. In future studies, it can be possible to generalize using random sampling methods and larger sample sizes. Secondly, this study examined only satisfaction as a mediator. The major findings indicated the partial mediator role of satisfaction which can mean the existence of other variables that can be mediators. Future studies can examine other possible variables (attitude, experimental value, etc.) as mediators. Finally, it would be valuable to examine whether flow experience has a direct effect/dual effect on other behavioural intentions (relationship commitment, continuance, loyalty etc.).

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## How does the construal level affect consumers' intention to adopt product ratings and individual reviews?

### Zihinsel yorumlama düzeyi tüketicilerin ürün puanı ve bireysel yorumları benimseme niyetini nasıl etkiler?

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#### Abstract

The study aims to examine how and why consumers' intention to adopt aggregate review metrics (ARM) (e.g., product ratings) versus individual reviews (IR) (e.g., specific review texts) in an online shopping setting is differentially affected when both types of cues are salient. First, we provide a novel conceptualization of ARM as a "base rate cue" consisting of abstract, aggregated, category-level, and pallid elements; likewise, IR as a "case information cue" consisting of concrete, characteristic, and vivid elements. Construal level theory constitutes the theoretical foundation of this study. The research includes two major studies. First, a list of elements that influence the relative importance of the cue types (i.e., ARM vs IR) on consumer decision-making is compiled using in-depth interviews. Then, a pilot and an experimental study are designed to test our hypothesis. Findings prove that consumers' intention to adopt IR (ARM) is increased (decreased) when they are in a concrete mind-set. Likewise, consumers' intention to adopt the ARM (IR) is increased (decreased) when they are in the abstract mind-set. The results contribute to the existing literature on electronic word of mouth (eWOM) and construal level theory, as well as provide novel insights for managers as to the prioritization of cue types in line with the mental construal of consumers.

**Keywords:** Ewom, Online Consumer Reviews, Mental Construal

**Jel Codes:** M31, D91, L80

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#### Öz

Bu çalışmanın amacı; tüketiciler açısından, çevrim içi ortamda yığın metrikler (örn., ürün puanları) ya da bireysel yorumların (örn., belirli kullanıcı yorumları) önem düzeylerinin neden ve nasıl farklılaştığını incelemektir. Bu çalışmada yığın metrikler; soyut, yığın ve kategori düzeyinde öğelerden oluşan temel oran; bireysel yorumlar ise, somut, kendine özgü ve görselleştirilebilir unsurlardan oluşan tekil vaka enformasyonu olarak yeni bir düzeyde kavramsallaştırılmıştır. Zihinsel yorumlama düzeyi, çalışmanın kuramsal altyapısını oluşturmuştur. Araştırma kapsamında, tüketicilerin yığın metrik ve bireysel yorumlara verdikleri önemi etkileyen unsurlar derinlemesine görüşmelerle tespit edilmiştir. Araştırma hipotezlerini test etmek için, bir pilot test ve deneysel çalışma tasarlanmıştır. Araştırma sonucunda; soyut zihinsel durum tetiklenen tüketicilerin yığın metrikleri; somut zihinsel durum tetiklenenlerin ise bireysel yorum ipuçlarını daha fazla benimseme niyetinde oldukları gözlemlenmiştir. Bu çalışma, elektronik ağızdan ağıza pazarlama ve zihinsel yorumlama düzeyi kuramına katkıda bulunurken, pazarlama yöneticilerine de tüketicilerin zihin durumlarına göre hangi tip ipuçlarının öne çıkarılması gerektiği konusunda içgörü sağlamaktadır.

**Anahtar Kelimeler:** Elektronik Ağızdan Ağıza Pazarlama, Tüketici Yorum ve Değerlendirmeleri, Zihinsel Yorumlama Düzeyi

**JEL Kodları:** M31, D91, L80

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## Introduction

With the increasing popularity of online consumer review platforms, consumers have long begun to rely on cues from other consumers rather than information provided by firms. (Bernick, 2015; Fedewa, Holder, Teichner, and Wiseman, 2021; The Nielsen Company, 2015) Furthermore, with a recent dramatic increase in e-commerce transactions due to the COVID-19 pandemic, the importance of consumer reviews and ratings has become even more prominent for firms and consumers (Power Reviews, 2020). Insights from the industry show that the COVID-19 pandemic has raised the volume and significance of consumer reviews. (Fedewa et al., 2021; Kaemingk, 2020).

Many e-commerce retailers such as Amazon and independent platforms such as Yelp and Tripadvisor.com provide an opportunity for consumers to review, rate and discuss goods and services. Additionally, these firms allow consumers to retrieve valuable information about these goods and services before making a purchase decision. A bidirectional relationship between consumers and these platforms provides a fruitful research avenue for marketing scholars.

In these platforms, several conceptually and practically distinct elements have the potential to be further investigated in the domain. For example, consumers can learn and judge products by reading individual reviews (hereafter IR). In addition, product ratings (i.e., aggregate review metrics, hereafter ARM) can also be used as a means of evaluating products. In this context, IR mainly refers to specific reviews consumers typically post in a textual format. Meanwhile, ARM refers to aggregated evaluations of consumers, which are typically summarized and presented in a format of star ratings or numeric cues.

Consumers may use an ARM to get an overall gist of a product's performance (Park, Lee, and Han, 2007) and read single reviews to reduce uncertainty and form a more comprehensive opinion toward the product (Park and Lee, 2008). ARM and IR jointly play an important role in consumers' evaluative judgments. Nonetheless, the majority of research focuses on these eWOM cues in isolation (Of note, the term "cue types" is used interchangeably with "review types" throughout this article). However, in a field setting, both types of cues are salient to consumers (Chatterjee, 2001). Additionally, the conflict between IR and ARM in valence is not unusual (Qiu, Pang, and Lim, 2012). In this respect, several questions are noteworthy. First, do conflicting ARM and IR affect the intention to adopt review types? Second, which cue types are more diagnostic for consumers? Third, what are the underlying psychological mechanisms through which ARM and IR exert their respective influences? Researchers have failed to provide consistent answers to these questions, and the findings are mixed.

Online consumer review literature is abundant (e.g., De Langhe, Fernbach, and Lichtenstein, 2016; Ho-Dac, Carson, and Moore, 2013; Hoffart, Olschewski, and Rieskamp, 2019; Klaus, 2013; Kozinets, 2016; Naylor, Lamberton, and Norton, 2011; Powell, Yu, DeWolf, and Holyoak, 2017; Ordabayeva, Cavanaugh, and Dahl, 2022; Van Laer, Edson, Ludwig, and van den Hende, 2019; Zheng, 2021). Despite the magnitude of the research outputs in the domain, few studies compare and contrast the ARM and IR (Qiu et al., 2012), two of the most salient cues in the online review environment. Besides, they lack a theoretical unity (i.e., consilience).

The study's major aim is to examine how and why consumers' intention to adopt ARM versus IR in an online shopping setting differs when both cues are salient. In order to develop the hypotheses, we adopted construal level theory (CLT), which has a rich and potential epistemological basis for explaining the differential influence of ARM and IR on consumer decision-making and judgment.

As an explanatory and predictive basis for the present study, CLT suggests that objects, events, and individuals can be perceived along a continuum of psychological closeness or distance (Trope and Liberman, 2010). A large number of studies have indicated that objects, people, or events that are temporally (Liberman, Sagristano, and Trope, 2002; Trope and Liberman, 2003), spatially (Fujita, Trope, Liberman, and Levin-Sagi, 2006), socially or hypothetically (Trope, Liberman, and Wakslak, 2007) distant are construed at a higher, more abstract level than are proximal ones. People rely more on generalized category-level information than specific details in an abstract mind-set. In contrast, psychologically close objects are represented as concrete and contextual rather than generalized abstract categories (Yan and Sengupta, 2013). Specifically, we develop a novel conceptualization of ARM as a "base rate cue" consisting of abstract, aggregated, category-level, and pallid elements; likewise, IR is a "case information cue" consisting of concrete, characteristic and vivid elements.

The present study was designed three-fold agenda. First, we conceptualized two distinct types of review cues (i.e., ARM and IR) based on the base rate and case information concepts, which would be a good conceptual base to generate novel hypotheses in the OCR domain. Second, based on this conceptualization, a qualitative study is conducted using in-depth interviews. Third, a two-group

experimental study was conducted to test our main hypothesis. After presenting the results of the studies, the rest of this paper focuses on the contributions and practical implications.

## Literature review

While buying a product or service, consumers typically obtain information from three sources: professional paid agents, nonpaid experts, friends, and family members using oral communication (i.e., word-of-mouth, WOM) (Naylor et al., 2011; Solomon, 1986). It has been well-documented that traditional (offline) word-of-mouth plays a critical role in consumers' purchase decisions (Richins and Root-Shaffer, 1988). However, with an increase in consumers' online shopping frequency and the popularity of online social media platforms (e.g., Facebook, Twitter, Instagram), e-commerce websites (e.g., Amazon, eBay, Trendyol), and consumer review sites (e.g., Yelp, Tripadvisor.com, Zomato) electronic word-of-mouth (eWOM) have become a vital source of information for consumers.

EWOM is "any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet" (Hennig-Thurau, Gwinner, Walsh, and Gremler, 2004, p. 39). Online consumer reviews (OCR) are a type of eWOM communication that can be addressed as "peer-generated product evaluations posted on the company's or a third party's websites" (Mudambi and Schuff, 2010).

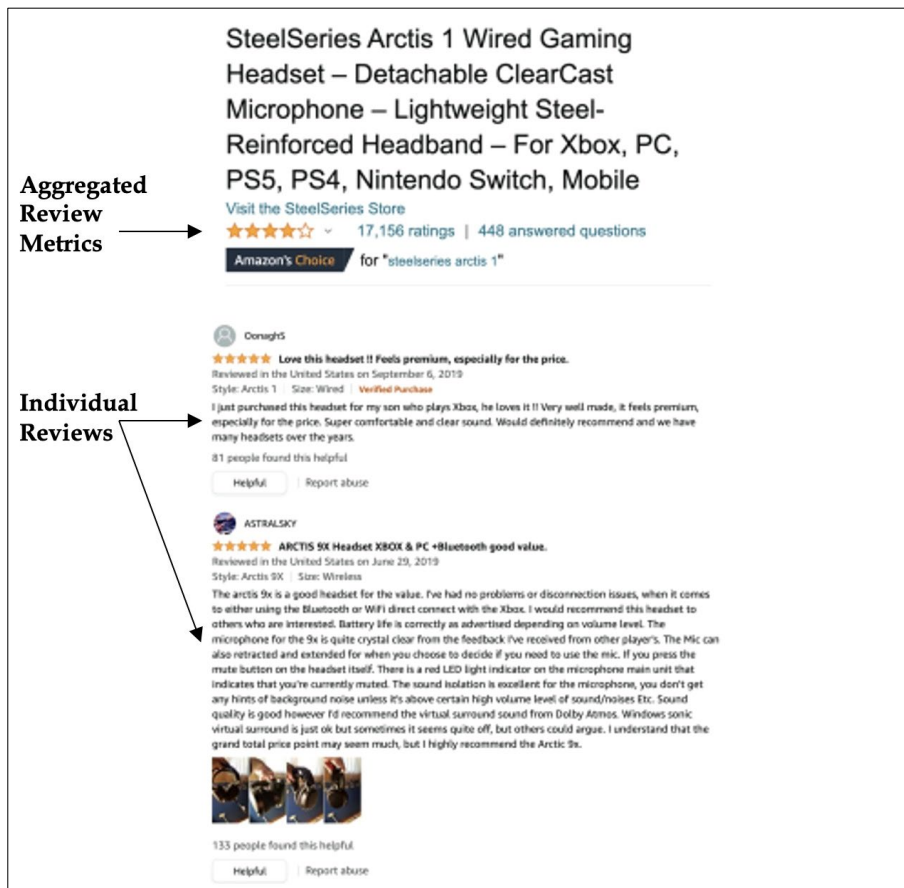
Recently, with a dramatic increase in e-commerce transactions due to the COVID-19 pandemic, the importance of OCR has become even more prominent for firms and consumers (Fedewa et al., 2021). Supportively, a recent survey found that 99.9% of shoppers consult reviews when shopping online, while 98% consider reviews to be crucial when making purchase decisions (Power Review, 2021).

OCR is addressed in the literature based on various classification schemes, such as a five-factor communication process framework or based on valence, rating scores, and volume (Zheng, 2021). In parallel, numerous studies have examined how OCR-related factors such as volume and product rating scores (i.e., an average rating given to a product; Hoffart et al., 2019) affect the utilization of OCR. The literature also highlights OCR as an important predictor of consumer behaviour, including information adoption decisions, purchase intentions, and sales (e.g., Chevalier and Mayzlin, 2006; Chintagunta, Gopinath, and Venkataraman, 2010; Hofmann, Clement, Völckner, and Hennig-Thurau, 2017; Kaleta and Aasheim, 2022; Lee and Choeh, 2020; Li, Wu, and Mai, 2019).

### Aggregate review metrics versus individual reviews

Consumers can learn about and form an attitude toward products by reading IR, which are specific reviews that consumers post, and by focusing on ARM, which is an aggregation of customer assessments typically presented in the form of star ratings or numeric cues in various formats. These two typologies regarding eWOM are frequently available in online settings. For example, in addition to IR, various online retail platforms provide the ARM that summarizes all consumer evaluations of a product, usually by providing the product's mean rating and a total number of ratings.

The ARM may be presented in different forms, including but not limited to the total number of reviews, answered questions, and followers. ARM, by definition, includes all types of cues signalling aggregated, decontextualized, base-rate and central information about a target (Yan and Sengupta, 2013; Ziegele and Weber, 2015). In contrast, IR is specific reviews posted by individuals signalling specific, idiosyncratic, peripheral, contextual, exemplified, and individuating details about a target (Qiu et al., 2012), which can, by definition, be considered as case information (Daschmann, 2008; Yan and Sengupta, 2013).



**Figure 1:** An Example of ARM and IR on Amazon.com

### Base-rate neglect

Base-rate neglect, also called a base-rate fallacy, is a type of cognitive bias in which people tend to ignore or underutilize the base rate in favour of case information (Kahneman and Tversky, 1973; Yan and Sengupta, 2013). In other words, people are inclined to rely more on individuating information than base-rate information. However, studies in this domain suggest that people base their judgments of a target merely on base-rate information when both base-rate and case information is available to them (Kahneman and Tversky, 1973; Nisbett and Ross, 1980; Welsch and Navarro, 2012).

When they are told that a person is “short, slim and likes to read poetry,” people are more likely to guess that the person is a professor of classics than a truck driver, ignoring the much higher base rate of truck drivers than classics professors in the population (Nisbett and Ross, 1980). Numerous studies have consistently replicated base-rate neglect (e.g., Bar-Hillel, 1980; Lyon and Slovic, 1976). The “Heuristic and biases” school of thought further argues that base rate neglect is robust (Kahneman and Tversky, 1996). However, some scholars have suggested that base-rate neglect may be attenuated or even disappear under different experimental conditions (Cosmides and Tooby, 1996; Gigerenzer, 1996) or depending on people’s mental construal (Yan and Sengupta, 2013). In an attempt to test an underlying psychological mechanism through which base-rate operates in consumers’ minds, the present study also contributes to the literature regarding “base-rate neglect”.

### Construal level theory

Scholars have long been interested in the psychological states of human beings that transcend the “here and now”. Transcendence of the “here-and-now” implies that beyond physical limits, the self and experiences here and now, human beings can contemplate themselves in the past, and future, put themselves into others’ shoes, cognize spatially distant places and consider counterfactual alternatives to reality. In other words, people traverse psychological distance (Trope, 2012).

A vast number of studies in social psychology, evolutionary psychology, and neuroscience are also supportive of the argument that humans have evolved with a capacity to broaden their spatial, temporal, and social horizons (Gilead, Liberman, and Maril, 2014; Saad, 2017; Stillman, Lee, Deng, Unnava, Cunningham, and Fujita, 2017; Trope, 2012). For instance, we can plan our careers, try to predict future events, and contemplate hypothetical scenarios of what would happen if we did behave in a particular way. Furthermore, by putting ourselves into others’ shoes, we can anticipate and

contemplate others' opinions about themselves (i.e., the meta perception concept; a detailed review of meta perception, see Varnali and Cesmeci, 2022).

Construal level theory (CLT) is a theory developed in social psychology, explaining the relation between psychological distance and the extent to which an individual's thinking of objects and events is abstract and concrete (Trope and Liberman, 2010; Trope, 2012). The basic tenets of construal level theory of psychological distance lean on the assumption that only the here and now can be directly experienced; the future, distant places and other people are thought to be represented in a more abstract manner, such as imaginations, memories, plans or hopes (Raue, Streicher, Lermer, and Frey, 2015). In other words, the more distant a phenomenon from an individual is, the more abstract the phenomenon is processed. Contrarily, the more proximate a phenomenon from an individual, the more concrete way it is processed.

Psychological distance varies along temporal, spatial, social and hypotheticality (Trope and Liberman, 2010). Liberman and Trope (2014, p. 365) also assert that "it is ever important whether an object is real or imagined, certain or probable, present, future or past, mine or somebody else's." People adopt higher construal levels when psychological distance increases, whereas they operate at lower construal levels when psychological distance decreases. Psychological distance in each dimension denotes how far the distance is from the present (temporal), here (spatial), self (social) and probability (hypotheticality). Although researchers suggest other dimensions, when the term "distance" is used, it refers to these four dimensions specifically (Liberman, Trope, and Wakslak, 2007).

According to CLT, people mentally represent distant future events more abstractly and focus on the desirability and central features of that event. Specifically, when the event is near, people construe it more concretely, focus on feasibility and consider secondary features of that event. For example, planning a vacation for the next summer is construed at a high level of abstraction in terms of "having fun", "relaxing", and "beauty of nature". However, the day before going on vacation, the same event is construed at a low level of abstraction, such as "where can I stop by during the journey" and "selecting the appropriate clothes for packing". Furthermore, the same abstraction level can be applied to different dimensions. For example, people are more prone to construe remote places abstractly than their immediate surroundings.

Although the relationship between psychological distance and construal levels is well-established, a conceptual distinction between these two mechanisms is noteworthy. While psychological distance refers to the perception of when an event occurs, where it occurs, to whom it occurs, and whether it occurs, construal levels are, on the other hand, related to the processes that give rise to the representation of the event itself (Liberman et al., 2007).

Assumptions on which construal level theory is constructed are: First, psychological distance is a selfish concept relative to the self, here, and now. Second, the causal link between psychological distance and construal level is bidirectional. In other words, psychological distance affects the mental representation of objects, while the mental representation of objects (i.e., either abstract or concrete) affects the perceived psychological distance. Third, the effect of psychological distance on one dimension (e.g., temporal) impacts other psychological dimensions (e.g., spatial, social, hypotheticality). These assumptions can be used to unconfound the effects of psychological distance from other variables (i.e., alternative explanations) (Liberman et al., 2007; Trope, 2012).

A growing body of research examined the main or joint effect (e.g., along with different theoretical constructs) of construal level on advertisement effectiveness, product appeal (Spasova and Lee, 2013); subjective probability estimates (Wakslak and Trope, 2009), risk perceptions (Lermer, Streicher, Sachs, Raue, and Frey, 2015; Sagristano, Trope, and Liberman, 2002; Trope, 2012), price perception in the advance selling of experience services (Wakefield and Wakefield, 2018), service satisfaction (Pizzi, Marzocchi, Orsingher, and Zammit, 2015), health-risk perception (Yan and Sengupta, 2013), and consumers' wait duration judgment (Wang, Hong, and Zhou, 2018). However, studies addressing online consumer reviews in light of CLT are very scarce to date. Specifically, research on the effects of ARM versus IR is inconclusive. However, as a general theory, CLT has the potential to explain and reconcile the mixed finding in the literature. Thus, we adopt CLT as a theoretical base to develop our focal hypothesis.

**Table 1:** Keywords concerning the Level of Construal

High-Level Construal	Low-Level Construal
Abstract	Concrete
Simple	Complex
Structured, Coherent, Decontextualized, Primary, Core, Superordinate	Unstructured, Incoherent, Contextualized, Secondary, Surface, Subordinate
Goal relevant	Goal irrelevant
Ends	Means
Desirability	Feasibility
Desirable risky acts	Feasible, safe acts
Focus on similarities/stereotypes	Focus on differences/distinctions
Base rate	Case information / Narrative communication
Promotion focus	Prevention focus

**Note:** The authors produce the table.

## Hypotheses development

Upon conceptualising ARM and IR as a base rate and case information, we provide an important base for generating novel hypotheses about consumers' intention to adopt ARM or IR when making a judgment about a product or service.

With this conceptualization in mind, research related to base rate neglect suggests that the exemplars (i.e., case information) exceed the influence of structural, summarized accounts (base-rate information) (Brosius and Bathelt, 1994; Gibson and Zillmann, 1994). Because individuating information is more natural for people to process specific information about a particular individual than to process structural and abstract accounts. Another substantiation for this argument is that individuating information is more related to the human perception of the non-mediated social environment (c). However, recent studies of exemplification cast doubt on the simple assumption of a general dominance of case information. Accordingly, base-rate information can be influential as well or has shown to be even more influential than case information (Betsch, Renkewitz, and Haase, 2013; Peter and Brosius, 2010). Some other scholars in the domain also suggest that base-rate neglect may be attenuated, dissipated, and even reversed under different experimental conditions (Cosmides and Tooby, 1996; Gigerenzer, 1996) or depending on people's construal level of psychological distance (Yan and Sengupta, 2013).

Despite the magnitude of the research outputs in the domain, few studies compare and contrast the ARM and IR (equally applicable to the comparison of the base-rate vs case information in a more general sense), two of the most salient cues in the online review environment. The findings are mixed and lack a theoretical unity (i.e., consilience). To address this gap in the literature, we adopt construal-level theory as an explanatory base to solve the inconsistent findings in the relevant literature and develop hypotheses accordingly. More specifically, consumers are expected to adopt ARM or IR based on their mental construal. Thus, consumers' intention to adopt ARM increases when they are in an abstract mind-set. Contrarily, their intention to adopt IR increases when they are in a concrete mind-set.

**H<sub>1a</sub>:** Consumers' intention to adopt ARM (aggregate review metrics) for making a judgment about a product/service increases (decreases) when they adopt an abstract (versus concrete) mind-set.

**H<sub>1b</sub>:** Consumers' intention to adopt IR (individual reviews) for making a judgment about a product/service increases (decreases) when they adopt a concrete (versus abstract) mind-set.

## Methodology & results

### Study 1: In-depth interviews

This study performed a two-stage qualitative study (e.g., a modified version of the method used in Varnali and Cesmeci, 2022). In the first stage, 24 subjects participated in the study (50% female; Mage = 38.5 years). The data were collected with convenience sampling. First, the participants were asked to explain a list of elements on which they based their intention to adopt the review types in consumer decisions (i.e., ARM and IR). Next, two research assistants familiar with the OCR literature reviewed the phrases participants reported separately and coded the distinct and most generalized dimensions/categories based on the words that appeared most frequently. Then, each transcript was considered on its terms and coded. Next, the entire transcripts were reviewed and compared to look for

expressions with similar meanings and the elements implicit in the transcripts. Finally, a list of mutually exclusive elements was compiled. The initial inter-rater agreement was 90%. They resolved disagreements through discussion, resulting in a list of 5 items.

In the second stage, another sample of 10 was recruited (MAge: 34, 60% female, frequent online shoppers) and was taken through the same steps. However, this time, they were shown the list of elements compiled in the first stage of the study and were asked to evaluate the list of items in terms of wording, semantic structure, and general adequacy. Next, the research team interviewed the respondents to assess if the items were understood as anticipated. Minor wording adjustments were applied to the items based on the interviews. Based on the final list of items, a five-item bipolar scale was developed to measure the intention to adopt review types in consumers' decisions.

### **Key concepts labelled in study 1**

The distinct and logical categorization of concepts in Study 1 also aligns with relevant literature. These are helpfulness, informativeness, persuasiveness, and importance for purchase intention. Of note, these constructs may be an antecedent or consequences of each other. However, given the high correlation between the constructs and the question of interest of this qualitative study, the key concepts addressed under the proposed concept "intention to adopt review types".

#### **Helpfulness**

Online platforms such as Amazon allow readers to give helpful votes to reviews posted by reviewers. Consumers are more receptive to and influenced by reviews that are perceived to be more helpful (Zhu, Yin, and He, 2014; Schuckert, Liu, and Law, 2016). Websites that identify and indicate helpful reviews achieve higher consumer attention and stickiness (Yin, Bond, and Zhang, 2014).

A great deal of research has investigated factors that affect online review helpfulness. These factors include both review-related (i.e., IR) and rating-related factors (i.e., ARM) such as review length (e.g., Forman, Ghose, and Wiesenfeld, 2008; Salehan and Kim, 2016), rating valence (e.g., King, Racherla, and Bush, 2014; Pan and Zhang, 2011; Racherla and Friske, 2012).

Review helpfulness describes the perceived value of a review to its readers and measures consumers' evaluation of a review. However, perceived helpfulness is dependent on the goal consumers pursue. For example, for consumers whose goal is to obtain information about a product/service, a review would be perceived as helpful to the extent that it serves this end goal.

The words and phrases "helpful, support my decision-making, contribute to" are coded under helpfulness.

#### **Informativeness**

One of the elements that affect consumers in an online shopping setting is informativeness. Consumers read online reviews and consider ratings a source of information about a product or service. In some respect, consumers rely more on information conveyed by reviews and ratings rather than firms' official websites or owned media platforms (Ngarmwongnoi, Oliviera, AbedRabbo, and Mousavi, 2020; Ozanne, Liu, and Mattila, 2019; Rynarzewska, 2019). In other words, consumers may deem OCR less biased than a marketing message (Hennig-Thurau, Walsh, and Walsh, 2003).

In this in-depth interview, the words and phrases such as when searching for a product, illuminating, information, misleading, message, and signal are generally categorized under the "informativeness" concept by coders.

#### **Persuasiveness**

Almost all (98%) consumers in an online setting reported reading peer reviews before deciding on products (Freedman, 2008). Nevertheless, offering online peer reviews is likely insufficient to attract and retain consumers. Therefore, website owners need customers to post reviews that consumers find favourable and persuade them to buy.

According to Richard M. Perloff, "Persuasion is a symbolic process in which communicators try to convince other people to change their attitudes or behaviours regarding an issue through the transmission of a message in an atmosphere of free choice." (2010, p. 12). More comprehensively, persuasion is a process of attitude formation involving cognitive (i.e., beliefs), affective (i.e., emotions and feelings) and behavioural dimensions (Cesmeci, 2017). In line with this definition, in Study 1, the phrases such as attitude toward a product and the words such as feeling, sense, thoughts, belief, attraction, and influence are categorized under the "persuasiveness" concept.

## Authenticity

Online reviews may play an important role in consumers' decision-making processes. However, we cannot conclude that all positive (negative) online reviews influence consumers positively (negatively). Because consumers consider the authenticity of OCR as another important element in form attitude toward OCR (Kim and Kim, 2020). Prior studies also support this argument in the context of the contents of websites (Evrard and Krebs, 2018; Koiso-Kanttila, 2005).

Authenticity denotes an object's originality, sincerity, genuineness, reality, or truthfulness (Lu, Gursoy, and Lu, 2015). Previously, the authenticity construct was conceptualized as a perception of authenticity based on the idea that authenticity is "a social construction that may change due to different evaluators' perceptions and interpretations of the place, situation, person, or object." (Grayson and Martinec, 2004, p. 298). In parallel, consumers judge the authenticity of reviews or ratings based on their perception, regardless of the inherent accuracy of the reviews.

The words and phrases including "veracity, valid, realistic, authentic, not misleading, genuine, true, truthful" are generally categorized under the "authenticity" concept by coders.

## Importance in purchase intention

Purchase intention can be defined as an individual's willingness and readiness to given purchase behaviour. The theory of planned behaviour suggests that people's intention is an immediate antecedent of real behaviour. The theory modelled human behaviour as a function of behavioural intention (Ajzen, 1991; 2002). Similarly, purchase intention is a strong predictor of actual purchase.

Based on the extant literature, the concept of purchase intention strongly correlates with the concepts addressed in this study. Nevertheless, based on the qualitative study and relevant literature, we include this concept as an important element for the proposed concept (i.e., intention to adopt review types, IART).

The words and phrases, including but not limited to "important/dominant role in my purchase decision, buying decision, the importance for my decision, base my judgment on..." are categorized under the "importance for purchase intention" concept by coders.

## Study 2: The intention to adopt the review types

### Pilot test

First, a separate pilot study was designed to test the consistency and reliability of the scale. Fifty participants (52% female, MAge = 24.86) were recruited from an online panel in return for monetary compensation. Additionally, we aim to test the base level (i.e., default level) of the construct "intention to adopt the review type" without a mental construal manipulation. In doing so, descriptive baseline scores are provided using the novel scale. However, this pilot study should be carefully interpreted because the participants' chronic construal level is mixed.

An exploratory factor analysis on the 5-item was performed. Bartlett's test of sphericity was significant ( $p < 0.001$ ), and the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.95. The 5-items were then subjected to principal components analysis with Varimax rotation. All items were successfully grouped into a single dimension. As shown in Table 2, the factor loadings were significant ( $p < 0.001$ ) and higher than 0.89 (all items are higher than 0.50; see Tabachnick and Fidell, 2001). No item had cross-loadings. Cronbach's alpha value of the scale is 0.95.

The list of items is also shown in Table 2. The IART scale consists of a 101-point, 5-item bipolar measure (0 = intention to fully adopt ARM, 100 = intention to adopt IR for each item in question fully). In other words, higher scores indicate that IR is dominant, while lower scores indicate that ARM is dominant for adoption when making a judgment about a target.

As expected, the results provide initial evidence concerning the base rate neglect phenomenon in the OCR setting. In the absence of mental construal manipulation, people tend to adopt IR compared to ARM (see Table 3, MIART = 78.65, which is higher than the midpoint of the 101-point IART scale).

**Table 2:** Factor Loadings of the Items Representing the Intention to Adopt Review Types in Consumer Decisions

Items	Factor Loadings
1. Helpfulness	0.95
2. Informativeness	0.89
3. Persuasiveness	0.92
4. Importance in Purchase Intention	0.95
5. Authenticity	0.92
<b>Eigenvalue</b>	<b>4.29</b>
<b>Cumulative variance explained (per cent)</b>	<b>85.86</b>
<b>Cronbach's alpha</b>	<b>0.95</b>

**Table 3:** Descriptive Statistics of the Intention to Adopt the Review Types (IART)

	Authenticity	Helpfulness	Informativeness	Persuasiveness	Importance	Summated IART
<b>Mean</b>	72.80	76.96	82.76	80.14	76.78	78.65
<b>S.D.</b>	24.23	21.25	15.68	19.12	22.08	18.39
<b>Min.</b>	6.00	17.00	37.00	20.00	20.00	22.80
<b>Max.</b>	100.00	100.00	100.00	100.00	100.00	99.76

### Consumers' intention to adopt review types based on the mental construal: An experimental study

The study is designed to test whether there is a significant difference between the intention to adopt ARM and IR depending on consumers' mental construal when both types of cues are salient (H1a and H1b). In parallel, the study was designed with a three-fold agenda: (1) to test the scale developed in the previous study in an experimental setting, (2) to manipulate consumers' mental construal with an external manipulation by adapting the well-established category-exemplar task to the Turkish language (see appendix A1 for the manipulations), (3) to test the focal hypothesis H1 (H1a and H1b), that is, whether consumers' intention to adopt ARM is higher than IR (IR higher than ARM) for making a judgment about a target when they adopt abstract (vs concrete) mental construal.

#### Procedure

Study 2 was conducted with 104 participants from an online panel (57.7% female; Mage = 32.60 years, SD = 8.80). The participants' identities were completely anonymous to ensure they were comfortable with the questions. However, they all are active online shoppers. Participants are told that the study aimed to evaluate their behavioural tendencies in online shopping. In doing so, potential demand characteristics in the study are minimized.

Before this online experiment, a pilot study was conducted with 15 participants via the online survey tool Qualtrics. Although the forward-translations and back-translation methods adapted the original experimental tasks into Turkish, the tasks were checked in the pilot study in terms of wording, semantic structure, and general adequacy. In addition, several phrases were revised upon collecting the data in light of participants' feedback.

The main study employed a 2 group (Target: concrete vs abstract mental construal) between-subject experimental design. Participants were randomly assigned to one of the two experimental conditions after reporting online shopping frequency. First, participants in the abstract and concrete mental construal conditions were given a category exemplar task that aimed at manipulating their construal level externally (e.g., Freitas, Gollwitzer, and Trope, 2004; see Appendix A1 for the modified version in Turkish). Then, in the concrete mind-set condition, participants were asked to think of a word that is a specific example of that word. Contrarily, in the abstract mind-set condition, they were asked to come up with a broad category in which the given word is an exemplar of that category. Then, participants were rated on the IART scale based on the qualitative study performed. Lastly, participants were asked to report their gender and age, respectively.

#### Manipulation checks

*Behaviour Identification (BIF)*: After participants were given a category exemplar task, a BIF manipulation check was administered to ensure that their mental construal was manipulated as intended.

Participants' responses to a modified version of the BIF (Vallacher and Wegner, 1989; Yan and Sengupta, 2013; see Appendix A2 for the modified version in Turkish) questionnaire were subjected to binary coding (high level of construal = 1, low-level of construal = 0), and summed. A higher (lower) score indicated a higher (lower) construal level. As expected, a one-way ANOVA on participants' BIF scores

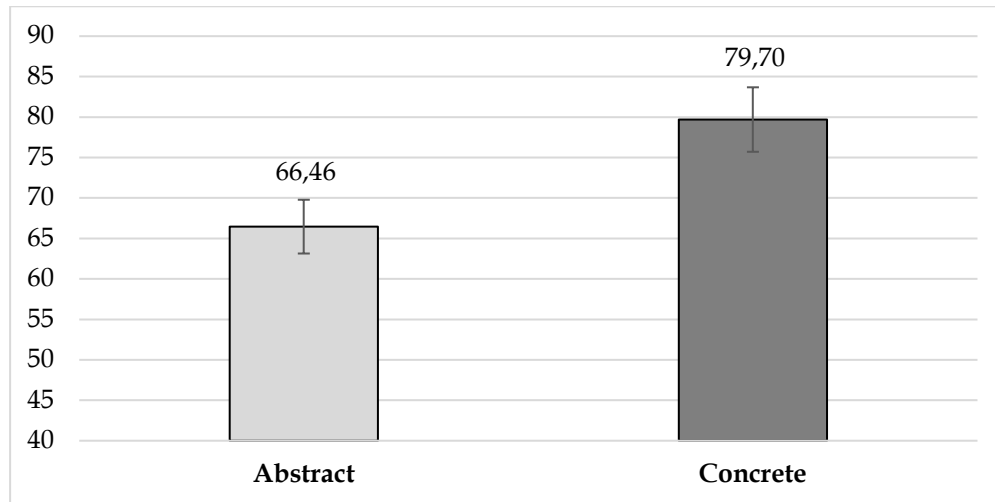


shows that participants in the abstract mental construal condition had higher BIF scores than did those in the buying for themselves condition ( $M_{\text{abstract}} = 8.69$ ,  $M_{\text{concrete}} = 6.60$ ,  $F(1, 102) = 22.43$ ;  $p < .001$ ,  $\eta^2 = 0.18$ ). These results indicate that the mental construal manipulation was successful.

## Results

To test H1a and H1b, an ANOVA was performed. As expected, the results show that people who adopt abstract mental construal scored lower on the IART scale as compared to people who adopt concrete mental construal ( $M_{\text{abstract}} = 66.46$  vs  $M_{\text{concrete}} = 79.70$ ;  $F(1, 102) = 9.01$ ,  $p < .01$ ,  $\eta^2 = 0.081$ ), (see Figure 2). Thus, the hypotheses (i.e., H1a and H1b) were supported. In other words, consumers' intention to adopt ARM for making a judgment about a product/service is higher when they adopt abstract construal (versus concrete construal). However, on the flip side, consumers' intention to adopt IR for making a judgment about a product/service is higher when they adopt concrete construal (versus abstract construal).

*Motivation check:* Lastly, if the observed effect in this study were driven by a higher (lower) level of processing motivation for the psychologically close (distant) condition, we would have observed such a difference to be revealed in the motivation index. However, the results indicated no significant difference between the two experimental groups regarding participants' motivation ( $F < 1$ ), indicating the alternative account was not at play.



**Figure 2:** The Level of Importance of Review Types in Consumer Decisions based on Consumers' Mental Construal

## Discussion

Along with increased customer migration to digital marketplaces, online consumer reviews and ratings are becoming more critical to evaluate for firms (Changchit, Klaus, and Lonkani, 2022). Due to the subjective nature of customer experience, the evaluations can be profoundly different for the same product or experience. Nevertheless, consumers utilize online reviews and ratings as a source of information before making a consumption decision. To fully utilize online reviews, it is critical to consider how consumers carefully process information and avoid bias. For example, in conflicting ratings and reviews, consumers infer which review types (i.e., ARM or IR) are more diagnostic for their decisions. Furthermore, they selectively weigh and allocate their attention between the type of reviews. However, they are mostly unaware of the psychological mechanism in the process. This study aims to reveal this psychological mechanism (i.e., mental construal) that influences consumers' intention to adopt and weigh ARM vs IR when deciding on a marketing offer.

Considering the important role of OCR for both consumers and firms, the present study has provided novel insights as to how and why consumers adopt ARM or IR when deciding about goods or services encountered in an online setting. In doing so, CLT served as a theoretical base for our predictions. The results provide initial evidence that consumers' intention to adopt ARM for making a judgment about a product/service is higher when they adopt abstract construal (versus concrete construal). On the flip side, consumers' intention to adopt IR for making a judgment about a product/service is higher when they adopt concrete construal (versus abstract construal).

Findings in this study may provide preliminary implications and valuable insights to the practitioners. For example, firms can make either ARM or IR more salient depending on consumers' mental construal. As noted, studies in CLT have suggested that different dimensions of psychological distance (i.e., time, space, social distance, and hypotheticality) influence consumers' mental construal and, in turn, it affects the prediction, evaluation, and behaviour of consumers (Trope and Liberman, 2010). With this in mind, customers buying a product for others (e.g., gift giving, buying on behalf of others) adopt a more abstract mind-set than customers buying a product for themselves (e.g., Baskin, Wakslak, Trope, and Novemsky, 2014). Similarly, consumers at the informational stage of a customer journey are more likely to be in an abstract mind-set. In contrast, consumers at the transactional stage of the customer journey are more likely to be in a concrete mind-set (Humphreys, Isaac, and Wang, 2021). In addition, the spatial distance between consumers and firms (e.g., tourists' hometown and their spatial proximity to a hotel) or a consumer to a reviewer (e.g., spatial proximity among online users in a review platform) can serve as an important cue for detecting consumers' mental construal. Since consumers' mental construal influences their intention to adopt either IR or ARM in the decision-making process, firms can increase or decrease the salience of the review types as a part of their user experience strategy. Rigorously monitoring similar instances on these platforms, firms can manage their marketing communications mix accordingly to gain competitive advantages in the market. Policy-makers can also leverage the behavioural findings of the study to increase the effectiveness of their persuasive communications.

While the present study provides important insights for firms and policymakers, it is believed that it also fills the gap in the relevant literature. In the context of ARM and IR and their downstream consequences, the study shows that CLT may serve as a good explanatory base with the potential to reconcile seemingly disparate findings and, in an attempt, to reveal the underlying mechanisms at play. For instance, Ordabayeva et al. (2022) suggest that negative reviews might benefit identity-relevant brands when the reviewers are perceived as more socially distant. Identity-relevant, semantic memories may serve as abstract information instead of individual reviews and mitigate the effect of negative individual reviews. On the other hand, another study examines a conflicting aggregated rating on individual reviews' perceived credibility and diagnosticity (Qiu et al., 2012). The results show that a conflicting aggregated rating decreases review diagnosticity and credibility via its negative effect on consumers' product-related attributions of the reviews. Considering consumers' chronic construal level as a trait and contextual factors that influence it, mental construal may also play a role as an underlying psychological mechanism. Additionally, Naylor et al. (2011) suggest that consumers are similarly persuaded by reviews written by ambiguous and similar reviewers, and ambiguous reviewers are more persuasive than dissimilar reviewers. Since it is conclusive that abstract construal induces a similarity focus (McCrea, Wieber, and Myers, 2012), the similarity inference from ambiguousness may be accounted for the level of construal. We believe that our study is a promising alternative and has the potential to explain seemingly disparate findings in the literature. Thus, it is expected that the results of this study make significant theoretical and practical contributions by identifying and testing a new mechanism through which consumers' utilization of review types is differentially affected on OCR platforms.

Although a rigorous research program was conducted to test our focal hypothesis, several limitations should be addressed. First, since the experimental setting limits the external validity of the findings, the results should only be interpreted in light of methodological limitations. Second, although the dependent variable (DV) intention to adopt review types includes a novel scale developed about the comprehensive qualitative study and tested rigorously in the subsequent studies, future research in this domain can measure DV with different operationalizations. For instance, participants can be provided real or crafted reviews and ratings to evaluate their attitude toward the product and purchase intention rather than self-reporting bipolar measures. Further, "choice" as a behavioural measure would corroborate the findings and a field experiment. Third, several factors, such as consumers' risk perception, scepticism about OCR, goal orientations, and product types (i.e., utilitarian or hedonic), may serve as a boundary condition or improve the explanatory power of the proposed model. By examining these factors and replicating the studies in a different cultural context, future research can further contribute to the OCR and eWOM literature.

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**Author Contributions:**

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## Appendices

### Appendix 1: Mental Construal Manipulation used in Study 2

#### Category vs. Exemplar Task /Kategori-Örnek Manipülasyonu (Turkish version)

##### *Yüksek Seviye (Soyut) Düşünme Şekli Manipülasyonu*

Öncelikle, size bir dizi sözcük verilecektir. Verilen her bir sözcüğün sizce neyin bir örneği olduğunu yanına yazmanız istenmektedir. Kendinize, “[size verilen sözcük] daha genel hangi kavramın örneğidir?” sorusunu sorup aklınıza gelen cevabı yazabilirsiniz. Örneğin; eğer size “KANGAL” gibi bir sözcük verilirse, bunun yanına “KÖPEKLER” ya da “HAYVANLAR” hatta “CANLILAR” gibi o sözcüğün neyin bir örneği olduğuna dair genel kavramlar yazabilirsiniz. Çünkü kangal köpekler, hayvanlar, hatta canlılar aleminin bir unsurudur. Sizden istenen yaratıcı olup verilen örneklerin yanına olabildiğince en genel ve kapsayıcı kategoriye yazmanızdır.

##### *Düşük Seviye (Somut) Düşünme Şekli Manipülasyonu*

Öncelikle, size bir dizi sözcük verilecektir. Verilen her bir sözcüğün yanına size göre bu sözcüğün bir örneğini yazmanız istenmektedir. Kendinize, “[size verilen sözcüğe] örnek olarak ne verilebilir?” sorusunu sorup aklınıza gelen cevabı yazabilirsiniz. Örneğin; eğer size “KÖPEKLER” gibi bir sözcük verilirse, bunun yanına bir köpek cinsi olan “KANGAL” ya da “SCOOBY DOO” (bir çizgi film karakteri), hatta “KENDİ KÖPEĞİNİZİN ADI” gibi verilen sözcüğe dair spesifik örnekler yazabilirsiniz. Sizden istenen yaratıcı olup verilen örneklerin yanına olabildiğince en spesifik, belirli bir örneği yazmanızdır.

##### *Uyaran:*

GAZLI İÇECEK	AYAKKABI	İÇECEK	RESİM TABLOSU	POSTER
BİLGİSAYAR	FİLM	TELEFON	ÇANTA	DİZİ
GAZETE	KALEM	SABUN	SU	NEHİR
PROFESÖR	SİYASETÇİ	MEYVE	ÜNİVERSİTE	MATEMATİK
MAKARNA	ÖĞLE YEMEĞİ	MADENİ PARA	DANS	PADİŞAH
KİTAP	TREN	RESTAURANT	ŞEKERLEME	BALİNA
SPOR	POSTA	AĞAÇ	GİTAR	ŞARKICI
MASA	AKTÖR	OYUN	DAĞ	KAMYON

**Appendix 2: Mental Construal Manipulation Check used in Study 2****Behavior Identification Form / Davranış Kimlikleme Formu (Turkish version)**

Herhangi bir davranış birçok şekilde tanımlanabilir. Örneğin; bir kişi, gözlenen bir davranışı "makale yazmak" olarak tanımlarken başka bir kişi aynı davranışı "klavyedeki tuşlara basmak" olarak tanımlayabilir. Yine başka bir kişi bunu "düşüncelerini ifade etmek" olarak tanımlayabilir. Bu form, bir dizi farklı davranışın sizce nasıl tanımlanacağına dair kişisel tercihlerinize odaklanır. Aşağıda listelenmiş olan birkaç davranış bulacaksınız. Her davranıştan sonra seçeneklerde, davranışın tanımlanabileceği iki farklı yol olacaktır.

Sizden beklenen, aşağıdaki davranışları sizin için en iyi tanımlayan a ya da b tanımlamasını seçmektir. Unutmayın, burada doğru cevap yoktur. Sadece her davranış için kişisel olarak daha uygun olduğuna inandığınız tanımlama seçeneğini işaretleyiniz.

<b>1. Bir liste yapma</b> a. Bir şeyleri sıralayarak yazma b. Organize ve düzenli olma*	<b>6. Oy kullanma</b> a. Oy pusulasında bir partiye mühür vurma b. Ülkenin geleceğini belirleme*
<b>2. Okuma</b> a. Metnin satırlarını takip etme b. Bilgi edinme*	<b>7. Kişilik testi/envanteri doldurma</b> a. Testteki sorulara cevap verme b. Nasıl bir kişi olduğunu belirleme*
<b>3. Evi temizleme</b> a. Elektrik süpürgesiyle evi süpürme b. Yaşam alanının temizliğini sağlama*	<b>8. Diş fırçalama</b> a. Ağızda oval hareketlerle diş fırçasını hareket ettirme b. Çürükleri önleme*
<b>4. Bir odaya boya badana yapma</b> a. Fırçayla duvarlara boya sürme b. Odaya yeni bir görünüm kazandırma*	<b>9. Yemek yeme</b> a. Çiğneme ve yutma b. Beslenme*
<b>5. Kapıyı kilitleme</b> a. Anahtarı kilide sokup çevirme b. Evi emniyete alma*	<b>10. Kapının zilini çalma</b> a. Parmakla kapı ziline basma b. Evde birisinin olup olmadığına bakma*

\*Yüksek seviye (soyut) seçenek.

## The mediating role of the organizational justice in the effect of the styles of manager on team performance: A research on cabin crews in the aviation sector<sup>1</sup>

Yönetici tarzlarının ekip performansı üzerindeki etkisinde örgütsel adaletin aracı rolü: Havacılık sektöründe kabin ekipleri üzerinde bir araştırma

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### Abstract

<sup>1</sup> This study was derived from the first author's doctoral dissertation on "The Mediating Role of The Organizational Justice In The Effect of The Styles of Manager On Team Performance and A Research In The Aviation Sector", conducted under the supervision of the second author within the PhD in Business Management Program of the Institute of Graduate Studies, İstanbul Aydın University.

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This research aims to determine the mediating role of organizational justice in the effect of the styles of manager on the team performance of cabin crew working in an airline company in the aviation sector. In this research, the face-to-face survey technique, one of the quantitative methods, was used. The sample of this research consisted of 601 cabin crew members working in an airline company based in İstanbul. In order to analyse the data obtained from the related sample, SPSS 21.0 and AMOS 24 package programs were used, and frequencies, percentages, arithmetic means and standard deviation values were calculated. In addition, reliability, correlation and confirmatory factor analyses and bootstrap method to determine the mediating role were applied to the research. The research concluded that significant and positive relationships existed between all three variables and sub-dimensions. Therefore, there was a partial mediating role of organizational justice in the effect of the styles of manager on team performance. It was also concluded that as organizational justice had a partial mediating role when autocratic, transformational and transactional styles of manager were present, it had a fully mediating role of organizational justice when the laissez-faire style of manager was present. However, it had no mediating role when the democratic style of the manager was present in team performance.

**Keywords:** Styles of Manager, Team Performance, Organizational Justice

**Jel Codes:** M12, M19, M52

### Öz

Bu araştırmanın amacı, yönetici tarzlarının havacılık sektöründe bir havayolu şirketinde çalışan kabin ekiplerinin ekip performansı üzerindeki etkisinde örgütsel adaletin aracı rolünü belirlemektir. Bu çalışmada, nicel yöntemlerden biri olan yüz yüze anket tekniği kullanılmıştır. Araştırmanın örneklemini İstanbul merkezli bir havayolu şirketinde çalışan 601 kabin ekibi üyesi oluşturmuştur. İlgili örneklemden elde edilen verilerin analizi için SPSS 21.0 ve AMOS 24 paket programları kullanılmış olup frekans, yüzde, aritmetik ortalama ve standart sapma değerleri hesaplanmıştır. Ayrıca, çalışmaya güvenilirlik, korelasyon ve doğrulayıcı faktör analizleri ile aracı rolü tespit etmek amacıyla bootstrap yöntemi uygulanmıştır. Araştırmada, her üç değişken ve alt boyutları arasında anlamlı ve pozitif ilişkiler olduğu ve yönetici tarzlarının ekip performansı üzerindeki etkisinde örgütsel adaletin kısmi aracı rolü olduğu sonucuna varılmıştır. Ekip performansı üzerinde otokratik, dönüştürücü ve etkileşimli yönetici tarzları söz konusu olduğunda örgütsel adaletin kısmi aracı rolü; ve serbest bırakıcı yönetici tarzı söz konusu olduğunda ise örgütsel adaletin tam aracı rolü olduğu; ancak demokratik yönetici tarzı söz konusu olduğunda da örgütsel adaletin aracı rolü olmadığı belirlenmiştir.

**Anahtar Kelimeler:** Yönetici Tarzları, Ekip Performansı, Örgütsel Adalet

**JEL Kodları:** M12, M19, M52

## Introduction

A cabin crew that requires teamwork consists of crew members and a cabin chief who is the crew leader. All cabin crew members are responsible for ensuring that all passengers are very safe and secure during the entire flight operation, such as before, during and after the flight, and providing a high standard of service to all passengers. Especially when it comes to the safety, security and health of all passengers, cockpit crew and other cabin crew members, a cabin crew is the leading defence mechanism on an aircraft. Therefore, cabin crews are a very important part of commercial airline transportation. For this reason, all airline companies in the aviation sector include their cabin crew members in a comprehensive and regular certification program according to the rules determined and strictly controlled by national and international civil air transport organizations.

Cabin crews work in a very different environment where direct contact with the external world is cut off. Because of this working environment, all cabin crew members must take action promptly per the established procedures when they suffer from cabin decompression, emergency landing on water or land, turbulence, irregular passenger behaviour or hijacking and medical emergencies. So, only cabin crews with high team performance can overcome this unexpected, which requires a timely response. Considering cabin crews' challenging working environment and high expectations about passenger satisfaction, some factors that can affect their team performance have come to the fore. In order to determine a high team performance of a cabin crew, mutual respect, support, trust, cooperation, and communication must be established among cabin crew members. From this point of view, cabin chiefs who are authorized by being responsible for conducting a cabin crew have a great responsibility as a manager. In this challenging and unusual working environment, a cabin chief is considered a leader of team performance and a manager because of her/his responsibility to the management of the airline company. As it is understood, a cabin chief conducts a multicultural cabin crew with a certain number of members. Therefore, cabin chiefs must have comprehensive knowledge of the airline's flight operations, service, safety and security standards, policies, and procedures. So, flight knowledge and experience, leadership abilities and even the personality of a cabin chief will affect his/her style of manager that they apply. Moreover, there are some issues, such as the existence of a fair evaluation and feedback as a result of the controls carried out to increase team performance and service quality, the implementation of all work and service standards and procedures without discrimination, the equal sharing of workload among the cabin crew members, the participation in decisions and the equitable reduction of disagreements within the cabin crew. The cabin chiefs can apply a negative or positive manager style to these issues. So, their manager style can change the cabin crew members' perceptions about organisational justice and affect team performance.

In the aviation sector, generally, the decisions and practices that are effective on organizational justice perception of cabin crews are formed by the top management and the department of cabin crew management according to the legal regulations of the national and international organizations to which all airline companies shall obey and some union activities. However, cabin chiefs, considered both a leader and a manager of cabin crew, are responsible for the timely and effective implementation of these decisions and practices. In other words, in a narrow sense, cabin chiefs are also representatives of organizational justice, effectively improving a cabin crew's team performance.

As a result, cabin chiefs who are both a leader and managers of cabin crew that is brought together formally can adopt different styles of manager according to their age, flight experience and knowledge, seniority and even personalities. These manager styles applied by cabin chiefs will impact team performance; however, they will not be effective alone. Because; it is predicted that the positive or negative style of the manager perceived by cabin crew members can shape their perceptions of organizational justice and reflect on team performance. In line with this foresight, an integrated model was developed by including demographic variables such as gender, age, marital status, education level, duty/title and seniority of the cabin crew members working in an airline company based in İstanbul. On the relevant model, the mediating role of perceived organizational justice in the effect of manager styles on team performance was examined.

## Literature review

### Styles of manager

A manager is a person who initiates organizational activities, uses organizational resources, allocates budgets to projects, evaluates the performance of managerial activities and provides leadership to both business and operational levels (Obiefuna, 2014:95). Managers apply a variety of styles of manager throughout the management process. While some managers maintain the same style, others change their style to suit changing conditions and employees. While some styles of manager support employee

participation in decisions, some demand that orders be carried out. According to some styles of manager, the manager is not the decision maker. It is entirely up to the employees to decide which activities will be done and how (Batmaz, 2012:42). In short, a manager's style of a manager is reflected in his/her attitudes and behaviours in the management process. The styles and habits that managers show to others can manifest themselves differently. This diversity in the styles of managers can be attributed to the values and character of the managers. Style of manager refers to how a manager exhibits certain behaviours (House and Aditya, 1997:45; Gezici, 2007:13; Güven, 2013:4). In other words, managerial style is the manager's way of managing the organization (Nwadukwe and Timinepere, 2012:199). In light of these definitions, the manager's style is the original behaviour style that the manager displays while managing an organization according to his personality and the values he adopts.

In this period of intense competition, organizations are facing many problems. In order to overcome these problems they are facing, they need effective and successful managers as much as they need leaders. In this case, the term leader manager has emerged (Küçükaltan and Karalar, 2014:171; Karahan and Gümüş, 2021:674-675). Among the ten managerial roles classified by Mintzberg, the manager's leadership role has been drawn attention (Mintzberg, 1994:18-19). Therefore, in this research, the leadership behaviours exhibited by the managers based on the leadership role they assume are considered the styles of managers adopted by the managers. The characteristics of the styles of manager, which are shaped by the five most common leadership behaviours in the literature, are mentioned below:

- **Autocratic style of manager:** The managers who apply an autocratic style of manager are defined as those who prefer to centralize authority over themselves, determine how activities will be carried out, make wrong decisions and reduce employee participation in these decisions (Budiawan, Suhardi, Marinda, Rohendra and Saudi, 2021:801; Radwan and Radwan, 2020:170; Robbins and Coulter, 2009:389). These managers gather all authority on themselves (Jdetawy, 2018:24346). There is a clear distinction between authoritarian managers and their employees (Bhargavi and Yaseen, 2016:91). In this style of manager, employees or team members provide little or no input; managers make almost all decisions; the managers determine the entire working process; employees or team members are rarely trusted with important choices or tasks; work conducted or task performed is highly structured and inflexible; creativity and extraordinary thinking are discouraged, and the rules are important and clearly defined and communicated to employees or team members (Güney, 2015:388). When the basic characteristics of this manager style are evaluated, it is seen that it resembles the classical management style. In the classical management style, managers do not consider their subordinates' opinions; they see them as tools; they establish strict control over them, give them instructions, and expect them to be followed without criticizing them. Especially in today's world, organizational performance and productivity will decrease in organizations that apply this kind of managerial style (Yıldız, 2021:91). However, this style of manager may be beneficial to be applied in times of crisis or emergencies where rapid response is required (Iqbal, Anwar and Haider, 2015:3; Bhargavi and Yaseen, 2016:92). For instance, it is quite suitable for law enforcement agencies providing security services such as the police or the army (Kingshott, 2006:130; Stefanovic, 2007:104). Moreover, it is most appropriate for situations where the manager has specialist knowledge in his field (e.g., an experienced surgeon guiding medical trainees) or where the manager is an absolute authority figure due to his/her authority (e.g., a senior officer in the army) (Olayisade and Awolusi, 2021: 50).

- **Democratic style of manager:** In the democratic style of manager, a manager tries to determine the style of a manager by consulting the employees' suggestions and discussing them within the team about creating the objectives, plans and policies in the division of labour and the distribution of responsibilities. The manager informs his subordinates to solve the problems and decides under their consultancy. He leaves the choice to his subordinates by offering at least two options for solving problems. The manager pays attention to the compatibility of his decisions with the thoughts of his subordinates, thus facilitating the implementation of decisions. The priority of the manager is not punishment. The manager tries to be impartial in his judgments and criticisms and treats his subordinates in a friendly manner without insulting them (Eren, 2001:437; Güney, 2015:384). The democratic style of manager, which includes fair and equal behaviour towards employees by prioritizing the human factor, overlaps with the assumptions of Mc Gregor's Y Theory (Kütükçü, 2018: 35). However, the disadvantage of this style of manager is to prolong the decision-making process and delay taking quick and appropriate decisions, especially in times of crisis or emergency since all employees' ideas and suggestions are constantly consulted (Çetin ve Beceren, 2007:122; Amanchukwu, Stanley and Ololube., 2015:10; Karaca, 2017:35; Gürsoy, 2005:35). However, this style of manager can be

appropriate when teamwork is necessary, and quality is more important than speed (Bhatti, Maitlo, Shaikh, Hashmi and Shaikh, 2012:193).

- **Laissez-faire style of manager:** This manager gives team members full freedom, and members can do whatever they want. The manager with this style does not interfere or participate in the process within the framework of the activities determined by the team (Anbazhagan and Kotur, 2014:62; Chaudhry and Javed, 2012:254). In other words, in this style of manager, the managers avoid responsibility and decision-making (Schermerhorn, Hunt and Osborn, 2008:258; Eryeşil and İraz, 2017:131; Mirsultan and Marimuthu, 2021:246). This style of manager can be applied in situations requiring professional expertise and research carried out by scientists or tasks involving employees with a high sense of responsibility in the R&D departments of enterprises. In other words, it cannot be applied in organizations or teams where employees have inadequate training, not being able to take part in teamwork and take any responsibility (Eryeşil and İraz, 2017:131; Tezcan, 2006: 86; Gray and Williams, 2012: 2). The managers who apply this style of manager provide their subordinates with resources and advice when needed. However, they do not participate in the work process of their subordinates. This style of manager can be effective when the manager monitors the performance of his/her subordinates and provides feedback. The strongest advantage of this style of manager is providing high job satisfaction and increasing productivity by giving too much autonomy to employees (Amanchukwu et al., 2015:10). With this style of manager, employees can set goals and make plans and policies with their own decisions. Thus, they can have the opportunity to develop themselves personally (Tanriverdi, Akova and Çiftçi, 2016:116) and produce innovative ideas (Şafaklı, 2005:136). Despite this advantage, it may not be effective in organizations or teams where employees do not have sufficient knowledge and experience (Sayan and Güney, 2019:23) and need a guide to manage their time effectively. Especially those working in small and medium-sized enterprises tend to imitate the behaviour of their managers. Therefore, the lack of participation of managers in business processes may reduce employees' interest in work (Mihai, Schiopoiu and Mihai, 2017:7). In addition, in this style of manager, employees remain uncertain about their goals and roles since managers do not show any direction and guide them. This situation increases employees' chronic work stress and burnout (Vullingsh, Hoogh, Hartog and Boon, 2020:722).

- **Transformational style of manager:** The transformational style of manager emerged in a study by Burns in 1978. According to Burns, this style of manager is to mobilize the followers to reach the goals that individuals set separately or together by using power and values such as economic or political. However, Bass revealed and measured the elements of this style of manager in 1985 (Tabak, Sığrı, Eroğlu and Hazır, 2009:389; Elkins and Keller, 2003:597). Transformational managers ensure that employees have vision and self-confidence. Employees working under the transformational style of manager begin to show a higher performance by putting the organisation's interests above their interests, as they feel motivated and supported by their managers by coaching them (Ülgen and Mirze, 2013:415). In this style of manager, managers improve their followers' motivation, morale, and performance through a series of processes. These processes are to link followers' sense of identity and self to the project and the collective identity of the organization, to inspire followers and to be a role model that arouses their interest and to make them say more about their work and to assign tasks that improve their performance by understanding their strengths and weaknesses (Odumeru and Ifeanyi, 2013: 415). Transformational managers are thought to provide trust, admiration, loyalty and respect among their followers (Barbuto, 2005:28). Additionally, the transformational style of manager is the process of making significant changes in the behaviours, beliefs and values of any employees or team members to a level to which the manager's perspective combines the goals of the business or teamwork and performs below their expectations. In this process, managers and employees or team members increase each other's morale and motivation. Transformational managers ensure their subordinates do their best by influencing them to develop a perspective that considers their primary interests. These managers also emphasize that they are one in terms of goals and expectations on both sides (Gomes, 2014: 11). Additionally, the managers who adopt and apply this manager style become role models for their followers with their humour and charisma aspects. It is kept in mind that the managers whose humorous aspect predominates want to convey this to the other party. Transformational managers, who humorously show their comments and actions, accelerate the softening of stressful situations and attract the attention of their followers (Barutçu and Akatay, 2000: 197).

- **Transactional style of manager:** Transactional style of manager is a managerial style in which contingent rewards and punishments are used to motivate employees by meeting their personal needs while contributing to the achievement of organizational goals. This style of manager is based on the idea that employees' interests can be aligned with the organisation's by providing appropriate incentives. Only contingent rewards and punishments are considered in this style of manager.

Rewarding or punishing the employee is closely related to the effort or performance of the employee. Otherwise, this style of manager cannot be expected to be effective (Jensen, Andersen, Bro, Bollingtoft, Eriksen, Holten and Würtz, 2019:12). The transactional style of manager includes an exchange relationship between managers and employees, aiming to reach predetermined goals by defining roles and responsibilities (Jung, 2001: 188). Transactional managers focus on developing methods to run a current business while maintaining the status quo (Udayanga, 2020:299). Managers who adopt the transactional style of manager have three basic characteristics. Firstly, by developing clear and specific goals, transactional managers work with employees to ensure they receive the rewards they are promised to achieve those goals. Secondly, they negotiate various advantages and rewards in return for the efforts of their employees. Finally, if the tasks are completed as desired, they meet the immediate personal needs of the employees (Bryant, 2003:37). These managers disregard the personal interests of their subordinates. They reward their subordinates according to their efforts in return for completing a job (Yozgat and Kamanlı, 2016:11). In summary, the transactional style of manager is a managerial style that emphasizes the exchange between the manager and his/her subordinates (Ene, 2020:43; Adriansyah, Setiawan and Yuniarinto, 2020:564; Bass and Avolio, 1990:21). This style of manager is thought to be more effective in mechanical organizational structures and stagnant growth periods (Taşgıt and Sert, 2017:534). Additionally, it can also be suitable for enabling employees to fulfill their clearly defined duties with minimum error (Fletcher, Friedman and Piedimonte, 2019:7). As this style of manager is not pro-change, it has a traditional structure. So, the followers remain silent instead of expressing their thoughts freely and are only asked to fulfil the assigned tasks. Therefore, they may encounter concepts such as turnover intention and organizational silence (Duman, 2020:14).

### **Team performance**

A team is a community of a small number of people who complement each other's knowledge, abilities and performance aspects to achieve a common goal and aim, or unity of two or more people who have mutual responsibility and dependency by combining from various fields of expertise to achieve certain goals (Sertçelik, 2019:3). In another definition, it is a group that achieves a higher and inclusive performance level than the sum of each team member's contributions (Robbins and Judge, 2017:357). Teams are an important part of this existing business world. Organizations prefer team-based work to improve further issues such as efficiency, profitability and service quality. Managers and employees are also exploring ways to increase profitability and sustainable solutions. So, most organizations consider team-based horizontal organizational structures as the most appropriate organizational design to ensure their employees' participation in the business's success. Thanks to working as a team, employees come together by combining their performances towards a common goal rather than working for their individual goals. In the absence of teams, employees are limited in their efforts. On the contrary, employees become interdependent units. Thus, employees show their ideas on achieving team goals and give each other trust and support within the framework of respect for individual differences (Fapohunda, 2013:1-2).

Team performance can be defined as the objective or subjective judgement of the team about how effectively a team can achieve the goals to which they attach importance (Sheikh, Soomro, Magsi and Siddiqi, 2016:35). According to another definition; it is a level to which a team achieves a predictable goal or an expected quality of a job (Faraj and Sproull, 2000:1555). Therefore, the performance target is one of the team's most important indicators. For this reason, quantitative measurement of the level of teams reaching this goal can also determine what level of the team the group responsible for the goal is (Kılınç and Akkavuk, 2001:107). Additionally, team performance can refer to more than the sum of its members' performance. Because; it is desirable to develop synergy while being a team. Thus, within the framework of the system approach, it can be understood that team performance is a higher system of individual performance (Oral, 2006:61). In other words, team performance is the level of achievement of team members' expectations about the quality, innovation, or functionality of a team's outputs. According to Hoevermeyer (1993), team performance can be measured in the following five criteria: (a) positive roles and norms: They refer to team members' roles and norms and team psychosocial traits instead of the team manager's leadership roles and norms; (b) team mission and (c) goal achievement: They are corresponding to product/service factors; (d) empowerment and (e) open and honest communication: They are corresponding to team processes (Hoevermeyer, 1993: 67-71; Fung, 2014:7). Generally; team performance has gained more importance to increase the effectiveness of teamwork applied in very high-risk sectors such as aviation, military defence or nuclear energy, where safety and security are prioritized. When a team is considered as a process, the characteristics of each team member, their roles, and their mission are its inputs. In addition, managerial styles, decision-making and communication can influence its outputs. Thus, it also represents team performance.

### **Organizational justice**

Organizational justice is defined as a term that covers the personal assessment levels of employees about their gains, the distribution of justice in the organization and the appropriate attitudes of the decision makers (Altıntaş, 2002:32). According to another definition, it is an organization's being central within the employees, or it is the perception of any employees towards the level of fair and balanced behaviour. (Korkut, 2019:99). As these definitions are examined, the perception term is understood to be emphasized with attention. Because individuals give more importance to how fair and equitable they perceive rather than how fair and equitable they are treated (Kavak and Kaygın, 2018:35). The perceptions differ from individual to individual. So, the term organizational justice is expressed in practice as perceived organizational justice or its perception. For instance; as some practices in an organization are considered fairly by some employees; they may not be perceived fairly by others (Tabak, 2020:4; Uğuz and Yüksekbilgili, 2022:2). In short, employees' perceptions of justice in the organizations should not be ignored as they can cause important organizational and personal results.

Some opinions have been put forward from three different perspectives on the importance of organizational justice in terms of employees, managers and businesses. These views are mentioned below (Harris, 2015:1062):

- **From the view of morals:** According to this view, it is argued that apart from any tangible benefit that employees bring to their organizations, employees should strive to do what is right, which is seen as a worthwhile goal. The key point of this view is that it is a moral imperative to treat employees fairly regardless of the positive instrumental impact that such behaviour may have.

- **From the view of performance:** This view argues that unfair treatment of employees negatively affects their attitudes and behaviours and, therefore, their performance is negatively affected. The studies in organisational behaviour have confirmed that perceptions of justice affect basic organizational outcomes such as productivity, absenteeism, turnover, occupational accident rates, employee health costs and whistleblowing. This view may become more important, especially in educational institutions such as colleges and universities, which can depend on a loyal and committed workforce.

- **From the view of reputation:** This view argues that communities are increasingly aware of and do not tolerate unethical behaviour in any organization. As members of these communities support the businesses that are responsible socially, they will try to punish the irresponsible ones.

The basis of the studies on this term is the Equality Theory developed by Adams (Adams, 1965:280). According to this theory, employees compare their interests with the interests of another organization's employees in return for their contributions to the organization due to their efforts (Yeniçeri, Demirel and Seçkin, 2009:84; Robbins and Judge, 2017:255). In the continuation, the term organizational justice has been tried to be explained in three dimensions by including the following subjects in turn (Polat, 2007:12; Çolak and Erdost, 2004:52; Cropanzano and Stein, 2009:196; Kılıç and Toker, 2020:289):

- Whether the reward and punishment are distributed in the organization (distributive justice)
- Whether the rules and procedures are applied equally in the organization (procedural justice)
- Whether human relations and interactions are fair in the organization (interactional justice)

- **Distributive justice** is a very important and sensitive issue as economic distribution directly affects individuals' lives (Donglong, Taejun, Julie and Snghun, 2020:170). The priority of the studies carried out on justice until 1975, mostly based on the Social Exchange Theory, which Adams applied to examine justice in 1965, was distributive justice. Adams assumed that individuals were concerned not only with the outcomes they achieved but also with the fairness of those outcomes. Therefore, the method of questioning the fairness of an output; is the calculation of the ratio of the individual's contributions, such as equipment, expertise and experience, to their outputs and comparing the relevant ratio with a reference (Şahin and Kavas, 2016:122). In other words, employees tend to perceive their outputs regarding salary, promotion, and social rights as fair or unjust. Because; they may assume that they are being unfairly treated by comparing what they own with those of others. This assumption may affect their attitudes and behaviour in the same direction. Based on distributive justice, employees assume they get their fair share from the distributed resources (Cihangiroğlu and Yılmaz, 2010:201). In short, the essence of distributive justice consists of the perceptions about whether the distribution of gains, such as opportunity, punishment, reward, status, salary or promotion, is fair. These perceptions are also expressed as evaluations of the results of organizational decisions (Cüce, Güney and Tayfur, 2013:5). After all, a strong distributive justice can be present when employees believe they are paid according to their performance. In return, they are rewarded fairly.



- **Procedural justice** is based on the opinion of how appropriate the procedures or methods used are when evaluated from the employee's perspective when managers make decisions about the employee themselves or other organizational members (Turan, Demirel, Çetin and Dengel, 2019:398). In this context, procedural justice is a concept that tries to illuminate the basis of what and how the achievements of the employees in the organization are determined in return for their performance, how the decision-making system used in the distribution of gains is operated, and to what extent this system is perceived as fair by the employees (Gürücü, 2012:12; Konovsky, 2000:489). Moreover, procedural justice is related to the formal processes of the organization on the one hand and participation in the decision process or interaction with this process on the other hand (Çakır, 2006:47). The perception of justice regarding the procedures used in the decisions made in the organization also affects the perception of the fairness of the gains. If the employees perceive the procedures applied as fair, they will show less interest in the unfairness of the gains (Kesim and Kurt, 2020:733). In other words, if employees think that the process is fair, they can perceive its result more positively and fairly even if they encounter an undesirable result (Özmen, Arbak and Özer, 2007:22). So, two aspects of procedural justice are mentioned as follows (Özdevecioğlu, 2004:186):

- The quantitative aspect of the procedures in decision-making allows employees to express their views.

- The qualitative aspect of the way policies and procedures are implemented in the decision-making process.

Organizations that do not have fair and transparent procedures and do not implement them, and do not take the opinions of their employees inevitably create a climate in which their employees are at opposite poles, which causes a decrease in organizational performance.

- **Interactional justice** is the perception of justice regarding intra-organizational communication and relations (Demiryürek, 2019:22; Demirel, 2009:121). If there is a low perception of interactional justice, employees will have a negative attitude towards managers rather than individuals. So while examining interactional justice, the manager's behaviour is questioned, and the employees are expected to make decisions accordingly (Söyük, 2018:437). The way that managers communicate with employees may result in friendship or hostility. Moreover, suppose there is a perceived injustice between employees. In that case, it makes them react negatively to their managers and the whole organization (Cropanzano and Wright, 2003:12). Communication is very important between employees and managers responsible for following organizational procedures to reveal the perception of interactional justice. Especially some necessities, such as being respectful, honest and polite during communication, should be taken into consideration about the perceived interactional justice (Gürücü, 2012:15). As a result, interactional justice is a type of organizational justice that is related to the actions and attitudes of managers in an organization to their employees under their control and how they treat the employees while following the procedures and making decisions.

## Hypotheses

### The relationship between styles of manager and team performance

According to the relevant literature review, there is a limited number of studies that were conducted on the relationship between the styles of manager and team performance (Akdemir and İnal, 2022: 654; Günaydın and İnal, 2022: 107; Gümrükçü, 2016: 76; Chou, Lin, Chang and Chuang, 2013: 5). However, the necessity of increasing teamwork in the sectoral context has brought team performance to the fore. These local and foreign studies in which the relationship of the styles of manager and their sub-dimensions, such as autocratic, democratic, laissez-faire, transformational and interactional and team performance and its sub-dimensions such as positive roles and norms, team mission, goal achievement, empowerment and open and honest communication were analysed. According to the results of a local study examining similar variables in the literature, it was observed that there was a positive, bidirectional and statistically significant relationship between the styles of manager (leadership) and team performance. In addition, while positive, bidirectional and statistically significant relationships were found between democratic and laissez-faire styles of manager and team performance, no statistically significant relationship between the autocratic style of manager and team performance (Akdemir and İnal, 2022: 654). In another local study, a highly positive linear relationship was found between the transformational style of the manager (leadership) and team performance (Günaydın and İnal, 2022: 107). Another local study conducted in the banking sector revealed that there was a moderate positive relationship between both transformational and transactional styles of manager (leadership) and team performance (Gümrükçü, 2016: 76). Moreover, a foreign study also revealed that there was a moderate positive relationship between the transformational style of manager and team performance

(Chou et al., 2013: 5). The main hypothesis and sub-hypotheses developed in line with the findings of these studies are shown below:

*H<sub>1</sub>*: There is a significant and positive relationship between the styles of manager and team performance.

*H<sub>1a</sub>*: There is a significant and negative relationship between the autocratic style of manager and team performance.

*H<sub>1b</sub>*: There is a significant and positive relationship between the democratic style of manager and team performance.

*H<sub>1c</sub>*: There is a significant and positive relationship between the laissez-faire style of manager and team performance.

*H<sub>1d</sub>*: There is a significant and positive relationship between the transformational style of manager and team performance.

*H<sub>1e</sub>*: There is a significant and negative relationship between the transactional style of manager and team performance.

### **The relationship between styles of manager and organizational justice**

According to the relevant literature view, many local and foreign studies in which the relationships were determined between the styles of manager and its sub-dimensions as autocratic, democratic, laissez-faire, transformational and interactional and organizational justice and sub-dimensions as distributive, procedural and interactional justice have been encountered (Pillai, Scandura and Williams, 1999:765-766; Uslu, 2021:23; Tyler and Caine, 1981:642; Karataş, 2019:26; Turgut, Tokmak and Ateş, 2015:424-425; Kara, 2020:79; Tatum, Eberlin, Kottraba and Bradberry, 2003:1006-1016; Demir, 2008:197; Hendrian and Patiro, 2020:25-26; Dilek, 2005: 129; Arslantaş and Pekdemir, 2007:261; Gefen, Ragowsky and Riddings, 2008:507; Demirel, 2009:137; Altinkurt and Yılmaz, 2010: 463; Yıldırım, 2010: 108-109; Uğurlu and Üstüner, 2011: 434; Akyüz, 2012: 108; Grover and Coppins, 2012: 490; Çıraklı, Uğurluoğlu, Şantaş and Çelik, 2014: 53; Yılmaz, 2019: 63-100). A local study on the education sector observed a significant positive or negative relationship between styles of manager (leadership) and organizational justice perceptions. The study revealed the positive relationships between the democratic style of manager (leadership) and sub-dimensions of organizational justice as distributive, procedural and interactional justice. On the other hand, it also revealed the negative relationships between autocratic and laissez-faire styles of manager (leadership) and three sub-dimensions of organizational justice (Arabacı, 2019: 66-67). In another local study conducted on blue-collar employees working in a consumer electronics company, a significant relationship was found between the transformational style of manager (leadership) and organizational justice and its three sub-dimensions (Arslantaş and Pekdemir, 2007: 285). Similarly, in another local study conducted in the education sector, a high level of positive correlation was found between the transformational style of manager (leadership) and perceived organizational justice (Güneş and Buluç, 2012: 423). In another local study conducted in the tourism sector, positive and significant relationships were determined between transformational and transactional styles of manager (leadership) and perceived organizational justice and its three sub-dimensions (Baltacı, Güçlü and Çeliker, 2014: 363). The main hypothesis and sub-hypotheses developed in line with the findings of these studies are shown below:

*H<sub>2</sub>*: There is a significant positive relationship between the styles of manager and organizational justice.

*H<sub>2a</sub>*: There is a significant and negative relationship between the autocratic style of manager and organizational justice.

*H<sub>2b</sub>*: There is a significant and positive relationship between the democratic style of manager and organizational justice.

*H<sub>2c</sub>*: There is a significant and positive relationship between the laissez-faire style of manager and organizational justice.

*H<sub>2d</sub>*: There is a significant positive relationship between the transformational style of manager and organizational justice.

*H<sub>2e</sub>*: There is a significant and negative relationship between the transactional style of manager and organizational justice.

### **The relationship between organizational justice and team performance**

According to the relevant literature review, it has been understood that organizations which treat their employees and work teams fairly are more successful. In this context, there are some foreign studies which revealed that there was a relationship between perceived organizational justice and team

performance (Jordan, Gillentine and Hunt, 2004:139; Whisenant and Jordan, 2006:55; Cropanzano, Li and Lii, 2011:567; Sinclair, 2003:74; Yu, He, Liu, Wang and Yuan, 2022:1; Colquitt, Zapota-Phelan and Roberson, 2005:53; Colquitt, Noe and Jackson, 2002:83). According to the findings of a meta-analysis, there was a relationship between performance and perceived organizational justice. It was also pointed out that this relationship was weak in distributive and interactional justice. However, this relationship was moderate when considering procedural justice (Colquitt, Conlon, Wesson, Porter and Ng, 2001: 437). Similar findings were supported in other foreign studies conducted on team sports (Whisenant and Jordan, 2006: 73; Jordan et al., 2004:139; Cropanzano et al., 2011:580). The main hypothesis and sub-hypotheses developed in line with the findings of these studies are shown below:

*H<sub>3</sub>: There is a significant positive relationship between organizational justice and team performance.*

*H<sub>3a</sub>: There is a significant positive relationship between distributive justice and team performance.*

*H<sub>3b</sub>: There is a significant positive relationship between procedural justice and team performance.*

*H<sub>3c</sub>: There is a significant positive relationship between interactional justice and team performance.*

### **The mediating role of organizational justice**

According to the relevant literature review, many studies have revealed that organizational justice has a mediating role in the effect of the styles of manager (leadership), such as transformational, transactional, servant or moral, on the employee or organizational performance (Khan, Idris and Amin, 2021:1; Zehir, Akyüz, Eren and Turhan, 2013:1; Karam, Hu, Davison, Juravich, Nahrgang, Humphrey and Derue, 2019:134; Alamir, 2019:749; Khuong and Quoc, 2016:327; Rokhman, 2011:197; Katou, 2015:329; Wang, Wang and Song, 2019:64). However, there is no study examining the mediating role of organizational justice in the effect of the styles of manager on team performance. Thus, it has pointed to a literature gap. Based on these studies, the main hypothesis and sub-hypotheses developed are shown below:

*H<sub>4</sub>: Organizational justice has a mediating role in the effect of the styles of manager on team performance.*

*H<sub>4a</sub>: Organizational justice has a mediating role in the effect of the autocratic style of manager on team performance.*

*H<sub>4b</sub>: Organizational justice has a mediating role in the effect of the democratic style of manager on team performance.*

*H<sub>4c</sub>: Organizational justice has a mediating role in the effect of the laissez-faire style of manager on team performance.*

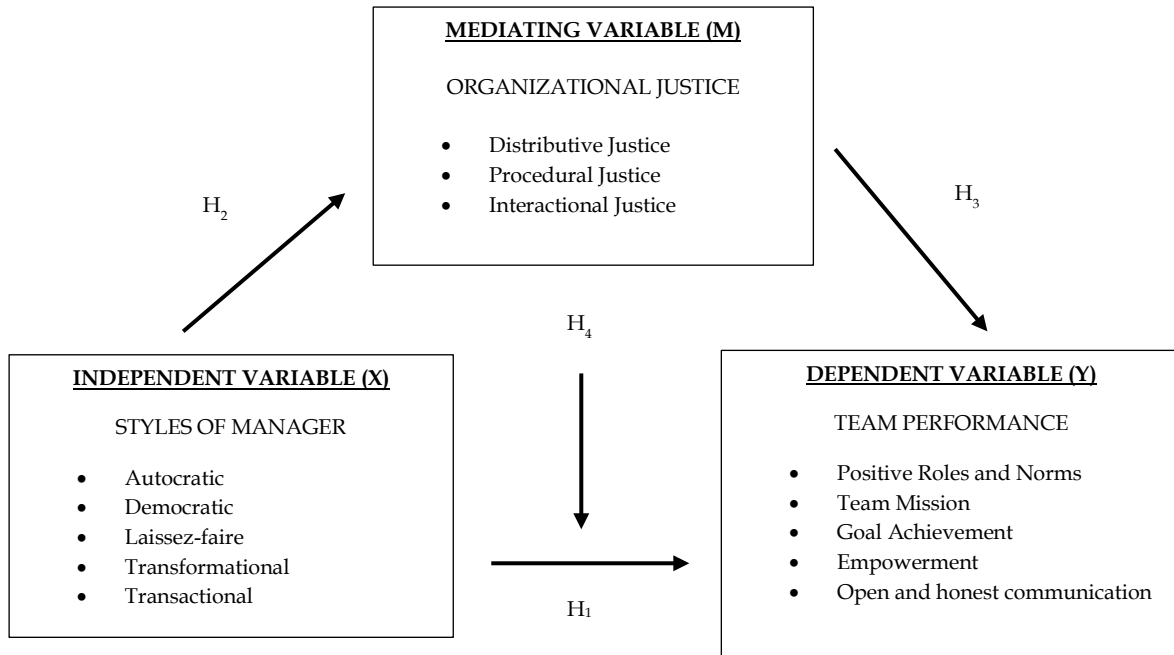
*H<sub>4d</sub>: Organizational justice has a mediating role in the effect of the transformational style of manager on team performance.*

*H<sub>4e</sub>: Organizational justice has a mediating role in the effect of the transactional style of manager on team performance.*

## **Research methodology**

### **Research model**

The research was designed in the structural equation model, and the theoretical information obtained from the literature review about the terms and the findings of the previous studies was used to develop the model. There are three variables in the model. As the styles of manager are the independent variable of the model, team performance is the dependent variable, and organisation is the mediating variable. Accordingly, the model of the research is shown in Figure 1 below:



**Figure 1:** The Research Model

**The universe and the sample of the research**

The research universe consists of 10.000 cabin crew members working in an İstanbul based airline company with an important brand value in the Turkish civil aviation sector. Since it was impossible to reach all cabin crew members in the universe of this research, sampling was used. The convenience sampling method, one of the non-random sampling methods, aims to include individuals who want to participate in and into the sample. Therefore, finding participants continues until the determined sample size is reached. This method saves time and cost (Ural and Kılıç, 2011:43). In line with this information, volunteer cabin crew members were found using the convenience sampling method while collecting the data for this research. Therefore, a reliable number of samples calculated with a 95% confidence level and +/- 5% error for the population of 10.000 cabin crew members is 370 (Yazıcıoğlu and Erdoğan, 2004:50). However, as a result of the face-to-face survey study carried out in a period covering the months of January-April 2022, the sample of this research consisted of 601 cabin crew members working in an İstanbul-based airline company. The descriptive characteristics of the sample are given in Table 1 below.

**Table 1:** Distribution of Cabin Crew Members' Demographic Characteristics

Variables	N	%
<b>Gender</b>		
Female	263	43,8
Male	338	56,2
<b>Total</b>	<b>601</b>	<b>100</b>
<b>Age</b>		
18-24	84	14,0
25-34	256	42,6
35-44	176	29,3
45 and over	85	14,1
<b>Total</b>	<b>601</b>	<b>100</b>
<b>Marital Status</b>		
Single	352	58,6
Married	249	41,4
<b>Total</b>	<b>601</b>	<b>100</b>
<b>Education Level</b>		
High School	59	9,8
Associate Degree	196	32,6
Bachelor's Degree	293	48,8
Graduate Degree	53	8,8
<b>Total</b>	<b>601</b>	<b>100</b>
<b>Duty/Title</b>		
Cabin Attendant	341	56,7
Cabin Chief	174	29,0
Purser	86	14,3
<b>Total</b>	<b>601</b>	<b>100</b>
<b>Seniority</b>		
1-5 years	98	16,3
6-10 years	243	40,4
11-15 years	174	29,0
16 years and over	86	14,3
<b>Total</b>	<b>601</b>	<b>100</b>

### Data collection tools

The questionnaire form used in the research consists of four parts. In the first part of the questionnaire, questions were asked to reach the demographic characteristics such as gender, age, marital status, education level, duty/title and seniority of the cabin crew members who comprised the sample of the research in the aviation sector. The second part of the questionnaire used the "Leadership Style Behavior Scale" (Style of Manager Behavior Scale) to determine the manager's styles. Taş, Çelik and Tomul developed the related scale in 2007. The related scale consists of 59 items and five dimensions. These dimensions are; democratic, autocratic, laissez-faire, transformational and transactional manager (leadership) behaviour styles. A 5-point Likert-type scale was applied (Taş, Çelik and Tomul, 2007: 85-96). The third part of the questionnaire used the "Team Performance Scale" to determine team performance. This scale was developed by Hoevermeyer in 1993 and adapted into Turkish by İçigen in 2008. Again, a 5-point Likert-type scale was applied.

The scale consists of 20 items and five dimensions. These dimensions are; positive roles and norms, team mission, goal achievement, empowerment and open and honest communication (İçigen, 2008:91-154). In the fourth part of the questionnaire, the "Organizational Justice Scale" was used to determine the perceived organizational justice of cabin crew members. The related scale was developed by Niehoff and Moorman in 1993 and was adapted into Turkish by Polat in 2007. In addition, a 5-point Likert-type scale was also applied. The scale consists of 19 items and three dimensions. These dimensions are; distributive, procedural, and interactional justice (Polat, 2007:94). As in the other scales used in the

research, some changes were made according to the aviation terminology without damaging the semantic integrity of the relevant items to better understand the items in this scale by the cabin crew members. The necessary permissions were obtained from the researchers who developed and adapted all the scales used in the study via e-mail. In addition, consent for the survey study was obtained from the relevant airline company where the survey was applied. The survey was conducted in January-April 2022 when fewer flight operations were carried out than in the summer.

Before any statistical analysis, it should be examined whether the data set shows a normal distribution (Arslan, Tunç and Çolak, 2020:62). Examining the Skewness and Kurtosis coefficient values in normality tests is one of the techniques used (Karakaya, Ünal, Çimen and Yılmaz, 2018:128). In line with this assumption, The Skewness and Kurtosis coefficient values were calculated to determine whether the manager (leadership) style behaviour, team (team) performance and organizational justice scales and dimensions have a normal distribution according to the number of the sample shown in Table 2 below:

**Table 2:** Normality Test

Variables n=601	Min.	Max.	Mean	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Autocratic	1,00	5,00	2,97	1,00	0,11	0,10	-0,96	0,20
Democratic	1,00	5,00	3,60	0,94	-0,79	0,10	-0,23	0,20
Laissez-faire	1,50	5,00	3,38	0,76	-0,55	0,10	-0,67	0,20
Transformational	1,00	5,00	3,25	1,02	-0,54	0,10	-0,76	0,20
Transactional	1,00	4,86	3,30	0,40	-0,32	0,10	4,23	0,20
Styles of Manager	2,12	4,41	3,29	0,46	-0,51	0,10	-0,55	0,20
Positive Roles and Norms	1,25	5,00	3,82	0,80	-0,83	0,10	0,16	0,20
Team Mission	1,25	5,00	3,82	0,80	-0,83	0,10	0,38	0,20
Goal Achievement	1,00	5,00	3,62	0,86	-0,68	0,10	-0,10	0,20
Empowerment	1,25	5,00	3,49	0,84	-0,36	0,10	-0,43	0,20
Open-honest com.	1,00	5,00	3,38	1,01	-0,53	0,10	-0,74	0,20
Team Performance	1,25	5,00	3,62	0,80	-0,65	0,10	-0,29	0,20
Distributive	1,00	5,00	2,90	1,00	-0,06	0,10	-1,03	0,20
Procedural	1,00	5,00	3,18	0,98	-0,34	0,10	-0,89	0,20
Interactional	1,00	5,00	3,33	1,17	-0,41	0,10	-0,99	0,20
Organizational Justice	1,00	4,95	3,13	0,97	-0,23	0,10	-1,07	0,20

According to George and Mallery (2016), it is excellent that Skewness and Kurtosis coefficient values are  $\pm 1.0$  as it is acceptable that they are  $\pm 2.0$ . From this view, when the Kurtosis and Skewness coefficient values of the scores obtained from each scale and its dimensions in Table 2 above were examined, it was determined that the data were normally distributed.

## Findings of the research

### Reliability and confirmatory factor analysis results regarding the scales

As a result of the reliability analysis applied to calculate the internal consistency of the scales, it was determined that Cronbach's Alpha coefficient of the styles of manager (leadership) scale was 0,952; team performance scale was 0,954, and organizational justice was 0,970. These obtained values show that the scales are quite reliable (Kılıç, 2016:48). Additionally, to test the validity of the three scales, confirmatory factor analysis (CFA) was applied by using AMOS 24 program, and the structures of the scales were examined.

When the analysis results of the scale used to measure the managerial styles perceptions of the cabin crew members were evaluated, it was determined that some goodness of fit indices were not within the acceptable limits. In order to increase the goodness-of-fit in the factor structure, the correction indices were examined again, and the covariance was developed between the error terms of the five-factor scale. After the necessary modifications, with the first level multifactor confirmatory factor analysis, the goodness of fit values ( $\chi^2[1113, N = 601] = 5494,62$ ;  $p < 0,01$ ;  $\frac{\chi^2}{sd} = 4,97$ ; RMSEA = .08; CFI = .86; IFI = .86; RMR = .09) were found in the confidence interval of the fit indices (Dalkılıç, 2019:33; Ergül and Yılmaz,

2020:46; Avşar, 2007:50). Therefore, the relevant values revealed that the proposed five-factor model was compatible and acceptable with the data. Additionally, the path coefficients, called factor loads in general, were found to be statistically significant ( $p < 0,001$ ). So, the factor loads of the items under the autocratic, democratic, laissez-faire, transformational and transactional styles of manager factors of this scale were between 0,64-0,84; 0,62-0,91; 0,70-0,92; 0,71-0,89 and 0,65-0,85.

When the analysis results of the scale used to measure the team performance perceptions of the cabin crew members were evaluated, it was determined that some goodness-of-fit indices were not within the acceptable limits. In order to increase the goodness of fit in the factor structure, the correction indices were examined again, and the covariance was developed between the error terms of the five-factor scale. After the necessary modifications, with the first level multifactor confirmatory factor analysis, the goodness of fit values ( $\chi^2[160, N = 601] = 5494,62$ ;  $p < 0,01$ ;  $\frac{\chi^2}{sd} = 4,15$ ; RMSEA=.12; CFI=.87; IFI=.87; RMR=.06) were found in the confidence interval of the fit indices (Dalkılıç, 2019:33; Ergül and Yılmaz, 2020:46; Avşar, 2007:50). Therefore, the relevant values revealed that the proposed five-factor model was compatible and acceptable with the data. Additionally, the path coefficients, called factor loads in general, were found to be statistically significant ( $p < 0,001$ ). So, the factor loads of the items under positive roles and norms, team mission, goal achievement, empowerment and open and honest communication factors of this scale were between 0,62-0,86; 0,73-0,88; 0,75-0,82; 0,76-0,88 ve 0,63-0,82.

When the analysis results of the scale used to measure the organizational justice perceptions of the cabin crew members were evaluated, it was determined that some goodness-of-fit indices were not within acceptable limits. In order to increase the goodness of fit in the factor structure, the correction indices were examined again, and the covariance was developed between the error terms of the three-factor scale. After the necessary modifications, with the first level multifactor confirmatory factor analysis, the goodness of fit values ( $\chi^2[147, N = 601] = 739,564$ ;  $p < 0,01$ ;  $\frac{\chi^2}{sd} = 5,00$ ; RMSEA=.10; CFI=.92; IFI=.92; RMR=.06) were found in the confidence interval of the fit indices (Dalkılıç, 2019:33; Ergül and Yılmaz, 2020:46; Avşar, 2007:50). Therefore, the relevant values revealed that the proposed three-factor model was compatible and acceptable with the data. The path coefficients, also called factor loads generally, were statistically significant ( $p < 0,001$ ). So, the factor loads of the items under this scale's distributive, procedural and interactional justice factors were between 0,63-0,87; 0,77-0,87 ve 0,83-0,87.

**Hypothesis tests**

Correlation analysis was conducted to determine the relationships between three variables of the research styles: manager, team performance and organizational justice. The findings regarding the relationships between the variables are shown in Table 3 below:

**Table 3:** Correlation Analysis Results

V.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ASM	-----															
DSM	-,604**	-----														
LSM	-,633**	,704**	-----													
TFSM	-,592**	,889**	,682**	-----												
TSSM	,010	,147**	,031	,074	-----											
SM	-,395**	,919**	,684**	,919**	,256**	-----										
PRN	-,546**	,606**	,507**	,623**	,147**	,577**	-----									
TM	-,474**	,553**	,463**	,575**	,122**	,539**	,862**	-----								
GA	-,561**	,737**	,599**	,751**	,165**	,722**	,827**	,826**	-----							
EMP	-,626**	,701**	,582**	,715**	,175**	,660**	,798**	,735**	,826**	-----						
OHC	-,593**	,753**	,615**	,770**	,220**	,738**	,841**	,768**	,866**	,836**	-----					
TP	-,608**	,730**	,602**	,748**	,182**	,705**	,933**	,901**	,941**	,908**	,939**	-----				
DJ	-,617**	,562**	,545**	,602**	,097*	,526**	,563**	,517**	,636**	,625**	,626**	,644**	-----			
PJ	-,626**	,640**	,587**	,653**	,083*	,589**	,591**	,521**	,653**	,635**	,685**	,671**	,832**	-----		
IJ	-,660**	,626**	,612**	,649**	,109**	,570**	,616**	,553**	,659**	,645**	,665**	,681**	,771**	,873**	-----	
OJ	-,669**	,649**	,615**	,674**	,099*	,598**	,623**	,558**	,687**	,671**	,701**	,704**	,920**	,972**	,923**	-----

\*\* Correlation is significant at the 0.01 level (2-tailed). \* Correlation is significant at the 0.05 level (2-tailed).

When the correlation analysis results in Table 3 above are examined to determine the relationship between the styles of manager and team performance, there is a high positive relationship between the styles of manager and team performance ( $r=0,705$ ). Therefore, one of the main hypotheses, "H<sub>1</sub>: There is a significant and positive relationship between the styles of manager and team performance." was accepted.

It was also concluded that there is a moderate negative relationship between the autocratic style of manager and team performance ( $r=0,608$ ). There is a strong positive relationship between the democratic style of manager and team performance ( $r=0,730$ ). There is a moderate positive relationship

between the laissez-faire style of manager and team performance ( $r=0,602$ ). There is a strong positive relationship between the transformational style of manager and team performance ( $r=0,748$ ). There is a weak positive relationship between the transactional style of manager and team performance ( $r=0,182$ ). Therefore, the sub-hypotheses, "H<sub>2a</sub>: There is a significant and negative relationship between the autocratic style of manager and organizational justice.", "H<sub>2b</sub>: There is a significant and positive relationship between the democratic style of manager and organizational justice.", "H<sub>2c</sub>: There is a significant and positive relationship between laissez-faire style of manager and organizational justice." and "H<sub>2d</sub>: There is a significant and positive relationship between the transformational style of manager and organizational justice." were accepted. However, one of the sub-hypotheses, "H<sub>2e</sub>: There is a significant and negative relationship between the transactional style of manager and organizational justice." was rejected.

When the correlation analysis results in Table 3 above are examined to determine the relationship between the styles of manager and organizational justice, there is a moderate positive relationship between the styles of manager and organizational justice ( $r=0,598$ ). Therefore, one of the main hypotheses, "H<sub>2</sub>: There is a significant and positive relationship between the styles of manager and organizational justice." was accepted.

It was also concluded that there is a moderate negative relationship between the autocratic style of manager and organizational justice ( $r=-0,669$ ). There is a moderate positive relationship between the democratic style of manager ( $r=0,649$ ), the laissez-faire style of manager ( $r=0,615$ ) and the transformational style of manager ( $r=0,674$ ) and organizational justice. However, there is a weak positive relationship between the transactional style of the manager ( $r=0,099$ ) and organizational justice. Therefore, one of the sub-hypotheses, "H<sub>2a</sub>: There is a significant and negative relationship between the autocratic style of manager and organizational justice.", "H<sub>2b</sub>: There is a significant and positive relationship between the democratic style of manager and organizational justice.", "H<sub>2c</sub>: There is a significant and positive relationship between laissez-faire style of manager and organizational justice." and "H<sub>2d</sub>: There is a significant and positive relationship between the transformational style of manager and organizational justice." were accepted. However, one of the sub-hypotheses, "H<sub>2e</sub>: There is a significant and negative relationship between the transactional style of manager and organizational justice." was rejected.

When the correlation analysis results in Table 3 above are examined to determine the relationship between organizational justice and team performance, there is a high positive relationship between organizational justice and team performance ( $r=0,704$ ). Therefore, one of the main hypotheses, "H<sub>3</sub>: There is a significant and positive relationship between organizational justice and team performance." was accepted.

It was also concluded that there is a moderate positive relationship between distributive justice ( $r=0,644$ ), procedural justice ( $r=0,671$ ) and interactional justice ( $r=0,681$ ) and team performance. Therefore, one of the sub-hypotheses, "H<sub>3a</sub>: There is a significant and positive relationship between distributive justice and team performance.", "H<sub>3b</sub>: There is a significant and positive relationship between procedural justice and team performance." and "H<sub>3c</sub>: There is a significant and positive relationship between interactional justice and team performance." were accepted.

### **Mediating role analysis**

In order to test the mediating role of organizational justice in the effect of the styles of the manager on team performance, the structural model drawn with the AMOS 24 program is given in Figure 2 below:



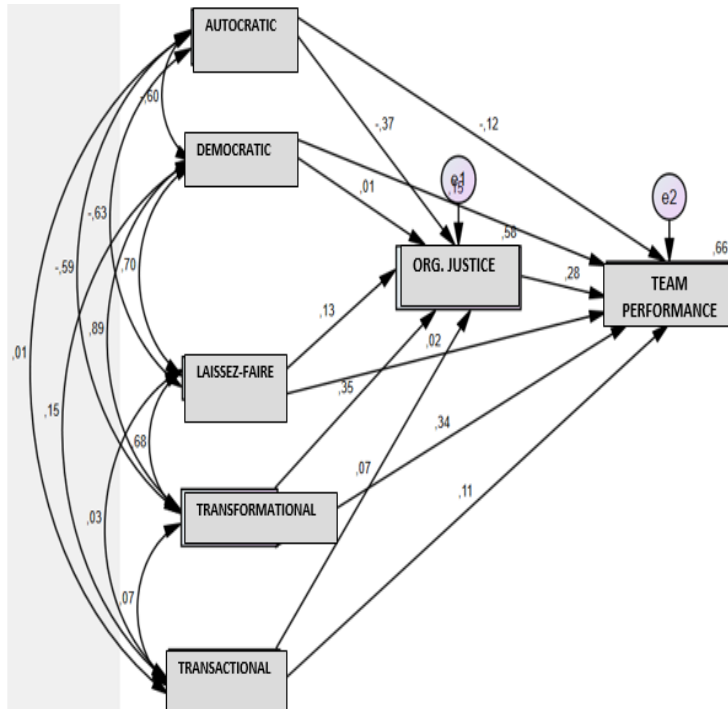


Figure 2: Structural Model

In order to test the mediating role of organizational justice in the effect of the styles of manager applied to the cabin crews on team performance, the bootstrap method was used in the structural model drawn. The significance of indirect effects was examined to test the mediating role of organizational justice, and the bootstrap method was applied to this analysis. In Figure 3 below, all relationships were established on the structural model in which the mediating role of the organisation was examined, and it was shown that the relevant model was supported well according to the calculated regression coefficients:

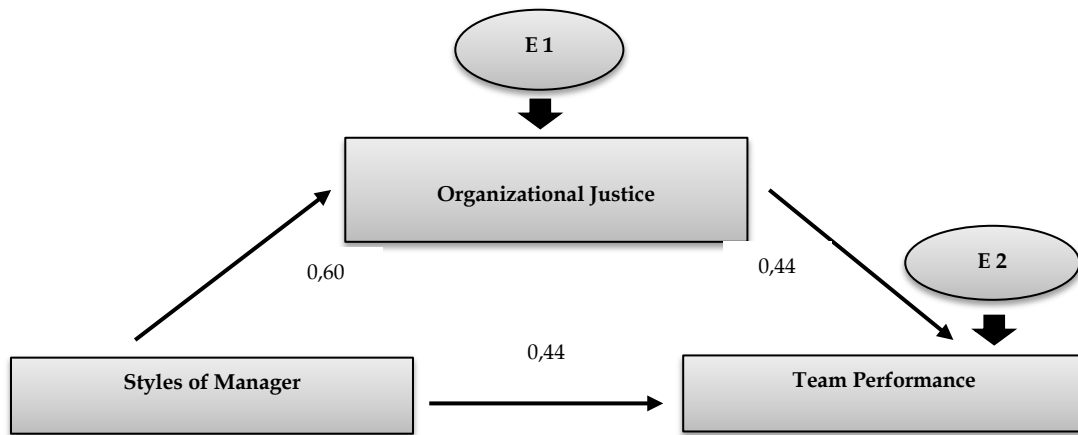


Figure 3: Demonstration of the Findings Related to the Hypothesis Tests on the Research Model

The results of the path analysis conducted to reveal the effect between the variables and to offer the lower and upper values of the confidence interval corrected by % 95 and indirect effects are shown in Table 4 below:

Table 4: The Findings Related to the Path Analysis

Effect of Moderating Role	Direct Effect	Indirect Effect	Bootstrap Confidence Interval
A → OJ → TP	-0.374**	-0.104***	-0.151- (-0.169)
D → OJ → TP	0.15*	0.003	-0.031-0.039
LF → OJ → TP	0.015	0.036**	0.014-0.067
TF → OJ → TP	0.335***	0.097***	0.057-0.152
TS → OJ → TP	0.108**	0.02**	0.006-0.039
SM → OJ → TP	0.44***	0.263***	0.221-0.310

Note: n=601, Bias Corrected % 95, \*\*\*p<.001

If the zero value covers confidence intervals, the indirect effect will likely be zero. In this case, the mediating role effect will not be statistically significant (Preacher and Hayes, 2008:886). When Table 4 above was examined, it was seen that the bootstrap confidence intervals did not cover the value of zero.

When Table 4 above is examined, the mediating role of organizational justice in the effect of the styles of manager on team performance is seen as the styles of manager have a significant effect on team performance ( $R=0.440$ ;  $p<0.01$ ), this effect is also observed when organizational justice is included in the model as a moderating variable ( $R=0,263$ ;  $p<0.001$ ). According to this finding, it is concluded that organizational justice partially mediates the effect of the styles of manager on team performance. Therefore, one of the main research hypotheses, "H<sub>1</sub>: Organizational justice has a mediating role in the effect of the styles of manager on team performance." was accepted.

When Table 4 above is examined, the mediating role of organizational justice in the effect of the autocratic style of manager on team performance is seen. As the autocratic style of manager has a significant effect on team performance ( $R=-0.374$ ;  $p<0.01$ ), this effect is also observed when organizational justice is included in the model as a moderating variable ( $R=-0.104$ ;  $p<0.001$ ). According to this finding, it is concluded that organizational justice has a partial mediating role in the effect of the autocratic style of manager on team performance. Therefore, one of the research sub-hypotheses, "H<sub>4a</sub>: Organizational justice has a mediating role in the effect of the autocratic style of manager on team performance." was accepted.

When Table 4 above is examined, it is seen that the democratic style of manager has a significant effect on team performance ( $R=0.15$ ;  $p<0.05$ ); however, this effect is not observed when organizational justice is included in the model as a mediating variable ( $R=0.003$ ;  $p>0.05$ ). Therefore, according to this finding, organizational justice has no mediating role in the effect of the democratic style of manager on team performance. Therefore, one of the research sub-hypotheses, "H<sub>4b</sub>: Organizational justice has a mediating role in the effect of democratic style of manager on team performance." was rejected.

When Table 4 above is examined, it is seen that the laissez-faire style of manager has a significant effect on team performance ( $R=0.602$ ;  $p<0.001$ ), as organizational justice is included in the model as a moderating role, this direct effect disappears ( $R=0.015$ ;  $p>0.05$ ), the relevant model is significant ( $R=0.036$ ;  $p<0.01$ ). According to this finding, it is seen that organizational justice has a fully mediating role in the effect of the laissez-faire style of manager on team performance. Therefore, one of the research sub-hypotheses, "H<sub>4c</sub>: Organizational justice has a mediating role in the effect of a laissez-faire style of manager on team performance." was accepted.

When Table 4 above is examined, it is seen that the transformational style of manager has a significant effect on team performance ( $R=0.335$ ;  $p<0.01$ ). This effect is also observed when organizational justice is included in the model as a moderating variable ( $R=0.097$ ;  $p<0.001$ ). According to this finding, it is concluded that organizational justice has a partial mediating role in the effect of the transformational style of manager on team performance. Therefore, one of the research sub-hypotheses, "H<sub>4d</sub>: Organizational justice has a mediating role in the effect of transformational style of manager on team performance." was accepted.

When Table 4 above is examined, the transactional style of manager significantly affects team performance ( $R=0.108$ ;  $p<0.01$ ). This effect is also observed when organizational justice is included in the model as a moderating variable ( $R=0.02$ ;  $p<0.01$ ). According to this finding, it is concluded that organizational justice has a partial mediating role in the effect of the transactional style of manager on team performance. Therefore, one of the research sub-hypotheses, "H<sub>4e</sub>: Organizational justice has a mediating role in the effect of the transactional style of manager on team performance." was accepted.

## Conclusions and recommendations

In this research on cabin crews in the aviation sector, it was examined to determine the moderating role of organizational justice in the effect of the styles of manager on team performance.

Firstly in this research, the cabin crew members' perceptions and opinions about the styles of managers applied to them in teamwork, their team performance and perceived organizational justice were questioned. As a result of the evaluation made on the five-point Likert type scale, it has been shown that the cabin crew members' opinions about applied styles of manager have mean values of 3,29, their perceptions of team performance have the mean values of 3,62, and again their perceptions of justice within both the organization and their teams have the mean values of 3,13. In particular, it has been determined that the cabin crew members have a high perceived democratic style of manager (mean value: 3,60), positive roles and norms and team mission (mean value: 3,82), and interactional justice (mean value: 3,33). Thus, the cabin crew members think their cabin chiefs apply a democratic style of

manager to them compared to the other styles of manager. Therefore, their perceptions of interactional justice will be at a high level. Additionally, it is understood that the cabin crew members do not hesitate to come together around the general team mission about the safe and secure completion of a flight operation and demonstrate their knowledge and skills for completing the relevant mission.

The relationships between the styles of managers, team performance and organizational justice perceptions by correlation analysis were examined in this study. As a result, it has been revealed that there were significant and positive relationships between all three variables. As a result of the hypotheses tests, the first three main hypotheses of the research, H<sub>1</sub>, H<sub>2</sub>, and H<sub>3</sub>, were confirmed and accepted.

According to the literature review conducted on these three variables in this research, numerous local and foreign studies which examined separately these variables; however especially including team performance variable very few were found (Dionne, Yammarino, Atwater and Spangler, 2004:177; Boies, Fiset and Gill, 2015:1080; Mumford, Scott, Gaddis and Strange, 2002:705; Schaubroeck, Lam and Cha, 2007:1020; Raso and Abdul, 2015:30; Krishna, 2011:152; Mach, Ferreira and Abrantes, 2022:662; Fletcher, 1999:150; Chi and Huang, 2014:300; Bass, Avolio, Jung and Berson, 2003:207; Burke, Stagl, Klein, Goodwin, Salas and Halpin, 2006:288; Wang et al., 2011:223; Jung and Sosik, 2002:313; Merlo-Pirola, Hartel, Mann and Hirst, 2002:561; İnce, Bedük and Aydoğan, 2004:439; Akdemir and İnal, 2022:635; Çakır, 2000:149-153; Günaydın and İnal, 2022:61; Becerikli, 2013:93; Çolakoğlu, 2018:80; Pınar, 2014:89; Selçuk, 2007:83-88; Gayef, 2006:71-75; Çankaya and Karakuş, 2010:180; Jordan et al., 2004:139; Whisenant and Jordan, 2006:55; Cropanzano et al., 2011:567; Sinclair, 2003:74; Yu et al., 2022:1; Colquitt et al., 2005:53; Colquitt et al., 2002:83; Pillai et al., 1999:765-766; Uslu, 2021:23; Tyler and Caine, 1981:642; Karataş, 2019:26; Turgut vd., 2015:424-425; Kara, 2020:79; Tatum et al., 2003:1006-1016; Demir, 2008:197; Hendrian and Patiro, 2020:25-26; Dilek, 2005: 129; Arslantaş ve Pekdemir, 2007:261; Gefen et al., 2008:507; Demirel, 2009:137; Altinkurt and Yılmaz, 2010: 463; Yıldırım, 2010: 108-109; Uğurlu and Üstüner, 2011: 434; Akyüz, 2012: 108; Grover and Coppins, 2012: 490; Çıraklı vd., 2014: 53; Yılmaz, 2019: 63-100). The research results generally supported the other results of the previous studies reviewed in the literature.

In the research, a structural model was developed to determine the mediating role of organizational justice in the effect of the styles of manager on team performance. As a result of the path analysis, it has been determined that organizational justice partially moderates the effect of the styles of manager on team performance. Therefore, the last main hypothesis of the research, "H<sub>4</sub>: Organizational justice has a mediating role in the effect of the styles of manager on team performance." was confirmed and accepted. Due to the lack of research on the mediating role of organizational justice on these variables, the research results cannot be compared. It is considered that this aspect of the research will contribute to future studies and enable some comparisons to be made.

According to the moderating role analysis conducted, it has been concluded that the styles of manager applied by the cabin chiefs is insufficient. Therefore, it is understood that it is important to positively increase the organizational justice perceptions of the cabin crew members.

Finally, some recommendations that will guide airline company managers and cabin chiefs in increasing the performance of the cabin crews and their perceptions of organizational justice more positively have been listed below:

- In the process of upgrading to the duty/title of cabin chief, a fair upgrade procedure should be formed and implemented by developing a performance evaluation system based on not only seniority; but also flight experience, graduate education, foreign language knowledge and leadership characteristics of the relevant cabin crew members.
- An effective talent management system should be developed to benefit from the different expertise and skills of the cabin crew members having various educational backgrounds such as teaching, nursing and engineering, regardless of their duties/titles, both in the cabin crew training programs and the management of cabin crews.
- For the procedures, bulletins and rules that may be overlooked in the busy flight schedules to be implemented effectively by all cabin crew members, the relevant documents should be published in a shorter and more attractive format with high-lighted colours.
- Both individual development and performance evaluation meetings should be held periodically with all cabin crew members.
- Different surveys should be conducted on all cabin crew members to identify issues that can

improve team performance.

- An open-door policy should be followed so that all cabin crew members can express themselves freely.

### **Limitations and implications**

This research has some limitations. First, this research was conducted in a single but large sector, such as aviation and a sample of a certain number of cabin crews. In order to generalize the results and obtain interesting findings in the relevant sector, it can be applied to the different sample groups such as cockpit, technical and ground personnel where team performance is present.

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### **Author Contributions:**

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## A netnography study examined consumer perception towards cryptocurrency investment during the COVID-19 pandemic

### COVID-19 döneminde kripto para yatırımına karşı tüketici algısını inceleyen bir netnografi çalışması

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#### Abstract

There is an increasing interest in cryptocurrencies, especially with the change brought to our lives by the COVID-19 pandemic regarding digital platforms. In this context, it is seen that many YouTube channels and Twitter accounts have digital interaction and produce current content about the circulation of digital currency that users have an intense interest in Turkey. Therefore, a three and half years (2019-2022) netnographic field study was conducted focusing on YouTube and Twitter platforms to evaluate interaction trends in the attitudes and behaviours of users about cryptocurrency investments in Turkey and compared to the pre-pandemic period. The study results show that, with the economic recession resulting from the pandemic, people and companies have an increasing interest in cryptocurrencies, especially in terms of saving and investment. This reveals that the increase in interest has transformed the pre-pandemic negative perception, and users have taken steps to interact and invest more.

**Keywords:** Blockchain, COVID-19 Pandemic, Cryptocurrency, Netnography, Twitter and YouTube

**Jel Codes:** A13, C93, D71, G41, M31

#### Öz

COVID-19 salgın döneminin dijital platformların kullanımına dair hayatlarımıza getirdiği değişim ile birlikte kripto paralara karşı artan bir ilgi düzeyinin olması dikkat çekicidir. Bu bağlamda, Türkiye’de kripto para dolaşımı üzerine dijital etkileşimin bulunduğu çok sayıda YouTube kanalı ve Twitter hesabının güncel içerik üretimi gerçekleştirdiği ve kullanıcıların bu konu hakkındaki yoğun etkileşim ilgisi görülmektedir. Araştırma dahilinde, Türkiye’de kripto para yatırımına karşı kullanıcıların tutum ve davranışlarının nasıl bir etkileşim yönelimi aldığını ve salgın dönemi öncesine göre nasıl bir değişimin olduğunu incelemek üzere YouTube ve Twitter platformlarını odağına alan üç buçuk yıllık (2019-2022) netnografik bir saha çalışması yürütülmüştür. Çalışmadan elde edilen bulgular, salgın döneminin yarattığı ekonomik resesyon ile birlikte kullanıcıların ve firmaların özellikle ekonomik birikim ve yatırım alanında kripto paralara karşı artan bir ilgisinin olduğunu göstermektedir. Bu ilgi artışının Türkiye’deki kripto para yatırımına yönelik salgın öncesi olumsuz algı koşullarını dönüştürdüğünü; kullanıcıların daha çok etkileşim kurmaya ve yatırım yapmaya yönelik adım attıklarını ortaya koymaktadır.

**Anahtar Kelimeler:** Blok Zinciri, COVID-19 Salgını, Kripto Para, Netnografi, Twitter ve YouTube

**JEL Kodları:** A13, C93, D71, G41, M31

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## Introduction

Trade has existed throughout human history, and goods and services have been exchanged in various ways. These exchanges took place with products equivalent to goods or services, precious metals, and finally, money (Weatherford, 2009, pp. 15-27; Karaoğlan, Arar and Bilgin, 2018, p. 16). The difficulties experienced in commercial relations through barter forced the invention of money as a value to replace barter (Ricardo, 1817; Aristoteles, 2000; Harari, 2016; Fidan, Dilek and Esev 2019, pp. 142-143).

The Lydians introduced the first money known to be officially used in the world in 650 BC, and it was called 'electron'. After the electron started to be used in the country, it was accepted by the surrounding cultures, became widespread rapidly, and was used as the main currency in all commercial activities. Paper money was invented when parchment was found in China. The state guaranteed that the amount written on the paper used as money would be met with gold or silver according to its value. The first step was taken towards the symbolization of money as a commercial exchange value (Akbulut, 2009).

The biggest and most valuable asset of today's society in circulation is data and the intellectual capital that controls this data (Kaku, 2014). Today's data society symbolically exchanges and legitimizes all values and commodities through digital circulation. The COVID-19 pandemic and the process we were through in 2020 as humanity has helped us understand the value of data and the importance of symbolic circulation objects from a different perspective. Cryptocurrency shows us how important it has become with the increasing e-commerce data traffic in the COVID-19 pandemic period, especially due to the unpredictable rise in the value of Bitcoin. It is seen that the structure of all stakeholders investing and pioneering in cryptocurrency and technologies together with the central authorities and the user-consumer target group, which is the one-to-one addressee of the subject, is changing.

Throughout the pandemic, social media has played an important role in spotlighting digital currencies as the main source of content that draws a growing interest. In the context of cryptocurrencies, the acceleration of interaction between the content creator and the consumer, especially during the pandemic period, is significant.

In this context, the study's main research question (RQ) is how the consumer perception of users towards cryptocurrency investment in Turkey interacts with digital platforms during the COVID -19 period.

In the information civilization, where today's most valuable exchange object is data itself, something like the COVID-19 pandemic has once again captured all humanity, where it is located, its temporality, its physical extensions and its unblocked points. While the world is rapidly moving towards a completely digital order and a virtual plane with all these changes and developments, it seems that it is no longer possible to reject all these phenomena (Hussain, 2020).

Thanks to blockchain technology, cryptocurrencies, which step into our world with a small manifest text, create a great speculative effect from the moment they are shared with the public and provide dazzling effects to investors with a great appetite. It is thought that the COVID-19 period has had significant effects on cryptocurrencies and caused changes in social life. In this process, especially social media played an important role in terms of change (Mnif, Jarbouï and Mouakhar, 2020; Demir, Bilgin, Karabulut and Doker, 2020; Goel and Gupta, 2020)

## Theoretical background

With the advancement and leadership of technology, alternative payment systems and tools have emerged that can replace money. Credit cards, also called 'plastic money', are the most popular of these technologies (Çavuş, 2006, p. 174). However, looking at the cryptocurrencies that came to the agenda again with the pandemic period and showed an increase in value, it is seen that a new actor is taking the place of plastic money. The world's leading credit card brand Visa has announced that it has launched a card program that can be used entirely for crypto money transactions and has agreed with nearly sixty crypto money platforms (Caymaz, 2021).

### The digital transformation of money

Virtual money is any digital currency, including the money in credit cards, in-game currencies used in video games, gift cards valid at a particular store, and cryptocurrencies. Cryptocurrency stands before us as the most influential concept of the day, especially when it is considered with the European Central Bank (ECB) definitions and as the technical assurance of the representative value of money. The ECB (2012, p. 13) defines virtual money as "an unregulated, digital currency generally controlled by its developers, adopted and used by limited virtual group members". The ECB has also updated this definition as "A digital representation of a value that can be used in place of money in some cases, even

though any central bank does not issue it, credit institution or e-money institution” (Çarkacıoğlu, 2016, p. 8).

Cryptocurrencies are also virtual currencies because they exist in the digital environment. Still, it has a more complex concept set under the definition of virtual money since each cryptocurrency is designed with a different blockchain circulation feature. The fact that digital currency is much faster than other economic exchange systems have no production cost, free from central control, and is anonymous makes digital currency systems and transactions in these systems attractive to their users (Norbutas, Ruitter and Corten, 2020, p. 151; Pirinççi 2018, p. 47; Yardımcıoğlu and Şerbetçi 2018, p. 166).

Cryptocurrencies are produced in these decentralized blockchain systems, with publicly available methods and predetermined amounts. Therefore, governments, companies, or certain authorities cannot manipulate the existing cryptocurrency assets without permission. In addition, there is no obstacle for central authorities who want to be included in the ecosystem to issue their cryptocurrencies. Finally, cryptocurrency cannot be taxed or registered without an owner or a country.

### **Bitcoin and altcoin**

The first digital currency to represent cryptocurrency is Bitcoin, presented to the digital ecosystem by a developer using the pseudonym Satoshi Nakamoto and a text containing the usage philosophy and algorithm information. Nakamoto (2008) announced Bitcoin with a manifesto with the symbol ₿ and the abbreviation BTC. Bitcoin is the first cryptocurrency registered as a virtual currency that does not belong to any central bank or official institution. Today, Bitcoin has become a brand integrated with cryptocurrency in general (Nakamoto, 2008). Nakamoto (2008) designed Bitcoin to exist as a total of 21 million blocks. At the time of the study, 18 million 610 thousand 956 Bitcoins were traded in the market (Bitcoin Price Today, BTC Marketcap, Chart, and Info, 2021).

There are many cryptocurrencies besides Bitcoin. These cryptocurrencies are called “altcoins”. Some of these are Ethereum, Litecoin, Ripple, Tether, and Chainlink, and there are over five thousand altcoins in the market. All altcoins are created inspired by the blockchain technology infrastructure developed with Bitcoin (Çarkacıoğlu, 2016, p. 54).

The underlying technology of Bitcoin and altcoins is the blockchain technology known as “BlockChain”. Nakamoto first revealed blockchain technology in the manifesto describing Bitcoin (Pierro, 2017, p. 97). Blockchain is a public and open database, also called a “digital global ledger”, and includes sequential and time-stamped cryptocurrency transfers (Çarkacıoğlu, 2016, p. 42). The data added to the blockchain is recorded in the information store in an irreversible and incorruptible manner, all transactions made so far are included in the chain, and all ongoing transactions are arranged to be recorded on the blockchain. Since this information is stored independently in a decentralized system consisting of numerous interconnected computers, it is highly protected against central error (Wright and De Filippi, 2015, p. 93). Since blockchain technology has a distributed system and all data is interconnected, if it is changed as a result of outside intervention, the other ends of the node will notice this, and malicious actions will not be verified. Since the system is self-protecting and accessible and controllable by everyone, it is expected to continue safely (Ünal and Uluyol, 2020, p. 168).

After the first adoption of Bitcoin as a cryptocurrency and its widespread use on the deep web, it has become an asset value recognized and used in the entire internet ecosystem quickly. With increasing popularity, this first cryptocurrency has thus gained users' trust. Moreover, with the new rush to digital money, other digital currencies known as altcoins have been introduced quickly (Chohan, 2017, pp. 1-2).

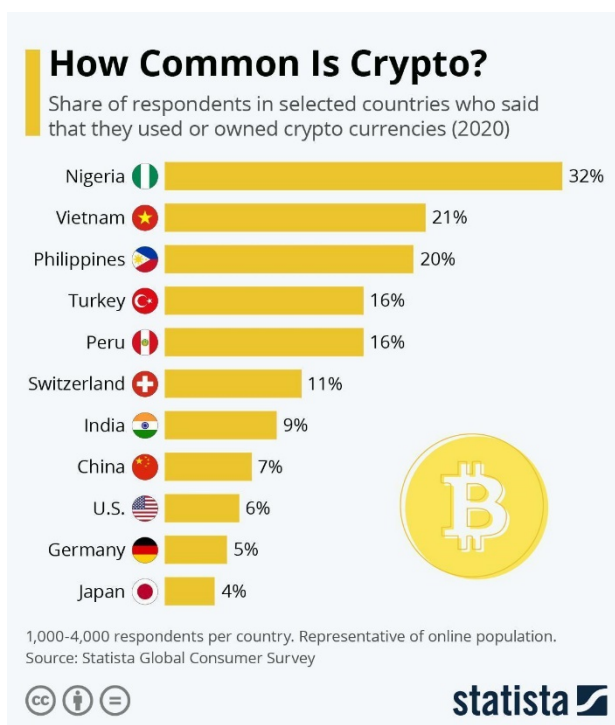
### **Cryptocurrencies and risk**

The natural sense of trust in a certain authority and control mechanism in traditional economic systems has not yet been able to fully provide the same trust to its users due to the distributed technology and applications in the cryptocurrency ecosystem. The general understanding of trust in the cryptocurrency market can be described as trust in the system, not individuals (Çarkacıoğlu, 2016). Although blockchain technology creates a reliable environment for cryptocurrencies and their transactions, human-induced security vulnerabilities also arise with the entry of third parties into the ecosystem. Users who circulate their money through other institutions to acquire cryptocurrencies also benefit relatively less from the security opportunities provided by blockchain technology. An example is the sudden closure of the ‘Thodex’ company, an intermediary institution in Turkey, and the company owner's flight abroad with the investors' money (Yavuz, 2021). In this case, the situation that causes harm to users is not a technical problem originating from the blockchain but the action taken by a malicious operator who disappeared with the money invested in his company, taking advantage of the lack of legal ground.

Global e-commerce, developing with the internet, also needs a material currency suitable for the flexibility and speed of its ecosystem. With the disappearance of borders, the difficulties brought by currencies connected to various nations and authorities negatively affect global e-commerce (Çağlar, 2007, pp. 181-182). Hence, despite the aforementioned factors that create distrust, the mobility of the cryptocurrency ecosystem has increased, especially thanks to the image of Bitcoin, expanded its sphere of influence, and turned into a new habit and investment perspective with the COVID-19 pandemic in Turkey as well. Also, the efforts to provide a legal basis for the cryptocurrency ecosystem have started, aiming to protect service providers and users from harm. Furthermore, it is planned to take steps that can form a basis for taxation.

### Cryptocurrency in Turkey and COVID-19 effects

In 2013, the Banking Regulation and Supervision Agency (BRSA) issued a statement (Press Release About Bitcoin, 2013). It announced that Bitcoin is not within the scope of law No. 6493 (TCMB - Law No. 6493, 2013) and is not controlled as it is considered electronic money (Çarkacıoğlu, 2016, p. 12). As a result, the states suffered a significant loss of revenue due to the lack of taxes on the cryptocurrency system, which operates outside the government's control. States seeking to construct a legal framework for cryptocurrencies which are increasing at an exponential rate, have become more understanding of them in recent years as they seek to protect their citizens' rights to use their taxation power (Turan, 2018, pp. 3-4). Turkey's cryptocurrency 'BiLira' is one of the most significant examples of this situation. In addition, some large intermediary institutions in digital currency investment appear publicly and try to communicate to users that there is no legal problem in buying, selling, or hosting digital currency and that investors can overcome the trust problem through institutional intermediaries. As an example of the steps taken to ensure this trust, the case that 'BtcTurk', an intermediary institution, is the main sponsor of the Turkish Football National Teams (Köse, 2020). As a result of all these positive developments and the publicity efforts of intermediary institutions, in 2021, Turkey ranked first among European countries and fourth in the world in the use of cryptocurrencies, as shown in Figure 1 below (Buchholz, 2021). The reason for sharing Turkish citizens' global crypto investment rankings is to show the popularity it reached when the pandemic process started and peaked.



**Figure 1:** Data on Rates of Citizens Using Cryptocurrency by Country

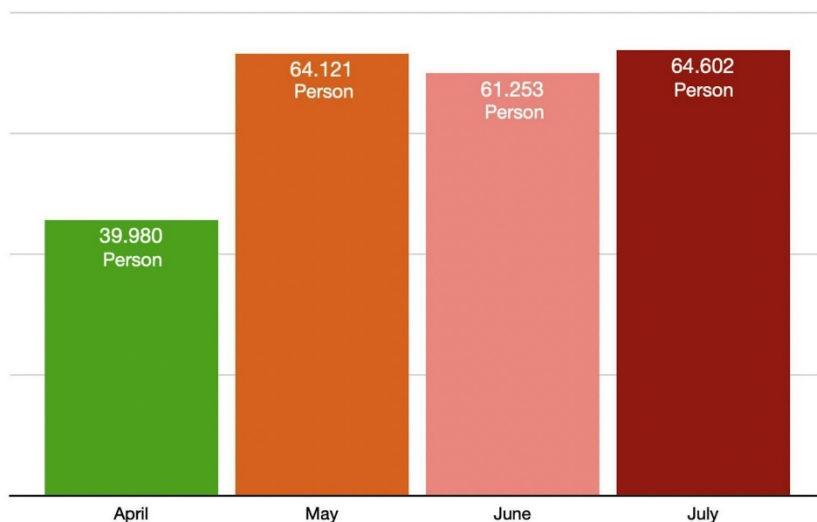
Source: Statista, 2020

Although there have been many crises, the COVID-19 pandemic has gained a special place for itself with its economic effects. Its effects on social relations and social order, the great confusion in the health field, and especially the full effect of change on consumer behaviour (Soylu, 2020, pp. 170-171). Furthermore, the resulting obstacles to retail trade have affected the behaviour of both business owners and consumers (Donthu and Gustafsson, 2020, p. 284).



In the early days of the pandemic, when the lockdown came to the agenda for the first time, increased consumption, defined as panic shopping by Hobbs (2020, pp. 171-172), was experienced due to the great concern in public and people bought and even stocked products they needed or not. After the panic shopping process was over, e-commerce replaced retail shopping due to lockdowns and increased people's awareness (Donthu and Gustafsson, 2020, p. 285). Even individuals who opposed online shopping before the outbreak began to purchase at this time. The first cases and measures at the borders of Turkey took place in March 2020, and e-commerce user data showed a great change in the following months, as seen in Figure 2.

The increase in online trade after April 2020, when the pandemic lockdown was announced for the first time when it was applied for the first time, attracted attention, and it was seen that people could adapt to this situation quickly. Moreover, consumers' confidence in online trade has increased with every consumption activity that is necessarily moved to the online environment due to COVID-19 (Baker, Farrokhnia, Meyer, Pagel and Yannelis, 2020, 839). Indeed, 49% of Turkish consumers stated that they would continue online shopping in the medium and long term and were afraid of being infected by grocery shopping (UIB, 2020).



**Figure 2:** Turkey 2020, Second Quarter E-commerce User Data, 2020

Source: Republic of Turkey Ministry of Commerce, 2020

Also, the increased popularity of cryptocurrencies was not limited to trading and investing in cryptocurrencies. It has been observed that the follower, viewer, and interaction statistics of all content providers and social media influencers who analyse cryptocurrencies have also increased, and they received their share in the digital ecosystem. Therefore, account owners who produce content on digital currencies were examined with a netnographic field study on YouTube and Twitter to understand and analyse the evolving interest and perception towards the concept and use of digital money in Turkey during the COVID-19 pandemic.

## Method

It has been observed that cryptocurrency, which has gradually expanded its market share in Turkey with an increased number of investors and intermediary institutions, has undergone a great distinction with the COVID-19 pandemic and the transition of all life to the digital environment. In this context, the perception of the consumer towards digital currency investment, mobilizing and transforming the digital currency ecosystem in Turkey with all its elements during the COVID-19 pandemic constitutes the study's base and research question subject. (The main RQ is how the attitudes and behaviours of users towards cryptocurrency investment in Turkey take an interaction tendency on digital platforms during the COVID-19 period). With this approach, how the change in social media accounts with digital money content, which has become more active, especially during the pandemic, affects the behaviour of digital currency investors by creating a new consumer perception examined with netnography for 3,5 years from 2019 to 2022.

### Adaptation of the netnographic study

Since this study aims to examine the digital commerce behaviours of people, netnography is suitable for use in this study. In this study, netnography was used as the main data collection method.

Netnography is formed by combining the words 'internet' and 'ethnography'. It is the internet or technological network ethnography (Kozinets, 2009).

As ethnography can be applied to all societies and cultures, netnography can also be applied to all online sites, digital communities, and various internet resources (Kozinets, 2009). To interpret netnography based on ethnography, Ethnography first seeks and approaches a naturally existing, living and breathing culture. Then, Netnography also applies this approach in the digital environment.

This study examined the habitats in which cryptocurrency communities are naturally shaped. It then explores cultural understanding with an active stance that promotes ethnography, personal participation and objective observation. The same is true for netnography in the digital environment, and in this study, participation and observation in cryptocurrency communities were carried out objectively. Ethnography seeks to create rich definitions by seeking a living language that is intense and evocative, reflecting the objective and emotional realities of the members of that culture.

Netnography also actively strives to create rich definitions in the digital environment that already has unique definitions. Ethnography describes the lived reality of culture by using different methods such as interviews, semiotics, projective technique, photography, and video without discrimination. These methods are already in the natural flow of netnography. Therefore, these methods also played a very important role in this study. Ethnographies are applied to all major cultures in the world, and netnography shows the same functionality to adapt to any environment within the digital environment (Kozinets, 2010).

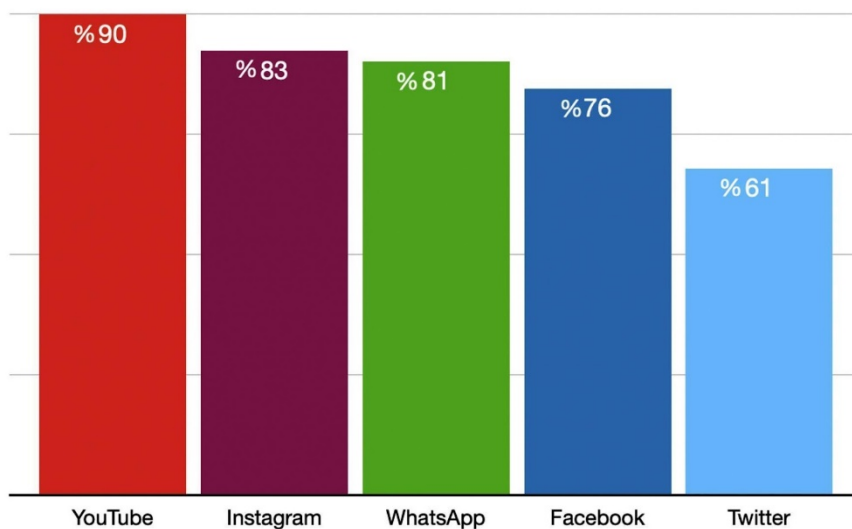
Netnography comprises six steps: research planning, introduction, data collection, interpretation, ethical standards and research presentation (Kozinets, 2010). While the research was being planned, the number of interactions was observed by searching the contents and keywords of the crypto money world on social media platforms. And the communities to be included were listed, and with the information obtained, the social platforms where the work will take place and the communities to be included have been determined.

Then a user profile was created from scratch for the introduction step and to get involved in the communities. In the data collection phase, observations were continued throughout the process, and an active participation process was passed. Topics of interest to the community members were determined, and the participation of the community members followed their interactions with the digital content producer. The number of followers, views and comments were regularly observed. Finally, the data collected from the observations were brought together and interpreted with an objective approach.

In order to comply with ethical standards, public communities were preferred, and all participants were included in the study anonymously. In addition, public groups are more advantageous in terms of interaction level. Therefore, the research presentation stage was not made public. Still, during the process, the data were shared with the community members contacted within the digital communities, and their opinions were taken.

During the 3,5 years of netnographic field research, the researchers' prior knowledge and experience of the cryptocurrency world were based. New research-oriented digital identities were created, and media access was provided from scratch. With new accounts, the crypto money ecosystem has been experienced on YouTube and Twitter platforms. In this direction, as explained above, all participants in the ecosystem as users were observed, examined, and recorded in the context of netnographic field methodology techniques. In order to increase the quality of the research field, it has been tried to communicate with the following cryptocurrency phenomena in various ways. However, as a result of this research effort to collect insider experience, no response was provided. Throughout the research, the researchers maintained their behavioural tendencies as active participants in the ecosystem. They observed active group members liking, commenting, and re-sharing content on digital platforms, as Kozinets (2009) had suggested.

As seen in Figure 3, YouTube and Twitter are among Turkey's most used digital platforms. These platforms are also the environments where cryptocurrency-related content is produced most actively. After it was determined that content producers and digital money communities were active on YouTube and Twitter, the research was adapted to these ecosystems, and remarkable digital money communities and content producers were determined.



**Figure 3:** Most Used Social Media Platforms in Turkey 2020

Source: Digital 2020, 2020

YouTube has advantages such as high traffic, streaming power, original content, live broadcast, high interaction, advertisement, and income competition. All these preferences created an ideal sharing ecosystem for content producers on cryptocurrency.

Despite having fewer users than other popular social media platforms, Twitter positions itself differently from others regarding interaction approach and content production (Digital 2020, 2020). It also stands out as the primary communication channel preferred by the Turkish digital currency community.

In both ecosystems, before and during the pandemic, researchers took part as cryptocurrency community members and determined their positions as participant observers like Lewin's (1946) pioneer action research setup. Especially after the pandemic, an increase was observed in the number of views, subscribers, comments, and likes for cryptocurrency channels on YouTube. The same increase followed cryptocurrency creators on Twitter. Both social media platforms had active cryptocurrency communities reacting with comments and posts from followers that were carefully analysed and evaluated for results.

The content producers followed in the study were selected from among the content producers who regularly produce content and interact actively during the pandemic process. Many content producers were observed at the beginning of the netnography process. Still, they were included in the study with various factors such as active content production, interaction and engagement with their followers, the strategy of sharing content and the number of active followers.

Ethical research standards were considered, and the accounts of all cryptocurrency content producers used in the analysis were shared in the study. Furthermore, all individual users whose comments were included in the study were evaluated respecting anonymity. Before the pandemic, researchers followed the previously mentioned cryptocurrency communities on digital platforms and used a participatory research method based on observation. As a result of the netnography study to answer the research questions, their roles and responsibilities have not changed. With the adaptation of netnography, all the experience-based knowledge and observation were combined with the interaction practices and knowledge to obtain in-depth and clear results in the study.

## Results and discussion

Investors show serious interest, especially in investment experts and content producers on digital platforms, to learn and analyse the terminology of the technology, the behaviour, and components of the cryptocurrency market to consciously invest in blockchain technology (Metzler, Günemann and Miettinen, 2019, pp. 50-51). In this context, the number of experts and social media influencers producing informative and instructive content about the cryptocurrency market, and the interaction rates with their users, have increased significantly in the last one and a half years, dominated by the COVID-19 pandemic. To learn more about the cryptocurrency market and increase their investment profits, it is observed that investors devote a significant amount of time and care to the content created by these content producers.

## Content analysis of YouTube on the cryptocurrency ecosystem

The strong relationship between the increase in interest of investors and users towards digital currency content and the COVID-19 pandemic can be determined by the interaction and subscriber growth rates of content producers' social media accounts with digital currency content on YouTube. Therefore, ten channels with cryptocurrency content were evaluated to examine the relevant effect and relationship.

**Table 1:** YouTube Cryptocurrency Content Channels and Total Subscribers Numbers in Turkey

Channel Name	Channel Link	2019 March	2020 March	2021 March	2022 March
Kripto Emre	<a href="https://www.youtube.com/channel/UC87A7vsRlyZ68gtu-z1Q3ow">www.youtube.com/channel/UC87A7vsRlyZ68gtu-z1Q3ow</a>	44.898	54.700	161.000	275.000
Bitcoin Kraliçesi	<a href="https://www.youtube.com/channel/UC8esaL8Eqtf7uJ-uyvs-Vhw">www.youtube.com/channel/UC8esaL8Eqtf7uJ-uyvs-Vhw</a>	8.257	9.460	29.200	36.200
Kripto Teknik	<a href="https://www.youtube.com/channel/UCKdhjP8yA36w4z-oCp5uLHg">www.youtube.com/channel/UCKdhjP8yA36w4z-oCp5uLHg</a>	14.010	24.700	105.000	172.000
Alp Işık	<a href="https://www.youtube.com/user/isikalp91">www.youtube.com/user/isikalp91</a>	38.576	39.100	53.400	58.100
Kripto Sözlük	<a href="https://www.youtube.com/channel/UC5rV0QEGbv0Y-umDwshs_HA">www.youtube.com/channel/UC5rV0QEGbv0Y-umDwshs_HA</a>	17.139	30.400	108.000	225.000
Crypto Kemal*	<a href="https://www.youtube.com/channel/UC1fkWikH62KOnunjHiMrVvA">www.youtube.com/channel/UC1fkWikH62KOnunjHiMrVvA</a>	1.030	6.400	117.000	279.000
Kripto Para Dünyası**	<a href="https://www.youtube.com/channel/UCaRoOmWfiu-KmasBUB-LKvw">www.youtube.com/channel/UCaRoOmWfiu-KmasBUB-LKvw</a>	2.630	6.740	37.300	71.200
Monte Kripto Kontu	<a href="https://www.youtube.com/channel/Ucw12sf27ULPZgRcmo8t31rQ">www.youtube.com/channel/Ucw12sf27ULPZgRcmo8t31rQ</a>	38	435	16.900	64.900
Koinvizyon	<a href="https://www.youtube.com/channel/UCIYc-CFOYNwO85Ojej6T9w">www.youtube.com/channel/UCIYc-CFOYNwO85Ojej6T9w</a>	15.220	15.900	43.300	110.000
ICRYPEX**	<a href="https://www.youtube.com/channel/UC1GYP4S6zxbI9FdobqTTcHQ">www.youtube.com/channel/UC1GYP4S6zxbI9FdobqTTcHQ</a>	676	1.170	88.800	158.000

Source: Social Blade, 2022

Note: \*The first video was published in December 2019., \*\* The first video was published in November 2019.

As is seen in Table 1, it is noteworthy that the new conditions brought by the COVID-19 pandemic have created a subscriber and follower ratio that doubled and even tripled in some cases regarding the number of channel subscribers. The number of content producers in the cryptocurrency ecosystem has remained similar, and the interest of new participants in the channels of these content producers has emerged as an indicator that the ecosystem is going through a more active process than ever. Many users approach the process with a similar motivation, like this user who commented on the content: "This is my first entry to Bitcoin. I hope your videos will help me. Thanks" (User 1, 2020).

There is a very close relationship between various global events and the value and popularity of cryptocurrencies. For example, with the first emergence of COVID-19, Bitcoin gained 10% in value in about a week (Cuthbertson, 2020). In this context, a YouTube user says, "We are in a time when all commodities will lose their value. There will be a time when virtual currencies will be more valuable. If we can survive" (User 2, 2020). BTCTurk CEO Özgür Güneri also stated that the rise in cryptocurrencies should be evaluated together with the pandemic period in the world and the current state of technology (BBC News Turkish, 2021). Likewise, as seen in Table 2, a significant increase is also noticeable in the number of views, likes, and comments.

**Table 2:** YouTube Cryptocurrency Content Channels Like and Comment Numbers in Turkey

Channel Name	Random video released in March 2019	Random video released in March 2020	Random video released in March 2021	Random video released in March 2022
<b>Kripto Emre</b>	393 Like 141 Comment	688 Like 437 Comment	5.8 B Like 4.247 Comment	1.4 B Like 1.703 Comment
<b>Bitcoin Kraliçesi</b>	85 Like 67 Comment	33 Likes 14 Comment	500 Like 108 Comment	No content was shared in March.
<b>Kripto Teknik</b>	125 Like 48 Comment	210 Like 55 Comment	1.1 B Like 291 Comment	675 Like 43 Comment
<b>Alp Işık</b>	234 Like 29 Comment	235 Like 57 Comment	442 Like 20 Comment	156 Like 13 Comment
<b>Kripto Sözlük</b>	233 Like 121 Comment	364 Like 89 Comment	7.3 B Like 322 Comment	1.9 B Like 50 Comment
<b>Crypto Kemal*</b>	1.1 B Like 125 Comment	1.2 B Like 112 Comment	6 B Like 784 Comment	853 Like 105 Yorum
<b>Kripto Para Dünyası**</b>	It could not be reached because the like and comment information is closed.			441 Like 143 Comment
<b>Monte Kripto Kontu</b>	40 Like 2 Comment	25 Like 22 Comment	1.6 B Like 452 Comment	492 Like 462 Yorum
<b>Koinvizyon</b>	82 Like 2 Comment	77 Like 6 Comment	1.4 B Like 42 Comment	726 Like 0 Comment
<b>ICRYPEX**</b>	60 Like 10 Comment	18 Like 1 Comment	2.3 B Like 273 Comment	1.3 Like 58 Comment

**Source:** Social Blade, 2022

**Note:** \*The first video was published in December 2019. \*\* The first video was published in November 2019.

The panic shopping mentioned before (Hobbs, 2020, pp. 171-172) has left their place to a state of mind in which much more selective content is consumed. And the people needed individual protection, especially in economic matters, and gradual self-isolation with the pandemic. While our consumption habits have completely shifted to e-commerce and home services, our relationship with physical money has also been transformed. Another comment on YouTube also shows the perception and especially the rapid transformation that took place with the pandemic period: "I bought some more [referring to Bitcoin] last night. Later everything will go digital, and cash is gone. I think Bitcoin is an example or orientation to stabilize digital currency between states" (User 3, 2020).

As one of the consequences of the COVID-19 pandemic in Turkey, as in the rest of the world, it is observed that the trust of users in cryptocurrency as a digital asset has also increased, along with the transformation resulting from the increased use of technology due to the pandemic, as they became more familiar with the digital environment. The intense interest of users who want to increase their knowledge and experience in the cryptocurrency ecosystem on digital channels is also presented in Table 1 and Table 2. The interest of curious users who want to experience the cryptocurrency ecosystem has returned to the content producers as subscribers, views, likes, and comments. The amount of content created by producers has also increased considerably in this period, and a certain pattern of sharing content has attracted attention. It was found that this whole interaction model greatly accelerates the

transformation of perception towards the cryptocurrency ecosystem, which has already begun to be adopted, both at the individual and corporate investor levels.

### Content analysis of Twitter on the cryptocurrency ecosystem

Twitter is a discussion channel for international news and agenda, which can be served to the public instantly and with a great speed of influence, distinguishing this platform from other social media content providers. The unique and independent structure of Twitter also directs users and content producers to act within the framework of more serious, corporate, and public discourses (Rogstad, 2016, p. 142). In this regard, it is seen that all digital currency content producers who want to comment instantly, vote, or share the movements in the markets prefer Twitter as another main channel, in addition to using YouTube as a source of information with videos. Cryptocurrency content producers share their knowledge and experience, especially instant tips and speculations, through this social media channel (Kraaijeveld and De Smedt, 2020, pp. 1-2).

**Table 3:** Twitter Cryptocurrency Accounts and Subscribers in Turkey

Account Name	Link	2019 March Followers	2020 March Followers	2021 March Followers	2022 March Followers
Kripto Emre	<a href="https://twitter.com/kriptoemre">https://twitter.com/kriptoemre</a>	14.341	19.756	111.554	332.120
Crypto Kemal	<a href="https://twitter.com/CryptoKemal">https://twitter.com/CryptoKemal</a>	34.525	40.916	161.918	605.204
Bitcoin Kraliçesi	<a href="https://twitter.com/BitcoinKralice">https://twitter.com/BitcoinKralice</a>	832	1.357	13.873	43.491
Kripto Teknik	<a href="https://twitter.com/kripto_teknik">https://twitter.com/kripto_teknik</a>	3.943	8.091	60.563	139.678
Alp Işık	<a href="https://twitter.com/AlpIşik">https://twitter.com/AlpIşik</a>	40.701	43.411	69.121	96.185
Kripto Levent	<a href="https://twitter.com/KriptoLevent">https://twitter.com/KriptoLevent</a>	1.665	6.434	46.531	274.059
Bitcoin Sistemi	<a href="https://twitter.com/bitcoinsistemi">https://twitter.com/bitcoinsistemi</a>	1.369	3.321	18.853	61.005
Uzmancoin	<a href="https://twitter.com/uzmancoin">https://twitter.com/uzmancoin</a>	33.095	37.052	110.959	262.664
Coin Dahisi	<a href="https://twitter.com/btcparadisee">https://twitter.com/btcparadisee</a>	74.961	66.553	104.665	190.944
Bitcoin Analiz	<a href="https://twitter.com/btcanaliz">https://twitter.com/btcanaliz</a>	15.670	16.221	47.976	65.997

Source: Social Blade, 2022

The increase in the number of followers of Twitter account owners, who post in Turkish about the cryptocurrency ecosystem, can be seen in Table 3. Thanks to the cryptocurrency and the account anonymity it provides, although it is impossible to reach data about investors, the increase in interaction on social media platforms is seen, especially in terms of the conditions transformed by the COVID-19 pandemic. In this context, a Twitter user said, "It's not investment advice, but the market is incredible. With bitcoin and thousands of other cryptocurrencies, the financial system seems to be entering a different climate. The pandemic has accelerated the process" (User 4, 2021). Apart from digital currency updates, it is seen that investors often share their personal opinions, feelings, and instant thoughts on the digital currency ecosystem on Twitter (Kraaijeveld and De Smedt, 2020, p. 2).

Market developments are very important to see that cryptocurrencies are expanding their usage areas in daily life and becoming widespread. The fact that these and similar developments can be easily seen on Twitter is important in terms of the nature of the study: "The cryptocurrency ecosystem, which has entered our lives quickly, especially during the pandemic process, is starting to serve as a tool to use in our ordinary lives, not only for trading in exchange" (User 5, 2021). Another Twitter user, who noticed that the altcoins became widespread and multiplied in the cryptocurrency ecosystem, said, "There has been a huge increase in Bitcoin, altcoins, and other types of digital currencies. Prepare yourself for a

completely digital era after the pandemic" (User 6, 2020), emphasizing that the development of technology and cryptocurrencies will continue.

As citizens of the world, while leaving behind a period longer than two years during the COVID-19 pandemic, it is seen that data and information flow on digital highways with much heavier traffic than ever while our physical restrictions continue. Content production within the cryptocurrency ecosystem also benefits greatly from YouTube and Twitter. Along with the pandemic conditions, it is observed that the content producers on the cryptocurrency exchange have become the focus of new users. As found in the research, netnography-based participant observation data show that the heavy content traffic in the cryptocurrency ecosystem will continue to grow in the post-covid period.

### **The changing perception of cryptocurrency in the world**

Feelings such as being happy and taking pleasure as a result of the consumed product or service, that is, meeting psychological and social needs, also play a very important role in the preference for the product or service. Individuals prefer products and services suitable to their lifestyles and profile. Thus, symbolic consumption occurs (Azizağaoğlu and Altunışık, 2012, p. 35). Symbolic consumption means choosing products or services based on their symbolic value (Baudrillard, 1970; Odabaşı, 2017). Although the symbol is an abstract concept, symbols are always present in human life and constantly interact (Kızıl, 2018, p. 1307). From this point of view, it is observed that the symbolic value of cryptocurrency both establishes a value-added structure for digital purchasing power and holds a vibrant ecosystem of expectations that meet the expectations of possession and pleasure and, in some cases, create excitement based on uncertainty.

Regarding the value of cryptocurrencies, according to Roubini, "Bitcoin is the mother of all bubbles and the biggest bubble in human history. Bitcoin's fundamental value is zero" (Ossinger, 2018). However, contrary to this situation, there have been different valuation methods for cryptocurrencies. Supply and demand, the difficulty of the algorithm behind the production of cryptocurrency as a digital asset, and public perception have been important factors in determining its value. According to Chang (2017), "The value of Bitcoin is a function of supply and demand. Blockchain is a great platform for future applications and drew attention to the technology behind cryptocurrencies". At first, some media and economic institutions could not see any future potential in cryptocurrency. According to the CEO of JPMorgan Chase, Jamie Dimon, "This is a fraud. If any JPMorgan trader started trading Bitcoin, I would fire them in a second. For two reasons, this is against our rules, and they're stupid. And both are dangerous." (Levitt and Son 2017). Just one year after this statement, he regretted saying that Bitcoin was a fraud and declared, "The blockchain is real. You can have things like cryptocurrency, yen, dollars, etc." (Surane, 2018). After all this process, it is known that today, JPMorgan offers cryptocurrency investment services to its customers (Yavuz, 2021). With the rapidly developing blockchain technology and the increase in the number of people using it, states and banks have started to look for ways to adapt to this new situation. Some states have started to issue their cryptocurrencies, and national and international banks started adapting to this process. Today, the cryptocurrency exchange has a market volume of approximately 1.8 trillion USD (CoinMarketCap, 2021).

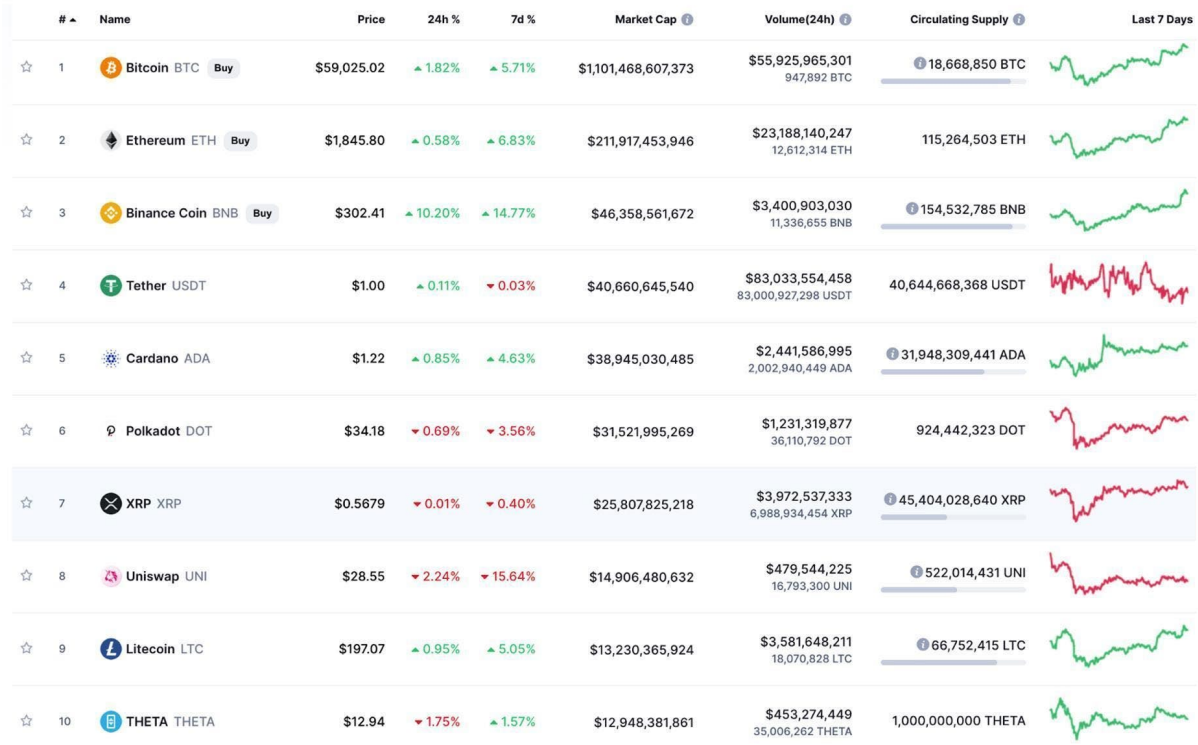


Figure 4: Cryptocurrency Prices, Charts and Market Capitalizations, 2021

Source: Coinmarketcap, 2021

### Transforming economy: Small to big scale businesses

Businesses state that new social conditions brought by the COVID-19 pandemic impacted accepting payments with Bitcoin. Bitcoin, which is actively used in shopping, especially in the United States, provides shopping opportunities through world-renowned brands such as PlayStation Network, Microsoft, Dominos, and Burger King (Chapkanovska, 2019). Apart from the global events, the statements of popular figures with a high impact on the investors of cryptocurrencies are also noteworthy. In a solitary way, just the autonomous vehicle company Tesla's owner Elon Musk influences the cryptocurrency agenda with his tweets. According to a survey conducted in the United States, 37% of respondents state that they invest by examining Musk's cryptocurrency tweets (Varshney, 2021). Also, Tesla became one of the companies that made it possible to shop with Bitcoin, and Musk publicly announced on his Twitter account on March 24, 2021, that Tesla can now be purchased with Bitcoin (Shead, 2021).

It attracts not only large institutional investors but also individual small investors: A female entrepreneur with a pancake shop in Turkey's Kahramanmaraş province accepts payments with Bitcoin (Sarı, 2021). Another business owner, who owns a meatball shop in Adana, started to accept payments with digital money and stated that other shopkeepers around were also interested in receiving payments with digital money (Yavuz, 2021).



Figure 5: You Can Now Buy a Tesla with Bitcoin

Source: Twitter, 2021



However, after the developments, Musk declared that cancelling the purchase of Tesla due to Bitcoin mining is not a clean way for nature because of how electrical production is. But Musk released the public that made it possible to buy Tesla with the crypto money called Dogecoin (Dhaliwal, 2022).

Although Elon Musk's attitude towards Bitcoin and social media assets, which just purchased Twitter for 44 billion dollars in April 2022, his contradictory statements published one after another during the study period remain unclear (Sherman and Thomas, 2022). Nevertheless, the fact that a big company like Tesla took its place in history as the first to announce that Bitcoin will be accepted for payment constitutes an example of the main approach of the study. Furthermore, the integration of digital money in Visa payment systems, and similar statements of brands that have been shared with the public recently about adapting to the digital currency ecosystem, especially for the post-covid period, can also be interpreted as efforts to adopt the use of digital currency (Godbole, 2021; Shead, 2021).

## **Conclusion**

While cryptocurrencies are also going through these difficult and slow processes, they have been rapidly accepted and circulated by almost all kinds of individual and institutional investors, governments, various authorities, and economies, gaining great momentum with the new conditions created by the COVID-19 pandemic. The necessities brought by the pandemic have led the digital currency ecosystem to experience its best phase in recognition and growth and facilitated the increase in acceptance and trust towards digital money to a high level. It was observed that the interest in the cryptocurrency exchange has shifted from individual investors and actors to very large public organizations and investments at the institutional level.

Today, any statement on Bitcoin or altcoins creates a large-scale speculative effect that is shared with the public. Moreover, it provides effects that cause investors to act voraciously. Thanks to this pioneering role of Bitcoin, it is thought that blockchain technology will provide technological innovation and increase acceleration in many areas besides the cryptocurrency ecosystem. These specialities over the high technological innovations of Cryptocurrencies, which have gained a foothold from small-scale purchases to large-scale purchases, are likely to cause changes in consumption and consumer perception. With these changes, further studies would have new research fields on interactions and engagements between, especially cryptocurrencies with marketing and advertising related with retails and products and services approach. Also, in addition to being able to spend a virtual currency in real life, the fact that digital products and worlds find a place in the equation and cause a change in social life habits paves the way for the discussion of the concept of digital consumption.

Also, new technological opportunities provided by blockchain technology, such as end-to-end encryption, anonymity, records kept with simultaneous ledgers, and many similar features, can be restructured in a way to provide infrastructure in various fields, including security, military industry, banking, health, art, and education. This new field of possibilities, in which blockchain technology branches, potentially hosts different perspectives for further studies as NFTs in the market with the Benjaminian question of unique artwork and new big Metaverse focal point as a decentralized new centre of interaction and attention.

In today's information civilization, where the most valuable exchange object is data itself, a pandemic again shows all humanity its place in the world, its temporariness, and the points where its physical possibilities and resources are blocked. While the world is rapidly moving towards a completely new digital order and a virtual environment with all these developments, it is seen that it is no longer possible to reject all these phenomena.

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## Yenilenebilir enerji yatırımlarının finansal belirleyicileri üzerine karşılaştırmalı bir analiz: Asya-Pasifik ve Latin Amerika ülkeleri

### A comparative analysis of the financial determinants of renewable energy investments: Asia-Pacific and Latin American countries

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#### Öz

Ülkelerin artan enerji ihtiyacı ve fosil kaynaklar konusunda dışa bağımlı olmaları yenilenebilir kaynaklar gibi alternatif kaynaklardan enerji elde edilmesini önemli kılmaktadır. Enerji üretiminde kaynakların dönüşümü konusundaki en büyük sorunlardan birisi bu geçişin hangi kaynaklardan nasıl finanse edileceğidir. Bu bağlamda çalışmanın amacı Asya-Pasifik ve Latin Amerika ülkelerinde 2000-2020 döneminde yenilenebilir enerji (YE) üzerinde finansal gelişme (FG) ve doğrudan yabancı yatırımların (DYY) rolünü ortaya koymaktır. Çalışmada Dumitrescu-Hurlin panel nedensellik testi ve eşanlı panel kantil regresyon analizi çerçevesinde analizler yapılmıştır. Elde edilen sonuçlara göre YE üretimi üzerinde FG ve DYY'nin rolüne yönelik güçlü ampirik kanıtlara ulaşılmıştır. Buna göre FG ve DYY, YE üzerinde pozitif ve anlamlı etkiye sahiptir.

**Anahtar Kelimeler:** Eşanlı Panel Kantil Regresyon, Yenilenebilir Enerji, Finansal Gelişmişlik, Doğrudan Yabancı Yatırım

**Jel Kodları:** C14, Q42, G10, F21

#### Abstract

Countries' increasing energy needs and dependence on foreign sources for fossil resources make it important to obtain energy from alternative sources such as renewable resources. However, one of the biggest problems in the transformation of resources in energy production is how this transition will be financed from which sources. In this context, the objective of the research is to reveal the role of financial development (FD) and foreign direct investment (FDI) in renewable energy (RE) in the Asia-Pacific and Latin American countries in 2000-2020. The study conducted analyses within the Dumitrescu-Hurlin panel causality test and simultaneous panel quantile regression analysis. The results show strong empirical evidence for the role of FD and FDI on RE production. Accordingly, FD and FDI have a positive and significant effect on RE.

**Keywords:** Simultaneous Panel Quantile Regression Analysis, Renewable Energy, Financial Development, Foreign Direct Investment

**Jel Codes:** C14, Q42, G10, F21

## Extended Abstract

### A comparative analysis of the financial determinants of renewable energy investments: Asia-Pacific and Latin American countries

#### Literature

The world is struggling to reduce greenhouse gas emissions, which are increasing daily. The focus of this struggle is transforming from fossil to renewable energy sources in the energy sector, which has the highest contribution to greenhouse gas emissions. Using renewable energy sources contributes to a cleaner environment and helps countries eliminate foreign dependency on fossil fuels and energy security (Anton and Afloarei Nucu 2020, s. 330). Therefore, it is important to investigate the relationships between factors affecting the environment. This study is aimed to obtain empirical evidence for the effect of foreign direct investment (FDI) and financial development (FD) level on renewable energy production (RE) investments for samples consisting of Asia-Pacific and Latin American countries. When the relevant literature is examined, it is seen that there are studies examining economic and environmental factors on renewable energy. However, it is important in terms of the study's originality that the topic continues to be current and that studies considering Asian-Pacific countries have not yet been brought into the national literature. The importance of examining Latin American countries in terms of both rapid growth and increasing renewable energy sources shows that it will fill the gap in the literature. Furthermore, examining the relationship between renewable energy and economic factors in these countries, which have a significant potential for environmental degradation, and evaluating the obtained results in terms of policymakers show the study's originality.

#### Design and method

The study covers the period of 2000-2020. Renewable energy production data (Inenerji), International Renewable Agency (IRENA), financial development index (Infigel), International Monetary Fund (IMF) and foreign direct investment inflows (Indyy) have been compiled from the official websites of the World Bank. Variables were used in the analysis with their natural logarithms. Samples of the study are from 13 Asia-Pacific countries (Cambodia, China, Indonesia, Japan, South Korea, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, Australia, and New Zealand) and 7 Latin American countries (Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, and Peru).

Panel quantile regression analysis was chosen as the main analysis method in the study, which aims to obtain empirical evidence for the effect of FDI inflows and FD level on RE investments. This method is used to evaluate heterogeneous and distributional effects across each quantile and is more powerful in cases of outliers, and is useful in explaining weak relationships of conditional means between variables (Sun et al., 2022, s. 1169; Anwar et al., 2021, s. 962; Belaid et al., 2021, s. 231). Another advantage of the panel quantile regression method is that it does not require the variables to follow a normal distribution (Banday and Kocoglu, 2022, s. 9; Bui et al., 2021, s. 6; Xie et al., 2021, s. 6). The existence of a causal relationship between the variables was investigated with the Dumitrescu-Hurlin (D-H) Panel Causality Test. As a result of the literature review, the research hypotheses were determined as follows.

*H<sub>1</sub>: The FD has a positive effect on RE.*

*H<sub>2</sub>: The FDI has a positive effect on RE.*

#### Findings and discussion

Before the basic analysis of the study, cross-sectional dependency tests were performed, and cross-sectional dependence was determined for all variables. According to this result, the 2nd generation panel unit root tests are appropriate for testing the stationarity of the variables. The unit root test results show that the variables for both country groups are stationary at the level I(0).

#### Causality test findings

It has been determined that there is a bidirectional causality relationship between FD level and RE production for both country groups. On the other hand, a unidirectional causality relationship from foreign direct investment to RE production was determined in Asia-Pacific countries. There is no causal relationship between foreign direct investment and RE production in Latin American countries. While there is a one-way relationship between FD to FDI in Asia-Pacific countries, there is a bidirectional causality relationship between these two variables in Latin American countries.

#### Simultaneous panel **quantile** regression findings

FDI positively and significantly affects renewable energy production in Asia-Pacific countries, especially at medium and high quantile levels. FDI inflows are an important source of financing for energy production from renewable resources specific to the country group that constitutes the sample. FD level positively and significantly affects RE production, especially at high quantile levels. In other words, as the FD level increases in this country group, more resources are transferred to RE production. In Asia-Pacific countries, the financial ecosystem becomes an important financial determinant of energy production from renewable resources by transferring resources to enterprises/entrepreneurs through its two sub-mechanisms: financial institutions and financial markets. For Latin American countries, the significant and positive relationship between FDI on RE is significant at all levels except the 9th quantile level. The effect of FD on RE in this country group is positive and statistically significant at all quantile levels.

#### Conclusion, recommendation and limitations

According to the results obtained from the study, 1.) Financial development and foreign direct capital inflows are significant causes of change in renewable energy investments in Asia-Pacific countries. 2) In Latin American countries, only the level of financial development is a significant reason for renewable energy investments. 3) In Asia-Pacific countries, foreign direct capital inflows positively affect renewable energy production. According to this finding, it can be said that foreign direct capital inflows are an important source of external financing for energy production from renewable sources as an alternative source to meet the increasing energy needs of the region. Therefore, it can be said that the positive effect of foreign direct investments on renewable energy investments reveals the existence of the halo effect, albeit indirectly, for the relevant countries. 4) The level of financial development positively affects renewable energy production, and this effect is much greater in Latin American countries. Accordingly, the financial ecosystem in the relevant country group becomes an important financial determinant of energy

production from renewable resources by transferring resources to enterprises/entrepreneurs through two sub-mechanisms: financial institutions and financial markets.

The study's main limitation is to research a certain group of countries. Analyses can be repeated by expanding the sample. In addition, investigating the effects of only FD and FDI variables on RE is another limitation. It would be useful to observe the results by establishing larger models that include different variables impacting RE.



## Giriş

Sanayi devriminden bu yana daha fazla üretim, daha fazla enerji ihtiyacı ve insan konforunu artırmaya yönelik faaliyetler, bir süredir bedelini ödemekte olduğumuz çevresel sorunları beraberinde getirmiştir. Belirtilen faaliyetlerde sıklıkla fosil yakıtlardan enerji elde edilmesi atmosferde sera gazının artmasına ve dünya genelinde sıcaklık artışına neden olmuştur. Bugün yaşadığımız olağan dışı iklimsel olaylar bu sürecin çıktısı olarak karşımızda durmaktadır. Yaşanan çevresel olumsuzların azaltılmasına yönelik küresel boyutta bir dizi etkinlik ve yaptırımlar gündemimize gelmiştir. 2016 yılında yürürlüğe giren ve yaklaşık 192 ülke tarafından imzalanan Paris Anlaşması ile küresel sıcaklığın 1,5 °C'nin altına tutulması hedeflenmektedir (UNFCCC, 2022). Sıcaklık hedefinin gerçekleştirilebilmesi için ilk eylemlerden birisi sera gazı emisyonuna en yüksek katkıya sahip enerji sektöründe dönüşüme gidilmesidir. Bu dönüşümün temelinde geleneksel kaynaklar kullanılarak üretilen enerjinin, yenilenebilir enerji (YE) kaynakları ile yer değiştirmesi yatmaktadır. Mevcut koşullar değerlendirildiğinde dünya genelinde 2019 yılı verilerine göre birincil enerjinin yaklaşık olarak %11'i yenilenebilir enerji kaynaklarından elde edilmektedir (Our World in Data, 2022). YE kullanım oranı enerji ihtiyacının karşılanabilmesi için henüz yeterli düzeyde değildir. Bunun temel nedeni dönüşümün getirdiği ekonomik yük ve ülkelerin konfor alanından çıkmak istememeleridir. YE uygulamalarının bazı ülkelerde tüm hızıyla devam etmesinin, bazı ülkelerde ise herhangi bir adım atılmamış olmasının ardındaki gerçek budur. YE kaynaklarının kullanılması daha temiz bir çevrenin yanı sıra ülkelerin fosil yakıtta dışa bağımlılıktan kurtulmasına ve enerji güvenliğine katkılar sunmaktadır (Anton ve Afloarei Nucu, 2020, s. 330). Ayrıca fosil kaynakların kıt olduğu ve bir gün tükeneceği de göz ardı edilmemelidir.

YE kaynaklarının üretiminin/kullanımının artırılmasında ekonomik faktörler az gelişmiş ve gelişmekte olan ülkelerin temel sorunudur. Gelişmiş ülkelerde enerji ihtiyacındaki artışın yenilenebilir enerji kaynaklarından karşılanması için yoğun bir çaba harcanmakta ve çeşitli yollarla finansman sağlanmaktadır. YE'nin kullanılmasının önündeki en büyük zorluk şüphesiz maliyetli olmasıdır. Geleneksel enerji kaynaklarına kıyaslandığında özellikle kurulumdaki sermaye ihtiyacı çok daha yüksektir ve yatırımların geri dönüş süreleri uzundur (Lahiani, Mefteh-Wali, Shahbaz ve Vo, 2021, s. 2). Az gelişmiş ve gelişmekte olan ülkelerde ise finansman sorunları nedeniyle yenilenebilir enerji kaynaklarına geçiş çabası zayıf kalmaktadır. Çevreye olan etkisi nedeniyle bir ülkenin finansal gelişme (FG) düzeyi ve finansman olanaklarının temiz teknolojilere yöneltilmesi önemlidir. Büyüme ve istikrar için bir diğer önemli faktör ülkeye gelen yatırımlardır. Doğrudan yabancı yatırımlar (DYY), çok uluslu şirketlerin kendi ülkelerinden ev sahibi ülkelere bilgi, teknoloji, yönetim uygulamaları ve sistemlerinin transferini ifade eden bir akıştır (Doytch ve Narayan 2016, s. 291). Tanımdan da anlaşılacağı gibi ülke ekonomisinde çok yönlü bir etkiye sahiptir (sermaye akışı, yeni teknolojilerin kazandırılması, istihdam vb.). DYY'de ilgili hedef ülkenin çevre politikalarının bu tür yatırımlar üzerinde ne derece sıkı uygulanacağı yatırımların çevresel etkisini farklılaştırmaktadır (Polat ve Naci, 2018, s. 41). Ülkelerin DYY yoluyla ekonomik olarak elde ettikleri avantajlar ile çevresel bozulmalara olan etkilerini dengelemeleri önemlidir.

Dünya Bankası verilerine göre Asya ve Pasifik bölgesi, dünyanın karbondioksit emisyonlarının üçte birini ve kömür tüketiminin %60'ını oluşturan, sera gazı emisyonlarına en büyük katkıyı yapan ülkelerdir (Climate Change Action Plan, 2021). Diğer taraftan hızlı bir ekonomik büyüme süreci içinde olan Latin Amerika ülkelerinin nüfusunda yaşanan artışla birlikte enerji ihtiyacı son 10 yılda ciddi artış göstermiştir (Vural, 2021). Dünya geneline bakıldığında her ne kadar bölgenin emisyonuna katkısı az olsa da büyümenin etkisi ile enerji tüketimi katlanarak artmaktadır (Pablo-Romero ve De Jesus, 2016). Bu süreçte bölgede fosil kaynaklardan enerji üretimi artmış ancak yenilenebilir enerji kapasitesi çok daha yüksek oranda artış göstermiştir (Adebayo, Ramzan, Iqbal, Awosusi ve Akinsola, 2021). Dolayısıyla taşıdığı önemli potansiyeller itibarıyla Dünya ekonomisi ve siyasetinde önemli bir geleceğe sahip olması beklenen Asya-Pasifik ve Latin Amerika ülkelerinde karbon emisyonu ile mücadelede yenilenebilir enerji yatırımlarının finansal belirleyicilerine yönelik bilimsel araştırmaların yapılması zorunluluk olarak ortaya çıkmaktadır.

Bu çerçevede yukarıda tartışıldığı gibi ülkelerin çevresel bozulmayı önleyici politikalar belirleyebilmeleri için çevre üzerinde etkili faktörler arasındaki ilişkilerin farklı ülkeler, farklı dönemler ve farklı ekonometrik yöntemler kullanılarak araştırılması önemlidir. Bu çalışmada Asya-Pasifik ve Latin Amerika ülkelerinden oluşan örneklem için YE yatırımları üzerinde DYY ve FG düzeyinin etkisine yönelik ampirik kanıtlar elde edilmesi amaçlanmıştır. 2000-2020 dönemi verileri kullanılarak panel kantil regresyon ve Dumitrescu-Hurlin panel nedensellik testi ile ilişkiler araştırılmıştır. İlgili ülke grubu için ulusal literatürde daha önce bu değişkenler boyutuyla bir çalışmaya yer verilmemiş olması, özellikle Asya-Pasifik bölgesinde dünya genelinde çevresel bozulmaya en fazla katkı sağlayan ülkelerin

yer alması, Latin Amerika bölgesinin ise hızla büyüyen ekonomisinin YE üzerindeki etkilerinin önemi çalışmadan elde edilecek sonuçların değerli olacağını ve literatüre katkı sağlayacağını göstermektedir.

Çalışmanın giriş bölümünü takiben konuyla ilgili literatür özetlenmiş ve tartışılmıştır. Üçüncü bölümde çalışma metodolojisi anlatılarak elde edilen bulgular sunulmuştur. Son bölümde, bulgular tartışılarak politika yapımcılar için önerilere yer verilmiştir.

## Literatür incelemesi ve çalışma hipotezleri

Konuyla ilgili literatür incelendiğinde önceki çalışmaların enerji tüketimi üzerine odaklandığı ancak yakın zamandaki çalışmaların YE kullanımı ve farkındalığındaki artış ile yön değiştirerek yenilenebilir enerjinin çevresel ve ekonomik unsurlarla olan etkileşimlerinin araştırılmasına doğru kaydığı dikkat çekmektedir. Çalışmalarda farklı ülkeler (Burakov ve Freidin, 2017; Eren, Taspınar ve Gokmenoglu, 2019; Kwakwa 2021; Lahiani vd., 2021; Lei, Liu, Hafeez ve Sohail, 2022; Mukhtarov, Humbatova, Hajiyev ve Aliyev, 2020; Pata, Yilanci, Zhang ve Shah, 2022) için yenilenebilir enerjinin çeşitli değişkenlerle (Ergun, Owusu ve Rivas, 2019; ben Jebli, ben Youssef ve Apergis, 2019; Pham 2019; Qamruzzaman ve Jianguo 2020; Usman ve Makhdom 2021) olan ilişkileri ön plana çıkarılmaktadır. Bu bölümde YE ile FG ve DYY arasındaki ilişkiyi inceleyen çalışmalar iki alt başlık halinde özetlenecektir.

### Yenilenebilir enerji ve finansal gelişme

FG düzeyindeki yükseklik, finansal piyasaların, banka ve hisse senedi piyasalarının gelişmesine ve yatırımlar için daha fazla fon sağlanmasına yol açar (Sadorsky, 2011, s. 999). Bu fonların karlı yatırımlara tahsis edilmesi sistemin verimliliğini artıracaktır. Gelişmiş bir finansal sistem, tasarruf ve yatırım oranlarını artıracak, sermaye tahsisini hızlandıracak ve böylece ekonomik büyümeye katkı sağlayacaktır (Estrada, Park ve Ramayandi, 2010, s. 6). FG'nin çevreye olan etkisi üç farklı boyutta ifade edilmektedir. Bunlardan ilki hisse senedi piyasaları üzerindedir. Gelişmiş finansal sistem borsalarda işlem göre firmaların yatırımlarının hızlanmasına ve yeni yatırımcıların borsaya çekilmesine neden olmaktadır. Artan bu hareketlilik yeni teknolojilerle birlikte enerji miktarında artışı getirebilecektir. FG'nin çevresel etkisini ortaya koymada bu enerjinin hangi kaynaklardan sağlanacağı önemlidir. Bu durum ilişkinin yönünü (pozitif/negatif) tayin edecektir. FG'nin bir diğer boyutu yatırımların ülkeye çekilmesinde etkili olması, bu sayede ortaya çıkan enerji ihtiyacının karşılanması için fosil ya da YE kaynaklarından yararlanılması ile çevresel etkisi farklılaşacaktır. Son boyut ise bankalar tarafından sunulan krediler yoluyla hem firmaların hem de tüketicilerin ürün ve hizmetlere erişimde yaşayacağı olumlu ivmedir. Piyasalarda artan ihtiyaçlar sonrası yaşanan talep artışı üretimin hızlanmasına ve enerji ihtiyacının açığa çıkmasına neden olacaktır (Omri, Kahia ve Kahouli, 2021, s. 47504). FG'nin çevre üzerinde dolaylı olarak YE kaynakları üzerinde farklı etkiler ortaya koyması beklenebilir.

FG ve YE arasındaki ilişkiyi inceleyen çalışmaların önemli bölümünde ilişkinin pozitif yönlü olduğu ortaya konulurken, az sayıda çalışmada negatif etkileşimin olduğu ve ilişkinin olmadığı sonuçlar elde edilmiştir.

İki değişken arasındaki ilişkinin pozitif yönlü olduğunu ortaya koyan çalışmalardan Pham (2019), 22 OECD ülkesini dikkate almıştır. Çalışma sonuçları FG'nin hem biyokütle hem de farklı YE teknolojilerinin gelişmesine katkı sağladığını ortaya koymaktadır. Hindistan'da finansal gelişme, ekonomik büyüme ve yenilenebilir enerji ilişkisinin 1971-2015 dönemi verileri için araştırıldığı çalışmada Eren vd. (2019), dinamik en küçük kareler yöntemi ile finansal gelişmenin yenilenebilir enerjiyi pozitif yönlü etkilediğini belirlemiştir. Anton ve Afloarei Nucu (2020), finansal gelişmenin üç farklı boyutu üzerinde araştırma yaparak 28 Avrupa Birliği ülkesinde sabit etkili panel modelini uygulamıştır. Sonuçlar her üç boyutunda panelin genelinde yenilenebilir enerji tüketimini olumlu yönde etkilediğini ortaya koyarken, birliğe yeni üye olan ülkelerde sermaye piyasalarındaki gelişimin yenilenebilir enerji üzerinde henüz bir etkiye sahip olmadığını göstermektedir. Bu durum çevresel iyileştirmeler konusunda kendi içinde ciddi yaptırımlar benimseyen Avrupa Birliği ülkeleri için henüz adaptasyon sürecinde olan ülkelerde beklenebilecek bir sonuçtur. Le, Nguyen ve Park (2020) farklı gelir düzeyine sahip 55 ülkede iki aşamalı genelleştirilmiş momentler (GMM) yöntemini kullanarak önemli sonuçlar elde etmişlerdir. Yüksek gelire sahip ülkelerde finansal gelişimin yenilenebilir enerji üzerinde olumlu etki yarattığı, düşük ve orta gelirli ülkelerde ise ilişkinin istatistiksel olarak anlamlı bulunmadığı görülmektedir. 1993-2015 yılı verileri ile Azerbaycan'da finansal gelişme, ekonomik büyüme, enerji fiyatları ve yenilenebilir enerji ilişkisini araştıran Mukhtarov vd. (2020) şu sonuçları elde etmiştir: finansal gelişme ve ekonomik büyüme yenilenebilir enerji tüketimini pozitif yönde etkilerken, enerji fiyatları negatif yönlü bir etki ortaya koymaktadır. Finansal gelişmişlik, ticari açıklık, sermaye akışı ve yenilenebilir enerji tüketimi arasında asimetric etkileri araştıran çalışmasında Qamruzzaman ve Jianguo (2020), tüm gelir grubundaki ülkelerde finansal gelişmişlik, doğrudan yabancı yatırımlar ve ticari açıklığın yenilenebilir enerji üzerinde uzun dönem etkiye sahip olduğunu göstermiştir. Uzun

vadede enerji talebindeki artış, uluslararası ticaretin gelişmesi, finansal ürün ve hizmet çeşitliliğinin artması ve yabancı sermaye akışlarının yenilenebilir enerji tüketimini artıracakı tespit edilmiştir. Ali Raza vd. (2020), 15 ülke için finansal gelişmişliğin yenilenebilir enerji tüketimini artıracakına ilişkin kanıtlar sunmaktadır. Shahbaz, Sinha, Raghuıta ve Vo (2021a), 39 ülkeye ilişkin panel veri setinden hareketle finansal gelişme, doğrudan yabancı yatırımlar ve yenilenebilir enerji ilişkisini CS-ARDL yöntemi ile araştırmışlardır. Çalışma sonuçları hem finansal gelişmenin hem de doğrudan yabancı yatırımların yenilenebilir enerji ile pozitif ilişkisini ortaya koymaktadır. Yüksek ve orta gelirli gelişmekte olan 34 ülke üzerinde gerçekleştirdiği araştırmasında Shahbaz, Altay Topcu, Sümerli Sarıgül ve Vo (2021b), finansal gelişmenin çevre dostu enerji kaynaklarına olan yönelime olumlu katkı yapacağını ve yenilenebilir enerji tüketimini artıracakını tespit etmiştir. Kwakwa (2021) çalışmasını Gana üzerinde yoğunlaştırmış ve geniş bir değişken kitlesini dikkate alarak finansal gelişme ve yenilenebilir enerji ilişkisinde iki farklı sonuç elde etmiştir. Finansal gelişme yenilenebilir enerji tüketimini kısa dönemde olumlu yönde etkilerken, uzun dönemde bu etki negatife dönüşmektedir. Bunun anlamı Gana'da yenilenebilir enerjiye yönelik olumlu tutumun kısa ömürlü olduđu ve yenilenebilir enerjinin kısa vadede benimsenip teşvik edilmesine rağmen uzun dönemde bu etkinin geçtiği şekilde yorumlanmaktadır. Zhang, Qamruzzaman, Karim ve Jahan (2021), BRIC ülkelerinde doğrudan yabancı yatırımlar ve finansal gelişmenin yenilenebilir enerji ile pozitif ilişkisini belirlemişlerdir. Temiz enerji kaynaklarına geçişin yatırımlar ve finansal gelişmişlikte artış ile ivme kazanacağını ifade etmişlerdir. Alsagr ve van Hemmen (2021), 19 gelişmekte olan piyasa için finansal gelişme, jeopolitik risk ve yenilenebilir enerji tüketimi ilişkisini iki aşamalı GMM yöntemi ile 1996-2015 dönemi verilerini kullanarak araştırmıştır. Çalışma sonuçlarında finansal gelişmenin yenilenebilir enerjiye geçiş süreci üzerinde olumlu etkiye sahip olduđu, beklenenin aksine jeopolitik riskin ise yenilenebilir enerji tüketimini olumlu etkilediği belirlenmiştir. Finansal gelişmenin farklı boyutlardan ele alındığı çalışmada Lahiani vd. (2021), Amerika'da finansal gelişmenin tüm boyutlarındaki pozitif ve negatif şokların yenilenebilir enerji tüketiminin artırılması yönünde etki yarattığını göstermiştir. Samour, Baskaya ve Tursoy (2022) ise Birleşik Arap Emirlikleri'nde finansal gelişme, yatırımlar ve büyümenin yenilenebilir enerji tüketimini anlamlı bir şekilde artırdığını, Wang vd. (2022) ise Next-11 ülkelerinde finansal gelişmenin yenilenebilir enerji üzerinde artışa neden olduğunu ancak eğitim düzeyinin anlamlı bir pozitif etki yaratmadığını ortaya koymuştur. Pata vd. (2022), Amerika üzerinde gerçekleştirdikleri araştırmalarında finansal derinlik ve erişimin orta ve uzun dönemde yenilenebilir enerji tüketimini teşvik ettiğini ortaya koymuşlardır. Bu çalışmada ayrıca Amerika Birleşik Devletleri'nde yeşil büyümenin desteklenmesi için finansal kurumlardan ziyade finansal piyasa derinliği ve erişiminde iyileştirmeye gidilmesi gerektiğinin altı çizilmiştir.

Finansal gelişme ve yenilenebilir enerji arasında negatif ilişkinin varlığını ortaya koyan çalışmalardan Assi, Isiksal ve Tursoy (2021) ASEAN +3 ülkelerini dikkate almışlardır. Panel ARDL yaklaşımının kullanıldığı çalışmada finansal gelişmişliğin yanı sıra çevre kirliliği, inovasyon, ekonomik özgürlük ve kişi başına milli gelirin de yenilenebilir enerji tüketimi üzerindeki etkisi incelenmiştir. Kısa ve uzun dönemde finansal gelişmenin yenilenebilir enerji tüketimini engellediği, çevre kirliliği ve ekonomik özgürlüğün negatif etkiye sebep olduđu, inovasyon ve gelirin pozitif etkiye sahip olduđu belirlenmiştir. Saadaoui (2022) finansal gelişmenin yenilenebilir enerjiye geçiş sürecindeki etkisini MENA ülkeleri üzerinde araştırmıştır. Buna göre kısa dönemde finansal gelişme yenilenebilir enerjiyi azaltıcı etki yaratırken bu etki uzun dönemde anlamlı değildir. Bu sonuçlar MENA ülkelerinde finansal kurumların ve finansal piyasaların yenilenebilir enerjinin teşvik edilmesindeki yetersizliği ortaya koymaktadır. Dünyanın en yüksek emisyon üreticilerinden olan Çin üzerine yaptığı çalışmasında Lei vd. (2022), ekonomik politik belirsizlik endeksi (EPU) ve finansal gelişmenin yenilenebilir enerji üzerindeki etkisini araştırmışlardır. Asimetrik model sonuçlarına göre EPU'nun pozitif etkilerinin yenilenebilir enerjiyi pozitif, negatif etkilerinin ise negatif yönde etkilediği görülmektedir. Finansal gelişmişlik Çin'de yenilenebilir enerji üzerinde anlamlı bir etkiye sahip değildir.

Değişkenler arasındaki ilişkiyi nedensellik boyutuyla inceleyen çalışmalardan bazılarında nedenselliğin yönü finansal gelişimden yenilenebilir enerjiye doğru (Eren vd., 2019; Qamruzzaman ve Jianguo, 2020; Wang, Zhang ve Zhang, 2021), bazılarında tam aksi yenilenebilir enerjiden finansal gelişme yönünde (Ari ve Cergibozan, 2018; Usman ve Makhdam, 2021), bazı çalışmalarda ise karşılıklı olduğuna (Mukhtarov vd., 2020; Wang vd., 2022) dair kanıtlar sunulmuştur. Burakov ve Freidin (2017), ben Hassine ve Harrathi (2017), Khoshnevis Yazdi ve Shakouri (2017), çalışmalarında ise nedensellik ilişkisine rastlanmamıştır.

Literatür incelemesi ve çalışmaya dahil edilen ülkelerin genel durumu dikkate alınarak çalışmanın ilk hipotezi aşağıdaki gibi kurulmuştur.

**H<sub>1</sub>:** Finansal gelişmişlik düzeyi yenilenebilir enerji üzerinde pozitif etkiye sahiptir.

### Yenilenebilir enerji ve doğrudan yabancı yatırımlar

Doğrudan yabancı yatırımların çevre ile ilişkisinin ifade edilmesinde “Kirlilik Cenneti” (KC) ve “Kirlilik Halo” (KH) hipotezleri kullanılmaktadır (Djellouli, Abdelli, Elheddad, Ahmed ve Mahmood, 2022, s. 679). KC hipotezine göre özellikle çevre üzerinde olumsuz etkilere sahip sektörler yatırımlarını çevresel düzenlemelerin esnek olduğu ülkelerde gerçekleştirmeyi tercih etmektedirler. Bu ülkelerde, firmaların çevreye verdikleri zarara ilişkin ciddi faturaların kesilmemesi, sıkı düzenleme ve denetleme faaliyetlerinin olmaması firmalar için önemli bir avantaj olarak değerlendirilmektedir. Bu durumun altında yatan temel etken ise özellikle az gelişmiş ve gelişmekte olan ülkelerin sermayeyi kendi ülkelerine çekme çabası yatmaktadır. Bu hipotezin geçerli olduğu ülkelerde gerçekleştirilen yabancı yatırımlar çevresel faktörler üzerinde olumsuz etkiye sahiptir. Diğer taraftan KH hipotezi ise yabancı yatırımlar ile birlikte ülkeye temiz teknolojinin transfer edilebileceğini, enerji verimliliğinin artırılması ile ev sahibi ülkenin çevre koşullarına olumlu etki sunacağı ifade edilmektedir (Xu, Zhao, Zhang ve Cheng, 2020, s. 2-3). Bu iki hipotez çerçevesinde ev sahibi ülkenin çevresel kirlilik konusunda yatırımlara yönelik tutumu yenilenebilir enerji ve doğrudan yabancı yatırımlar arasındaki ilişkinin şeklini belirleyen önemli bir husustur. Literatürde bulunan sonuçlarda bu yönüyle pozitif, negatif ilişkilerin yanı sıra ilişkinin bulunmadığı durumları da yansıtmaktadır.

Yenilenebilir enerji ve doğrudan yabancı yatırımlar arasında pozitif ilişki belirleyen Amri (2016), 50 gelişmekte olan, 25 gelişmiş ülke örneğinde dinamik panel GMM yöntemi kullanmıştır. Ergun vd. (2019) çalışmalarında 21 Afrika ülkesi için sabit etkili tahminler yoluyla doğrudan yabancı yatırımlardaki artışın yenilenebilir enerji entegrasyonu ile ilişkisini ortaya koymuştur. 31 Çin eyaleti için 2000-2005 dönemi verilerinin kullanıldığı çalışmada Fan ve Hao (2020), yenilenebilir enerjinin DYY ve ekonomik büyüme ile olan ilişkisini araştırmıştır. Çalışma sonuçları hem GSYİH'nun hem de yenilenebilir enerjideki büyüme oranının yabancı yatırımlardan olumlu etkilendiğini kanıtlamaktadır. 190 ülke ile dünya genelinde oldukça geniş bir paneli dikkate alan Khan, Khan, Oanh ve Lin (2020), yenilenebilir enerji tüketimi, emisyon, DYY ve ekonomik büyüme ilişkisini statik ve dinamik panel modeller yardımıyla belirlemişlerdir. Sonuçlar DYY'nin yenilenebilir enerjiyi pozitif yönde etkilediğini, yenilenebilir enerjinin ise DYY'yi negatif etkilediğini ortaya koymaktadır. Rezagholizadeh, Aghaei ve Dehghan (2020), İran için 1978-2016 dönemi verileri üzerindeki incelemesinde hem borsadaki gelişmenin hem de yatırımlardaki artışın yenilenebilir enerjiyi teşvik edeceğini göstermiştir. Shahbaz vd. (2021a), finansal gelişme, doğrudan yabancı yatırımlar ve yenilenebilir enerji ilişkisini 39 ülke üzerinde araştırmış, her iki değişkenin de yenilenebilir enerjiyi olumlu etkilediğini ortaya koymuştur. Qamruzzaman, Karim ve Jahan (2022), petrol ithal eden 13 ülkeyi dikkate alarak farklı boyutta bir çalışma ortaya koymuşlardır. Çalışmanın sonuçları hem simetrik hem de asimetric etkilerin araştırıldığı yöntemlerde birbiri ile benzerlik göstermiştir. DYY'nin yenilenebilir enerji üzerindeki etkisi her iki yöntemde de pozitif olarak bulunmuştur. Diğer taraftan EPU'nun etkisi ARDL modelinde negatif, NARDL modelinde ise pozitif/negatif şoklar için yine negatiftir.

İki değişken arasındaki ilişkinin negatif olduğunu gösteren çalışmalar da literatürde yerini almıştır. Kiliçarslan (2019) çalışmasında BRICS ülkeleri ve Türkiye'de 1996-2015 dönemi verileri ile panel ARDL yaklaşımını kullanarak elde ettikleri sonuçları paylaşmıştır. Buna göre DYY'ler yenilenebilir enerji üretimini negatif yönde etkilediği, bu durum yatırımların doğrudan yenilenebilir enerji sektörüne yönelik olmadığı şeklinde yorumlanmıştır. Grabara, Tleppayev, Dabylova, Mihardjio ve Dacko-Pikiewicz (2021) Kazakistan ve Özbekistan için yenilenebilir enerji, DYY ve ekonomik büyüme ilişkisini araştırarak her iki ülke için de DYY'nin yenilenebilir enerjiyi olumsuz yönde etkilediğini belirlemişlerdir. Bunun temel nedeninin ilgili ülkelerde kömür, petrol ve doğalgaz gibi hammaddelerin yatırımlar için ana sektör olması ileri sürülmektedir. Kang vd. (2021) Güney Asya ülkelerinde DYY ve yenilenebilir enerji arasında güçlü negatif ilişkinin varlığını ortaya koymuşlardır. Khan, Chenggang, Hussain ve Kui (2021), 69 BRI ülkesinde inovasyon, büyüme ve DYY'nin yenilenebilir enerjiyi olumsuz yönde etkilediğini, finansal gelişmenin etkisinin ise pozitif olduğuna ilişkin bulgular elde etmişlerdir. Bangladeş için yapılan araştırmada Elheddad, Alfar, Haloub, Sharma ve Gomes (2022), DYY'nin YE tüketimi üzerinde caydırıcı bir role sahip olduğunu ve bu etkinin oldukça yüksek olduğunu GMM ve panel kantil regresyon yöntemleri ile ifade etmiştir. Gyamfi, Bein, Udemba ve Bekun (2022), E7 ülkelerinde geniş bir değişken kitlesi üzerinde yapmış oldukları araştırmalarında DYY'ler ve küreselleşmenin çevresel bozulmanın destekleyicisi olduklarına, yenilenebilir enerji tüketimindeki artışın ise çevresel bozulmayı azalttığına ilişkin ampirik kanıtlar sunmuşlardır. Polat ve Naci (2018), 85 gelişmiş ve gelişmekte olan ülke için, Arain, Sharif, Akbar ve Younis (2020) ise Çin'de DYY'ler ile yenilenebilir enerji arasındaki ilişkinin anlamlı olmadığını ortaya koyan çalışmalardır.

DYY ve yenilenebilir enerji arasındaki ilişkiyi nedensellik boyutuyla inceleyen çalışmalardan bazılarında nedenselliğin yönü DYY'den yenilenebilir enerjiye doğru (Rezagholizadeh vd., 2020), bazılarında ise yenilenebilir enerjiden DYY yönünde (Ergun vd., 2019; Fan ve Hao, 2020; Parab, Naik ve Reddy, 2020), bazı çalışmalarda ise karşılıklı olduğuna (Khandker, Amin ve Khan, 2018; ben Jebli vd., 2019; Khan vd., 2021; Qamruzzaman vd., 2022) dair kanıtlar sunulmuştur.

Genel literatür incelendiğın DYY'lerin yenilenebilir enerji üzerindeki etkisi pozitif/negatif olarak belirlenmiştir. Çalışmanın örnekleme ülkeler için beklenen ilişkiye ait hipotez aşağıdaki gibi ifade edilebilir.

*H<sub>2</sub>: Doğrudan yabancı yatırımlar yenilenebilir enerji üzerinde pozitif etkiye sahiptir.*

İlgili literatür incelendiğinde yenilenebilir enerji üzerinde ekonomik ve çevresel faktörleri inceleyen çalışmalar olduğu görülmektedir. Ancak konunun güncelliğinin devam ediyor olması ve Asya ve Pasifik ülkelerini dikkate alan çalışmaların henüz ulusal literatüre kazandırılmamış olması, Latin Amerika ülkelerinin ise hem hızlı büyümesi hem de yenilenebilir enerji kaynaklarını artırıyor olması bakımından incelenmesinin önemliliği literatürdeki boşluğu dolduracağını göstermektedir. Çevresel bozulmalar konusunda önemli potansiyele sahip bu ülkeler üzerinde yenilenebilir ilişkinin ekonomik faktörlerle ilişkisinin incelenmesi ve elde edilen sonuçların politika yapımcılar açısından değerlendirilmesi çalışmanın özgünlüğünü göstermektedir.

## Metodoloji

### Veriler

2000-2020 dönemini kapsayan çalışmada bağımlı değişken olan YE üretimi Uluslararası Yenilenebilir Ajansı (IRENA), bağımsız değişkenlerden FG endeksi Uluslararası Para Fonu (IMF) ve DYY girişleri Dünya Bankası resmi internet sitelerinden derlenmiştir. Değişkenler doğal logaritmaları ile analizlerde kullanılmıştır. Çalışmanın örneklemleri 13 Asya-Pasifik ülkesi (Kamboçya, Çin, Endonezya, Japonya, Güney Kore, Malezya, Myanmar, Filipinler, Singapur, Tayland, Vietnam, Avustralya ve Yeni Zelanda) ve 7 Latin Amerika ülkesinden (Arjantin, Brezilya, Şili, Kolombiya, Ekvador, Meksika ve Peru) oluşmaktadır. Verilerin analizi aşamasında Stata 17 ve E-Views 12 SV programlarından yararlanılmıştır.

### Yöntem

Çalışmada iki yöntem çerçevesinde analizler yapılmıştır. Birinci aşamada değişkenler arasında nedensellik ilişkisini anlamak için Dumitrescu-Hurlin (D-H) Panel Nedensellik Testi uygulanmıştır. Bu test, kesit birimi başına hesaplanan Granger testinin bir kombinasyonudur, Wbar istatistikleri ve Zbar istatistikleri olmak üzere iki farklı istatistik sağlar. D-H nedensellik testinin avantajı, her iki durum için de ( $N > T$  ve  $N < T$ ) esnek bir şekilde uygulanabilmesidir. Ülkeler arasında eğitim heterojenliği ve yatay kesit bağımlılığı varlığında iyi performans gösterir. Ayrıca dengesiz panel verilerin analiz edilmesinde güçlü sonuçlar vermektedir. Bu test için, Monte Carlo simülasyonları, test istatistiklerinin nispeten güçlü olduğunu, küçük veri ve mekânsal bağımlılık durumlarında iyi sonuçlar üretebileceğini göstermektedir. Testin sıfır hipotezi, değişkenler arasında nedensel bir ilişki olmadığını varsayar. (Iqbal, Tang ve Rasool, 2022, s. 15; Appiah vd., 2022, s. 9; Bhujabal vd., 2021, s. 42658; Janpolat, Odilova, Nodira, Salahodjaev ve Khachaturov, 2021, s. 371). Dumitrescu-Hurlin panel nedensellik denklemi aşağıdaki gibi gösterilebilir (Bhujabal vd., 2021, s. 42658).

$$Y_{i,t} = a_i + \sum_{k=1}^K \lambda_i^k Y_{i,t-k} + \sum_{k=1}^K \beta_i^k X_{i,t-k} + \varepsilon_{i,t}$$

Burada K, optimum gecikme uzunluğunu, Y ve X ise nedensel ilişkiyi test etmek için dikkate alınan değişkenleri temsil eder.

İkinci aşamada ise YE yatırımları üzerinde DYY girişleri ve FG düzeyinin etkisine yönelik ampirik kanıtlar elde edilmesi amaçlanan çalışmada temel analiz yöntemi olarak panel kantil regresyon analizi seçilmiştir. Bu yöntem her bir kantil boyunca heterojen ve dağılımsal etkileri değerlendirmek için kullanılır ve aykırı değerlerin olduğu durumlarda daha güçlüdür ve değişkenler arası koşullu ortalamaların zayıf ilişkilerini açıklamada yararlıdır (Sun, Bao, Siao, ul Islam ve Razzaq, 2022, s. 1169; Anwar, Siddique, Dogan ve Sharif, 2021, s. 962; Belaid, Elsayed ve Omri, 2021, s. 231). Farklı kantillerdeki bağımsız değişkenler için yapılan tahminler farklıdır, yani bağımsız değişkenlerin bağımlı değişkenler üzerindeki etkisi farklı kantillerde değişiklik göstermektedir (Wei ve Ullah, 2022, s. 36275). Dolayısıyla değişkenler arasındaki ilişkinin kapsamlı bir resmi, kantil regresyon kullanılarak bağımlı değişkenin koşullu dağılımının farklı kantillerdeki anlık görüntüleri aracılığıyla elde edilebilir (Singh, Sultana, Islam ve Singh, 2022, s. 7). Panel kantil regresyon yönteminin bir diğer avantajı değişkenlerin normal bir dağılım takip etmesini gerektirmemesidir (Banday ve Kocoglu, 2022, s. 9; Bui, Wang, Zhang, Le ve

Vu, 2021, s. 6; Xie, Wu ve Wang, 2021, s. 6). Bir diđer ifade ile kantil regresyon modelinin artıklarının EKK (En küçük kareler yöntemi)'nin sıfır ortalama, sabit varyans ve normal dağılım gibi klasik varsayımlarını karşılaması gerekmez (Opoku ve Aluko, 2021, s. 178). Koenker ve Bassett (1978) tarafından geliştirilen kantil regresyon yöntemi matematiksel olarak aşağıdaki gibi gösterilebilir (Maji ve Saha, 2021, s. 1669):

$i=1, 2, \dots, N$  olmak üzere

$$y_i = x_i' \beta_\tau + \varepsilon_i^\tau \dots$$

$$Q_\tau(y_i | x_i) = x_i^\tau \beta_\tau \dots$$

Burada,  $\beta_\tau$ ;  $\tau$ 'inci kantil regresyon için tahmini katsayıyı [ $0 < \tau < 1$ ],  $\varepsilon_i^\tau$  ise hata terimini gösterir. Yukarıdaki kantil fonksiyonel gösterimi panel veri seti için aşağıdaki gibi genişletilebilir.

$$Y_{i,t} = \alpha_i + \beta_{\tau,1} X_{i,t}^1 + \beta_{\tau,2} X_{i,t}^2 + \dots + \beta_{\tau,m} X_{i,t}^m + \varepsilon_{i,t}^\tau$$

Burada,  $i$  birimi (ülke, işletme),  $t$  ise zamanı temsil eder.

Bu çalışmada, katsayıların koşullu kantil düzeylerinde benzer olup olmadığını test etmemizi sağlayan eşanlı tahmine dayalı kantil regresyon modeli kullanılmıştır. Eşanlı kantil regresyon, hata terimlerinin normal olmayan dağılımını ve değişen varyanslılığı açıklayan güçlü bir regresyon tekniğidir. Tahminlerin sabit bir etkiye sahip olduğunu varsayan OLS regresyonu gibi geleneksel doğrusal modellerin aksine, eşanlı kantil regresyon, bağımsız değişkenlerin bağımlı değişkenin tam dağılımı boyunca sabit olmayan veya değişken etkilere sahip olup olmadığını gösterebilir (DeLisi vd., 2011, s. 81). Eşanlı tahmin, bireysel bir nicelik fonksiyonunun tahmin doğruluğunu iyileştirmeye yardımcı olabilir. Eşanlı tahminin bir avantajı, çapraz olmayan bir kısıtlama benimseyerek çaprazlama probleminden kaçınılabilesidir (Jhong ve Koo, 2019, s. 228). Eşanlı kantil regresyon yönteminde belirtilen kantil seviyeleri için regresyon katsayıları aynı anda tahmin edilir. Eşanlı kantil regresyon modelinde katsayılara ait standart hatalar bootstrap metoduyla tahmin edilir ve kantiller arası varyans kovaryans matrisinin elde edilmesi sağlanır (Ercan, 2021, s. 158; Uyar, Uyar Kangalli ve Gökçe, 2016, s. 590). Genel gösterimler çerçevesinde panel veriler için eşanlı kantil regresyonun matematiksel ifadesini aşağıdaki gibi yapabiliriz.

$$Q_\tau(\ln YE_{i,t} | \ln FG_{i,t}, \ln DYY_{i,t}) = \alpha_i + \beta_{\tau,1} \ln FG_{i,t} + \beta_{\tau,2} \ln DYY_{i,t} + \varepsilon_{i,t}^\tau$$

## Analiz ve bulgular

### Temel istatistiki testler ve korelasyon analizi

Çalışmada kullanılan verilerin temel özelliklerini anlamak ve tanımlamak için yapılan temel istatistiki testler ve sonuçları Tablo 1'deki Panel A'da, değişkenler arasındaki ilişkinin yönü ve boyutunu anlamak için yapılan korelasyon analizi sonuçları ise Panel B'de verilmiştir.

**Tablo 1:** Temel İstatistiki Testler ve Korelasyon Analizi

Panel A: Temel İstatistiki Testler						
	Asya-Pasifik			Latin Amerika		
	YE	FG	DYY	YE	FG	DYY
Ortalama	9.680	-0.843	22.717	10.621	-1.095	22.768
Ortanca	9.889	-0.602	22.878	10.455	-1.060	23.008
Mak.	14.580	-0.045	26.396	13.167	-0.415	26.352
Min.	3.365	-3.349	18.217	8.851	-2.163	18.926
Std.Sapma	2.007	0.712	1.700	1.059	0.406	1.429
Çarpıklık	-0.629	-1.203	-0.207	1.082	-0.695	-0.532
Basıklık	4.904	3.562	3.037	3.780	3.102	2.717
Jarque-Bera	59.295	69.445	1.884	32.461	11.906	7.388
Olasılık	0.000	0.000	0.389	0.000	0.002	0.024
Gözlem Sayısı	273	273	261	147	147	146
Panel B: Korelasyon Analizi						
YE	1			1		
FG	0.470	1		0.749	1	
DYY	0.560	0.641	1	0.745	0.849	1

**Kaynak:** Yazarlar tarafından üretilmiştir.

Temel istatistik test sonuçlarına göre Asya-Pasifik ülkelerindeki DYY deęişkeni hariç DYY ve FG deęişkenleri Jarque-Bera test istatistięi olasılık sonuçlarına göre normal dağılım göstermemektedir. Gözlem sayısındaki farklılıktan dolayı veri seti dengesiz panel özelliğine sahiptir. Korelasyon katsayılarına göre bağımlı deęişkenler ile bağımsız deęişkenler arasında pozitif yönlü bir ilişki bulunmaktadır. Bu bulgular yöntem seçiminde, analiz sonuçlarında ve hipotez geliřtirmede çalışmaya ışık tutmaktadır.

### Duraęanlık analizi

Yenilenebilir enerji üretimi, finansal gelişmişlik ve doğrudan yabancı yatırım deęişkenlerinin duraęan özelliklerini kontrol etmeden önce, her bir panel serisinde kesit bağımlılığı olup olmadığı araştırılmalıdır. Bu çalışma panel verilere dayandığından, yatay kesitler arasında bağımlılık olasılığı yüksektir. Küreselleşme ve ülkeler arasındaki artan entegrasyon nedeniyle, bir ülkedeki şok dięer ülkelere de yayılabilir. Bu nedenle, yatay kesit birimleri arasında korelasyonun varlığı beklenmektedir. Bu olasılığı göz ardı etmek yanıltıcı ve taraflı sonuçlara yol açabilir. Dolayısıyla seriler arasında yatay kesit bağımlılığı söz konusu iken gerçekleştirilen analizlerin sonuçları sapmalı ve tutarsız olacağından ve ayrıca hangi nesil birim kök testlerinin kullanılacağına karar vermek için öncelikle yatay kesit bağımlılığı sınanmıştır (Awad ve Warsame, 2022, s. 4; Jamil vd., 2022, s. 921; Tao, Umar, Naseer ve Razi, 2021, s. 4; Safi, Wahab, Zeb, Amin ve Chen, 2021, s. 47633; Ding, Khattak ve Ahmad, 2021, s. 261).

**Tablo 2:** Yatay Kesit Bağımlılığı Test Sonuçları

	Asya-Pasifik		Latin Amerika	
	Breusch-Pagan LM testi	Pesaran CD testi	Breusch-Pagan LM testi	Pesaran CD testi
Deęişkenler	Test istatistięi	Test istatistięi	Test istatistięi	Test istatistięi
YE	1333.607 (0.000)***	36.435 (0.000)***	260.201 (0.000)***	15.758 (0.000)***
FG	531.945 (0.000)***	12.882 (0.000)***	226.025 (0.000)***	14.494 (0.000)***
DYY	443.770 (0.000)***	17.671 (0.000)***	125.091 (0.000)***	9.092 (0.000)***

Not: Anlam düzeyi; \*\*\* %1

**Kaynak:** Yazarlar tarafından üretilmiştir.

Tablo 2’de sunulan yatay kesit bağımlılık testleri sonuçlarına göre tüm deęişkenler için yatay kesit bağımlılığı söz konusudur. Bu sonuca göre deęişkenlerin duraęanlığının sınanmasında 2.nesil panel birim kök testlerinin uygulanması uygundur. Çünkü birinci nesil panel birim kök testleri yatay kesitler arasındaki bağımlılık konusunu göz ardı etmektedir. Dolayısıyla bu çalışmada, potansiyel yatay kesit bağımlılığı sorununu göz önünde bulunduran ikinci nesil birim kök testleri kullanılmıştır. Kesit bağımlılığının varlığında, birinci nesil birim kök testleri yanlış bir sonuca varılmasına yol açabilmektedir (Awad ve Warsame, 2022, s. 5). Bu problemten kaçınmak için Augmented Dickey-Fuller (ADF) ve Im-Pesaran-Shin testlerinin bir kombinasyonu olan CIPS testi ile verilerin duraęanlığı araştırılacaktır (de Oliveira ve Moutinho, 2022, s. 49; Yılancı, Turkmen ve Shah, 2022, s. 5). CIPS birim kök testi yatay kesitsel bağımlılığa karşı sağlam heterojenliği açıklayan ve geleneksel birim kök testlerine kıyasla daha tutarlı ve güvenilir sonuçlar veren bir testtir. Testin sıfır hipotezi, panel veri serisindeki deęişkenlerin birim köke sahip olmasıdır. CIPS birim kök testi CADF’in ortalaması alınarak hesaplanır (Zhou, Li, Mustafa ve Altuntaş, 2022, s. 5; Li ve Haneklaus, 2022, s. 708; Rahman, 2021, s. 4; El Menyari, 2021, s. 44032; Sadiq vd., 2022, s. 325).

$$CIPS = \left( \frac{1}{N} \right) \sum_{i=1}^N CADF_i$$

**Tablo 3:** Pesaran (2007) Panel Birim Kök Testi (CIPS)

Model	Değişken	Test istatistiği Asya-Pasifik	Test istatistiği Latin Amerika
Trendsiz	YE	-1.934 (0.027)**	-2.788 (0.003)***
	FG	-3.936 (0.000)***	-1.624 (0.052)*
	DYY	-7.503 (0.000)***	-2.384 (0.009)***
Trendli	YE	-2.103 (0.018)**	-1.474 (0.070)*
	FG	-1.713 (0.043)**	-1.001 (0.158)
	DYY	-5.719 (0.000)***	-1.326 (0.092)*

Not: Anlam düzeyi; \*\*\*%1, \*\* %5, \* %10

**Kaynak:** Yazarlar tarafından üretilmiştir.

Tablo 3'te verilen CIPS birim kök testi sonuçları, düzey değerlerinde trendsiz modelde tüm değişkenler için sıfır hipotezinin reddedildiğini göstermektedir. Bu nedenle, CIPS birim kök testi sonuçları, tüm değişkenlerin düzeyde durağan davranış gösterdiğini ifade etmektedir. Başka ifade ile, tüm değişkenler I(0) derecesinde durağandır.

### Nedensellik testi

Çalışmada kullanılan değişkenler arasındaki nedensellik ilişkisinin analizi için uygulanan D-H Panel nedensellik test sonuçları aşağıdaki Tablo 4'te verilmiştir.

**Tablo 4:** D-H Panel Nedensellik Testi Sonuçları

Sıfır hipotez:	Asya-Pasifik			Latin Amerika		
	W-Stat	Zbar-Stat.	p-value	W-Stat	Zbar-Stat.	p-value
FG ↗ YE	4.946	3.413	(0.000)***	2.396	1.879	(0.060)*
YE ↗ FG	3.757	1.860	(0.062)*	2.348	1.808	(0.070)*
DYY ↗ YE	4.261	2.376	(0.017)**	1.403	0.398	(0.690)
YE ↗ DYY	1.985	-0.483	0.628	1.993	1.274	(0.202)
DYY ↗ FG	2.172	-0.248	0.803	3.686	3.788	(0.000)***
FG ↗ DYY	4.886	3.162	(0.001)**	3.738	3.788	(0.001)***

Not: Anlam düzeyi; \*\*\*%1, \*\*%5, \*%10

**Kaynak:** Yazarlar tarafından üretilmiştir.

Tablo 4'te verilen nedensellik testi sonuçlarına göre her iki ülke grubu için FG düzeyi ile YE üretimi arasında çift yönlü bir nedensellik ilişkisinin bulunduğu belirlenmiştir. Buna karşın Asya-Pasifik ülkelerinde doğrudan yabancı sermaye yatırımlarından YE üretimine doğru tek yönlü bir nedensellik ilişkisi belirlenmiştir. Latin Amerika ülkelerinde doğrudan yabancı sermaye yatırımları ile YE üretimi arasında herhangi bir nedensellik ilişkisi bulunmamaktadır. Asya-Pasifik ülkelerinde FG düzeyinden DYY'ye doğru tek yönlü bir ilişki söz konusu iken Latin Amerika ülkelerinde bu iki değişken arasında çift yönlü bir nedensellik ilişkisi söz konusudur.

### Eşanlı panel kantil regresyon analizi

Finansal gelişmişlik ve DYY'nin yenilenebilir enerji üretiminin birer nedeni olduğu belirlendikten sonra bu etkinin yönü ve boyutu Eşanlı panel kantil regresyon yöntemi çerçevesinde belirlenmiştir. Bu tahmin yönteminden elde edilen bulgular aşağıdaki Tablo 5'te belirtilmiştir.



**Tablo 5:** Eşanlı Panel Kantil Regresyon Analizi Sonuçları

Panel A: Asya-Pasifik									
Kantil	10	20	30	40	50	60	70	80	90
DYY	-0.229 (0.001)***	0.130 (-0.745)	0.389 (-0.124)	0.544 (0.006)***	0.468 (0.001)***	0.506 (0.001)***	0.624 (0.000)***	0.679 (0.000)***	0.665 (0.000)***
FG	2.303 (0.000)***	1.110 (-0.156)	0.293 (-0.552)	-0.031 (-0.922)	0.235 (-0.328)	0.400 (0.082)*	0.428 (0.014)**	0.485 (0.000)***	0.664 (0.000)***
c	14.152 (0.000)***	6.439 (-0.494)	0.497 (-0.934)	-2.839 (-0.547)	-0.438 (-0.900)	-0.787 (-0.821)	-3.018 (-0.258)	-3.980 (0.004)***	-3.252 (0.001)***
Pseudo R <sup>2</sup>	0.228	0.077	0.09	0.104	0.106	0.143	0.214	0.325	0.422
Panel B: Latin Amerika									
DYY	0.255 (0.000)***	0.246 (0.000)***	0.249 (0.000)***	0.226 (0.000)***	0.141 (0.032)**	0.154 (0.011)**	0.166 (0.263)	0.331 (0.000)***	0.174 (0.388)
FG	0.453 (0.008)***	0.595 (0.001)***	0.648 (0.000)***	0.692 (0.015)**	1.259 (0.001)***	1.343 (0.000)***	1.440 (0.005)***	1.587 (0.000)***	2.061 (0.004)***
c	4.653 (0.000)***	5.132 (0.000)***	5.295 (0.000)***	5.964 (0.000)***	8.674 (0.000)***	8.567 (0.000)***	8.502 (0.025)**	5.469 (0.004)***	9.736 (0.070)*
Pseudo R <sup>2</sup>	0.478	0.401	0.361	0.328	0.315	0.323	0.333	0.447	0.502

Not: Anlam düzeyi; \*\*\*%1, \*\*%5, \*%10

Kaynak: Yazarlar tarafından üretilmiştir.

Buna göre Asya-Pasifik ülkelerinde yenilenebilir enerji üretimi üzerinde DYY'nin pozitif ve anlamlı bir etkisi olup bu etki özellikle orta ve yüksek kantil düzeylerinde anlamlıdır. Medyan kantil düzeyinden itibaren bu etkinin giderek artan bir eğilim gösterdiği söylenebilir. Örnekleme oluşturan ülke grubu özelinde DYY girişleri yenilenebilir kaynaklardan enerji üretiminin önemli bir finansman kaynağıdır. Asya-Pasifik ülkelerinin sanayileşmiş ve/veya sanayileşmekte oldukları, fosil kaynaklardan enerji üretiminde dışa bağımlı oldukları dikkate alındığında yenilenebilir kaynaklardan enerji üretimi önemli bir alternatif olarak değerlendirilebilir. Enerji üretiminde fosil kaynaklardan yenilenebilir enerji kaynaklarına geçişin önündeki en önemli problemlerden birisi bu dönüşümün hangi kaynaklardan nasıl finanse edileceğidir. Dolayısıyla Asya-Pasifik ülkelerinde yenilenebilir enerji kaynaklarından enerji üretiminin en önemli finansman kaynaklarından birisi o ülkeye giriş yapan doğrudan yabancı sermaye yatırımlarıdır. Eşanlı panel kantil regresyon analizinden elde edilen bir diğer sonuca göre FG düzeyi YE üretimi üzerinde özellikle yüksek kantil seviyelerinde pozitif ve anlamlı bir etkiye sahiptir. Bir diğer ifade ile bu ülke grubunda FG düzeyi arttıkça YE üretimine daha fazla kaynak aktarılmaktadır. Asya-Pasifik ülkelerinde finansal ekosistem sahip olduğu finansal kurumlar ve finansal piyasalar gibi iki alt mekanizması yoluyla işletmelere/girişimcilere kaynak aktarımında bulunarak yenilenebilir kaynaklardan enerji üretiminin önemli bir finansal belirleyicisi olmaktadır.

Latin Amerika ülkeleri için elde edilen sonuçlar YE üzerinde FG ve DYY değişkenlerinin etkisine dair çok daha net bir resmi ortaya koymaktadır. Nitekim DYY'nin YE üzerindeki anlamlı ve pozitif yönlü ilişkisi 9. Kantil seviyesi hariç diğer tüm seviyelerde anlamlıdır. Bu ülke grubunda FG'nin YE üzerindeki etkisi pozitif yönlü olup tüm kantil seviyelerinde istatistiksel olarak anlamlıdır. Bu etki ise farklı kantil seviyelerinde giderek artan bir özelliğe sahiptir. Genel bir değerlendirme bağlamında her iki ülke grubunda yenilenebilir enerji üretimi üzerinde DYY ve FG değişkenleri önemli birer belirleyicidir ve pozitif yönlü etkiye sahiptirler. Bununla birlikte Asya-Pasifik ülkelerinde YE üzerinde dışsal bir finansman kaynağı olarak DYY'nin etkisi içsel bir finansman kaynağı olarak FG'nin etkisine göre daha büyüktür. Latin Amerika ülkelerinde ise tersi bir durum söz konusudur. Buna göre FG'nin YE üretimindeki etkisi DYY değişkenine göre çok daha fazladır. Kısaca Asya-Pasifik ülkelerinde YE üzerinde dışsal finansman kaynağı olarak DYY, Latin Amerika ülkelerinde ise içsel bir finansman kaynağı olarak FG daha belirgin etkiye sahiptir.

Elde edilen katsayıların çeşitli kantil seviyelerinde farklılık gösterip göstermediğini anlamak için yapılan testler ve sonuçları aşağıdaki Tablo 6'da sunulmuştur.

**Tablo 6:** Kantil Eğim Eşitliği Testlerinin Sonuçları

Delta test	Asya-Pasifik	Latin Amerika
Test istatistiği	11.351 (0.000)***	1.941 (0.052)*
Adj. test istatistiği	12.685 (0.000)***	2.160 (0.031)**

Not: Anlam düzeyi; \*\*\*%1

Kaynak: Yazarlar tarafından üretilmiştir.

Asya-Pasifik ve Latin Amerika ülkeleri için Delta testi test istatistikleri, %1, %5 ve %10 düzeyinde istatistiksel olarak anlamlıdır. Bu nedenle, kantiller boyunca eğim katsayıları homojendir şeklinde ifade edilen H0 hipotezi reddedilir. Bu bulgu, açıklanan ve açıklayıcı değişkenler arasındaki ilişkinin farklı kantil seviyelerinde değiştiğinin kanıtı olarak yorumlanabilir.

## Sonuçlar

Büyük ölçüde fosil kaynakların tüketilmesinden kaynaklanan karbon emisyonu hem çevre hem de insan sağlığı üzerinde çok ciddi olumsuz sonuçlar doğurabilmektedir. Karbon emisyonunun neden olduğu bu tip sorunların üstesinden gelmek için dünyada yenilenebilir kaynaklardan enerji elde edilmesine yönelik büyük bir eğilim gözlenmektedir. Bu dönüşüm sürecinde karşılaşılan problemlerden birisi bunun nasıl finanse edileceğidir.

13 Asya-Pasifik ülkesinden ve 7 Latin Amerika ülkesinden oluşan örneklem bağlamında 2000-2020 döneminde YE üretimi üzerinde FG düzeyi ve DYY'nin rolünü ortaya koymayı amaçlayan bu çalışmada D-H Panel nedensellik testi ve eşanlı panel kantil regresyon analizi çerçevesinde analizler yapılmıştır. Analiz sonuçlarında YE üretimi üzerinde FG ve DYY'nin rolüne yönelik önemli ampirik kanıtlara ulaşılmış bulunuyoruz. Bu çerçevede çalışmadan elde edilen sonuçlara göre; 1) Asya-Pasifik ülkelerinde FG ve DYY girişleri YE yatırımlarındaki değişimin anlamlı birer nedenidir. 2) Latin Amerika ülkelerinde ise sadece FG düzeyi YE yatırımlarının anlamlı bir nedenidir. 3) Asya-Pasifik ülkelerinde, DYY girişleri YE üretimi üzerinde daha fazla pozitif yönlü etkiye sahiptir. Bu bulguya göre bölgenin artan enerji ihtiyacını karşılama ve fosil kaynaklara bağımlı olmalarından dolayı alternatif bir kaynak olarak yenilenebilir kaynaklardan enerji üretiminde doğrudan yabancı sermaye girişlerinin önemli bir dışsal finansman kaynağı olduğu söylenebilir. DYY'nin yenilenebilir enerji yatırımlarını pozitif etkilemesi ilgili ülkeler için dolaylı da olsa halo etkisinin varlığını ortaya koyduğu söylenebilir. Elde edilen sonuçlar Shahbaz vd. (2021a), Khan vd. (2020), Fan ve Hao (2020), Ergun vd. (2019) çalışmaları ile paraleldir. Nedensellik sonuçları ise Rezagholizadeh vd. (2020) çalışması ile benzerlik göstermektedir. 4) FG düzeyi YE üretimini pozitif yönde etkilemektedir ve bu etki Latin Amerika ülkelerinde çok daha fazladır. Buna göre ilgili ülke grubunda finansal ekosistem sahip olduğu finansal kurumlar ve finansal piyasalar gibi iki alt mekanizma yoluyla işletmelere/girişimcilere kaynak aktarımında bulunarak yenilenebilir kaynaklardan enerji üretiminin önemli bir finansal belirleyicisi olmaktadır. Finansal gelişme ve yenilenebilir enerji arasındaki pozitif ilişki Wang vd. (2022), Pata vd. (2022), Shahbaz vd. (2021a), Shahbaz vd. (2021b), Lahiani vd. (2021), Anton ve Nucu (2020) ile benzerlik göstermektedir. Nedensellik sonuçları ise Mukhtarov vd. (2020), Wang vd. (2022) ile uyumludur.

Atmosferde karbon emisyon düzeyine ciddi katkılar sağlayan bu ülkelerin enerji üretiminde fosil yakıtlardan yenilenebilir enerji kaynaklarına yönelmesi tüm dünya için kritiktir. İlgili ülkelerde FG ve DYY'lerin YE üzerindeki bu olumlu etkisinin politika yapıcılar tarafından dikkate alınması ve devamlılığının sağlanması noktasında gerekli eylem ve planların yapılması oldukça önemlidir. Bu sonuçlardan hareketle aşağıdaki politika çıkarımlarını karar alıcıların dikkatine sunuyoruz. 1) YE üretimi noktasında DYY'nin katkısının sağlanması için ülkelerde ekonomik, finansal ve politik reformlar yapılarak yabancı yatırımcılar için uygun yatırım ortamı hazırlanabilir. 2) Finansal gelişmişliğin iki alt sistemi olan finansal kurumlar ve finansal piyasalar mekanizmaları üzerinde iyileştirmeler yapılabilir. Finansal hizmetlere erişim olanakları artırılabilir, ucuz maliyetli fonların bu tür yatırımlara yönlendirilmesi sağlanabilir.

Gelecekte konu ile ilgili yapılacak çalışmalarda bu değişkenlerin yanı sıra bankacılık sisteminin sağladığı kredilerin de dikkate alınması önerilebilir. Ayrıca araştırma konusu gelişmiş veya gelişmekte olan ülkeler, petrol/doğal gaz ihraç veya ithal eden ülkeler gibi farklı boyutlar altında incelenebilir.

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## Causality test among foreign direct investment, trade openness and economic growth: recent evidence from BRICS and MINT countries

### Doğrudan yabancı yatırım, ticari açıklık ve ekonomik büyüme arasında nedensellik testi: BRICS ve MINT ülkeleri

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#### Abstract

This study attempts to find new evidence of causality between foreign direct investment, trade openness, and economic growth for BRICS and MINT countries between 1990-2021 using the Dumitrescu-Hurlin panel causality test. We first check whether there is a cross-sectional dependence between the countries using different cross-sectional dependence tests. After we find out there is cross-sectional dependence, we perform the CIPS unit root test. All variables are stationary at their first differences, so we applied the Dumitrescu-Hurlin panel causality test. There is bi-directional causality between trade openness and economic growth only for MINT countries. For BRICS, we found unidirectional relationships between economic growth and foreign direct investment and trade openness to economic growth. There is a unidirectional relationship from trade openness to foreign direct investment for both country groups.

**Keywords:** BRICS, MINT, Economic Growth, Cross-sectional Dependence, Panel Causality

**Jel Codes:** C23, O16

#### Öz

Bu çalışma, Dumitrescu-Hurlin panel nedensellik testi kullanarak 1990-2021 yılları arasında BRICS ve MINT ülkeleri için doğrudan yabancı yatırım, ticari açıklık ve ekonomik büyüme arasındaki nedenselliği araştırmaya çalışmaktadır. İlk olarak, farklı yatay kesit bağımlılığı testleri ile ülkeler arasında yatay kesit bağımlılığı olup olmadığına bakılmıştır. Ülkeler arasında yatay kesit bağımlılığı olduğu sonucuna ulaştıktan sonra panel birim kök testi olarak CIPS testiyle serilerin durağanlığı test edilmiştir. Tüm değişkenler birinci farklarında durağandır, bu nedenle Dumitrescu ve Hurlin Nedensellik testi uygulanmıştır. Sonuçlara göre, sadece MINT ülkeleri için ticari açıklık ile ekonomik büyüme arasında çift yönlü nedensellik ilişkisi bulunurken, BRICS ülkeleri için, ekonomik büyümeden doğrudan yabancı yatırımlara ve ticari açıklıktan ekonomik büyümeye doğru tek yönlü nedensellik ilişkileri bulunmuştur. Her iki ülke grubu için ticari açıklıktan doğrudan yabancı yatırımlara doğru tek yönlü bir ilişki vardır.

**Anahtar Kelimeler:** BRICS, MINT, Ekonomik Büyüme, Yatay Kesit Bağımlılığı, Panel Nedensellik

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## Introduction

Jim O'Neill of Goldman Sachs first used the BRIC concept in 2001. It is a concept consisting of the initials of Brazil, India, Russia, and China, whose economies grew rapidly in those years. With the addition of the Republic of South Africa to the BRIC countries in 2011, the community was named BRICS. BRICS countries have been named as a group with no alternative that will affect the next 50 years due to their geographical location, political activities, rapidly growing economies, and rich underground reserves of countries such as Russia and Brazil. However, due to the weakening economic performance of the BRICS countries, especially in recent years, these optimistic forecasts gave way to concern. When the high growth rate in the BRICS countries slowed down, we came across MINT, another abbreviation, Fidelity Investments, introduced in 2014 and refers to the economies of Turkey, Mexico, Nigeria, and Indonesia, which Jim O'Neill also popularized (Gryczka, 2018). The high growth rate that these countries have achieved is the focus of MINT countries which are called the future's new four economies.

Matsangou (2015) states that BRICS and MINT countries differ in their cultures, backgrounds, languages, and structures. Nevertheless, these four countries also have essential standard features besides having rapidly growing economies. They have high populations, an attraction to global markets and effective governments. Brazil is classified as the largest economy in South America. While China is the first, India has become the third-largest economy in Asia. In addition, South Africa is in the second line on the list of Africa's largest economies. Russia is one of the G8 countries representing approximately 65% of the world economy. When we look at MINT countries as new future economies with high-level growth rates, they have young populations that are growing with high population growth and are very dynamic. In 2019, the coronavirus pandemic emerged in Wuhan, China, and has had serious effects on countries, such as growth rates and many different demographic and economic indicators. When the growth figures are examined, the BRICS and MINT countries, other than Turkey, also showed a downward trend in 2020. However, despite this decline, it is believed the BRICS and MINT country groups will become more vital in economic view comparing the world's leading developed countries in the future, according to the estimations announced. While one of the reasons why BRICS and MINT countries attract attention from academics is their economic and demographic characteristics, their influence in global markets also increases this interest. When we examine their natural resources, among the BRICS countries, we could classify India and China as net importers, while Russia, Brazil, and South Africa as net exporters; In MINT countries, we could categorize Turkey as a net importer in terms of natural resources and the other three countries as net exporters (World Bank, 2021).

Foreign direct investments are investments made by investors outside a country's borders by establishing production facilities such as factories, opening branches, acquiring real estate, or purchasing an existing company in whole or in part. Such investments play a vital role in developing the country's economy. Therefore, it is possible to discuss the many advantages of foreign direct investments. First, thanks to these new investments, the production capacity in the country will increase. This situation will contribute to the country's economic growth and reduce unemployment. In addition, the entry of new firms into the market will increase competition in the country. Despite these positive aspects, foreign direct investments also have some disadvantages. For example, local firms in the country may cease their activities by not being able to compete with large-scale investing firms. According to De Mello (1999), foreign direct investment's effects not only can be seen directly in economic growth but also indirectly in the workforce's education, the acquisition of skills, and direct technology transfer through new management habits and organizational arrangements by providing an increase in knowledge in the receiving country. When we evaluate the BRICS and MINT countries in terms of foreign direct investment stock, it is seen that both groups of countries are net FDI importers, except China and South Africa (UNCTAD, 2021).

In general, the importance of both BRICS and MINT countries lies in their potential to drive global economic growth and provide new trade and investment opportunities. By working together, these countries can help address common challenges and support each other's development, leading to a more balanced and stable global economy. Trade openness is another major factor for these countries. With the increase in trade openness, which is also accepted as an indicator of a country's level of trade liberalization, developing countries increase productivity and efficiency by using new technologies outside the country (Şahin, 2021). When evaluated from these aspects, trade openness and foreign direct investments can be considered crucial for both BRICS and MINT countries. This study tries to find new evidence on the direction of causality between foreign direct investment, trade openness, and economic

growth for Brazil, India, Russia, and China, South Africa as BRICS and Mexico, Indonesia, Nigeria, and Turkey as MINT countries between 1990-2021 applying Dumitrescu-Hurlin (2012) panel causality test.

The continuation of this paper is organized as follows. The existing literature was examined and presented in the second section of the study. In the third section, the data discussed in the study are introduced, and preliminary data analysis is summarized. The next section of the study explains the methodology, and the next section summarizes the analysis's empirical results. Finally, the sixth section concludes the findings of the study.

## Literature review

Yusoff & Nuh (2015) emphasized trade and foreign direct investment are essential to a country's economic growth and competitiveness. Therefore, it is crucial to carry out these studies, especially in countries with emerging economies. When we examined the literature, it is possible to see that many studies examine the relationship between trade openness and economic growth and between foreign direct investments and economic growth. However, there are relatively few studies examining the relationship between trade openness, foreign direct investments, and economic growth, such as Liu, BurrIDGE & Sinclair (2002); Makki & Somwaru (2004); Liu, Shu & Sinclair (2009); Lal (2017); Pradhan, Arvin & Hall (2019); Nguyen, Anwar, Alexander & Lu (2022). Table 1 summarises some studies in the literature that considered these three variables together.

**Table 1:** Studies Examining the Relationship between Foreign Direct Investment, Trade Openness and Economic Growth

Author(s)	Time Period	Countries	Method	Result
Makki & Somwaru (2004)	1971-1980 1981-1990 1991-2000	66 developing countries	SUR TOLS	FDI and trade (+).
Naveed & Ghulam (2006)	1971-2000	23 developed countries	Fixed effect and control set of variables	Trade openness (+) TO->Growth
Omisakin, Adeniyin & Omojolaibi (2009)	1970-2006	Nigeria	Toda- Yamamoto non-causality test, The ARDL bounds testing	TO ->Growth FDI->Growth FDI and trade (+)
Klasra (2011)	1975-2004	Pakistan and Turkey	The ARDL bounds testing	In the short run; TO <-> Exports for Pakistan. FDI <-> Exports for Turkiye. In the long run; the growth-driven exports hypothesis for Turkiye and the openness-growth nexus for Pakistan.
Pradhan, Bagchi, Chowdhury, & Norman (2012)	1970-2010	10 OECD Countries	Panel-VAR Granger-causality tests	FDI<->TO FDI ->Growth TO->Growth
Dritsaki (2015)	1993-2011	3 Baltic countries	Pooled model FEM REM	Trade openness and foreign direct investment (+).
Yusoff & Nuh (2015)	1970-2008	Thailand	The co-integration test Granger Causality test	FDI ->Growth TO<->Growth
Sakyi, Commodore, & Opoku (2015)	1970-2011	Ghana	The ARDL bounds testing	Bhagwati hypothesis FDI and trade (+)
Hussain & Haque (2016)	1973 - 2014	Bangladesh	The Vector Error Correction Model (VECM)	The long-term relationship between all variables.
Bakari, S., & Sofien, T. (2019)	2002-2017	24 Asian economies	Fixed and random effect models	Foreign direct investment and exports (-)

Saleem & Shabbir (2020).	1975–2016	South Asian countries	ARDL bootstrap model	There is long-run co-integration between variables for all countries except Bangladesh.
Wiredu, Nketiah&Adjei (2020)	1998-2017	West African countries	Static Panel Data Model	The aggregated trade openness, investment, and inflation (+).
Banday, Murugan& Maryam (2021).	1990–2018	BRICS countries	ARDL Dumitrescu-Hurlin Granger causality test	FDI and trade openness (+) FDI <->Growth TO<->FDI TO->Growth
Kumari, Shabbir, Saleem, Khan, Abbasi, & Lopez (2021).	1985–2018	India	The Johansen co-integration and vector autoregression (VAR) model	No long-term relationship among all. FDI <-> GDP GDP <-> TO

When we consider the studies, different results can be obtained according to the characteristics of the periods and countries. Even if we have changed the analysis method, we can reach different results using data from the same countries or groups of countries (Baharom, Habibullah & Royfaizal (2008); Belloumi (2014); Dutta, Haider & Das (2017); Frimpong Magnus & Oteng-Abayie (2006)). The present study employs Dumitrescu-Hurlin (2012) for causality relationship among foreign direct investment, trade openness, and economic growth both in BRICS and MINT countries.

### Data and preliminary analysis

This study aims to analyse the causal relationship between foreign direct investment, trade openness and economic growth separately in BRICS and MINT countries from 1990 to 2021. The list of countries includes Brazil, India, Russia, China, and South Africa for BRICS and Mexico, Indonesia, Nigeria, and Turkey for MINT. The annual data on our studies' variables, which includes gross domestic product per capita, foreign direct investment inflows ratio to GDP as foreign direct investment and total trade ratio to GDP as trade openness, are gathered from World Development Indicators. We calculated the logarithm of GDP per capita as a growth proxy. Tables 2 and 3, respectively, give the variable definitions, descriptive statistics and correlation analysis of the variables used in the study.

**Table 2:** Variables

Variable name	Symbol	Data Sources
Gross Domestic Product Per Capita	GDPPCGROWTH	World Development Indicators
Ratio of Foreign Direct Investment inflows to GDP (%)	FDI	World Development Indicators
Trade Openness GDP ratio (%)	TO	World Development Indicators

**Table 3:** Descriptive Statistics and Correlation Analysis of BRICS and MINT

Panel A: Variable descriptive statistics						
	BRICS			MINT		
	GDPPCGROWTH	FDI	TO	GDPPCGROWTH	FDI	TO
Mean	8.301775	1.98790	40.7478	8.351910	1.65071	48.6962
Median	8.673477	1.72853	42.1004	8.419478	1.62501	48.8016
Maximum	9.322624	6.18688	110.577	9.491803	5.79084	96.1861
Minimum	6.268176	-0.06007	15.1556	7.254250	-2.75744	20.7225
Std. Dev.	0.860321	1.45941	14.8258	0.722415	1.17724	13.4133
Skewness	-0.986859	0.61728	0.52157	-0.091236	-0.12781	0.57928
Kurtosis	2.629333	2.50932	4.596578	1.407472	5.08334	3.68786
Jarque-Bera	26.88638	11.7661	24.2482	13.70368	23.4969	9.68236
Probability	0.000001	0.00278	0.00000	0.001058	0.00000	0.007898
Observations	160	160	160	128	128	128
Panel B: Correlation matrix						
	BRICS			MINT		
	GDPPCGROWTH	FDI	TO	GDPPCGROWTH	FDI	TO
GDPPCGROWTH	1.000000 -----			1.000000 -----		
FDI	0.129784 0.1009	1.000000 -----		0.241677 0.0060	1.000000 -----	
TO	0.228491 0.0037	-0.01230 0.8773	1.000000 -----	0.315390 0.0003	0.80747 0.3649	1.000000 -----

Table 3 shows that trade openness has a positive period average value in both country groups. There is a positive and significant linear association between economic growth, foreign direct investment, and trade openness. The pairwise correlations between foreign direct investment differ among the country groups and are not significant – openness and economic growth in both the BRICS and MINT countries.

### Methodology

In the methodology part of the study, we apply Dumitrescu & Hurlin (2012)'s panel causality test to analyse the causal relationships between foreign direct investments, trade openness, and economic growth. To apply this test to the panel, first, we must examine whether there is a cross-sectional dependence between the countries. To test the cross-sectional dependence, we prefer the Lagrange Multiplier developed by Breusch-Pagan (1980), the Cross-sectional Dependence test proposed by Pesaran (2004), and the Bias-Adjusted Cross-sectional Dependence Lagrange Multiplier test proposed by Pesaran, Ullah, & Yamagata (2008) test in the study. After we found out there is cross-sectional dependence between countries. Because of that, we performed the 2<sup>nd</sup> generation panel unit root test of the cross-sectionally augmented IPS (CIPS) developed by Pesaran (2007) to investigate the stationarity of variables. Finally, we use the Dumitrescu & Hurlin (2012) panel causality test in the final.

The Dumitrescu-Hurlin panel causality test is an adapted superior version of the Granger causality test. The difference between the Dumitrescu-Hurlin panel causality test and the Granger causality test is that it assumes all coefficients vary between sections. We can also use it in the presence of cross-sectional dependency and for both situations that may arise when the time and observation interval of the panel are evaluated. In other words, in the case of both  $T < N$  and  $T > N$ , it can also be applied for additional in unbalanced and heterogeneous panels. Dumitrescu & Hurlin (2012) examine the following linear heterogeneous model:

$$y_{it} = \alpha_i + \sum_{k=1}^L \gamma_i^k y_{it-k} + \sum_{k=1}^L \beta_i^k x_{it-k} + \varepsilon_{it}, \quad i=1, 2, \dots, N; \quad t=1, 2, \dots, T$$

Where  $\alpha_i$ ,  $\gamma_i^{(k)}$  and  $\beta_i^{(k)}$  represents the constant term, lag parameter and coefficient slope, respectively. The null and alternative hypotheses are below:

$$H_0 : \beta_i = 0, H_1 : \begin{cases} \beta_i = 0 & \forall_i = 1, 2, \dots, N \\ \beta_i \neq 0 & \forall_i = N_1 + 1, N_1 + 2, \dots, N \end{cases}$$

According to the null hypothesis, homogeneous Granger causality exists for all cross-section units. And, at least, the alternative hypothesis points out the assumption of one causal relationship in the panel data. The results obtained from the Dumitrescu-Hurlin causality test are given in Table 6. Our test results align with Yusoff & Nuh's (2015) study.

**Empirical results**

To investigate the causal relationship between FDI, trade openness, and economic growth, we first identified the existence of cross-sectional dependence between countries belonging to the BRICS and MINT country groups by applying the Lagrange Multiplier test, the Cross-sectional Dependence test, and the Bias-Adjusted Cross-sectional Dependence Lagrange Multiplier test in the study. Test results are given in Table 4.

**Table 4:** The Cross-Sectional Dependence Tests Results

Test/ Variables	BRICS			MINT		
	GDPPCGROWTH	FDI	TO	GDPPCGROWTH	FDI	TO
<b>CD<sub>BP</sub></b>	259.0638 (0.0000)	38.1632 (0.0000)	89.1204 (0.0000)	152.9027 (0.0000)	11.191 (0.0826)	46.441 (0.0000)
<b>CD<sub>LM</sub></b>	55.6923 (0.0000)	6.2974 (0.0000)	17.6918 (0.0000)	0.729 (0.0000)	42.516 (0.1340)	11.674 (0.0000)
<b>LM<sub>adj</sub></b>	55.6117 (0.0000)	6.2168 (0.0000)	17.6112 (0.0000)	0.664 (0.0000)	42.389 (0.1515)	11.610 (0.0000)
<b>CD</b>	16.0593 (0.0000)	3.8215 (0.0000)	5.9273 (0.0000)	2.609 (0.0000)	12.3435 (0.9152)	0.0658 (0.0000)

Table 4 indicates Pesaran's cross-sectional dependence test (CD) results (2004). From these results, since the probability value is zero, we reject the null hypothesis of cross-sectional independence in the case of economic growth and trade openness for both country groups. Therefore, we can also add BRICS's foreign direct investment to that group. This outcome shows that these variables are correlated across the panel. Therefore, if a shock occurs in any of the variables, there will be a potential for this shock to spread to other countries. Therefore, we must use the 2<sup>nd</sup> generation panel unit root test for these variables. However, we failed to reject the null hypothesis for the MINT country group's foreign direct investment variable. Because of this reason, we are supposed to use the 1<sup>st</sup> generation panel unit root for the MINT country group's foreign direct investment variable.

Except for foreign direct investment belonging to MINT countries, all the test's results in Table 4 indicate a cross-sectional dependence between the countries. Therefore, we will use the 1<sup>st</sup> generation panel unit root test of Maddala & Wu (1999) only for foreign investment data belonging to the MINT country group. Except this, according to the results of CD tests, we choose 2<sup>nd</sup> generation panel unit root tests of Pesaran, Smith, & Yamagata (2013)s', named cross-sectional augmented panel unit root IPS (CIPS), to determine the degree of the integration of each variable. The results are given in Table 5.

**Table 5:** 1<sup>st</sup> and 2<sup>nd</sup> Generation Panel Unit Root Tests

Test/ Variables	BRICS		MINT			
	Pesaran (CIPS)		Maddala and Wu (WU)		Pesaran (CIPS)	
	without trend	with trend	without trend	with trend	without trend	with trend
GDPPCGROWTH	-1.274	-1.103	-	-	-0.643	-0.093
D.GDPPCGROWTH	-5.818*	-5.997*	-	-	-3.960*	-4.495*
TO	-2.012	-2.712	-	-	-1.016	-2.565
D.TO	-4.795*	-4.801*	-	-	-5.582*	-5.595*
FDI	-2.154	-2.191	63.2734	48.5273	-	-
D.FDI	-5.560*	-5.711*	145.1131*	119.2921*	-	-

Notes: MW test assumes cross-section independence. CIPS test assumes cross-section dependence. \*denotes rejection of the null hypothesis of no co-integration at a 1% significance level.

As seen in Table 5, our 1<sup>st</sup> and 2<sup>nd</sup> generation panel unit root tests results indicate that foreign direct investment, trade openness and economic growth are stationary, which means I(1). After we found out that all variables were stationary at their first differences, we applied the Dumitrescu-Hurlin panel causality test. Table 6 denotes these results.

**Table 6:** The Dumitrescu-Hurlin Causality Tests Results

Null Hypothesis/Groups	BRICS		MINT	
	Zbar-Stat	Probability	Zbar-Stat	Probability
FDI does not homogeneously cause GDPPCGROWTH	1.075	0.282	-1.044	0.296
GDPPCGROWTH does not homogeneously cause FDI	2.663	0.007***	1.605	0.100*
TO does not homogeneously cause GDPPCGROWTH	3.916	0.000***	4.982	0.000***
GDPPCGROWTH does not homogeneously cause TO	0.612	0.540	2.695	0.007***
TO does not homogeneously cause FDI	1.665	0.095*	1.752	0.079*
FDI does not homogeneously cause TO	-0.118	0.905	-0.773	0.439

Note:\*\*\*p < 0.01,\*\*p < 0.05,\*p < 0.1.

Based on the test results in Table 6, it can be concluded that there is bi-directional causality between trade openness and economic growth only for MINT countries. Considering MINT countries, we can also denote a bi-directional relationship between GDPPCGROWTH and trade openness, including only MINT countries. For BRICS countries, there are unidirectional relationships from economic growth to foreign direct investment and trade openness to economic growth. And, also for both country groups, there is a unidirectional relationship from trade openness to foreign direct investment.

## Conclusion

The study investigates the causal relationship between foreign direct investment, trade openness, and economic growth for BRICS and MINT countries from 1990 to 2021. In this context, we examine cross-sectional dependence between countries for each variable. Except for the foreign direct investment's variable of MINT countries, we found cross-sectional dependence for other variables in the panel. In other words, when a shock occurs in these variables, it can spread out to other countries. After finding the cross-sectional dependence in the panel, we applied the CIPS unit root test and saw that the series were stationary at their first differences. After we applied the Dumitrescu-Hurlin panel causality test, the results drew various conclusions for the causal relationship between foreign direct investment, trade openness, and economic growth in BRICS and MINT countries. According to these results, while there is unidirectional causality from growth to foreign direct investments for BRICS and MINT countries, there is unidirectional causality from growth to trade openness for BRICS countries and bi-directional causality for MINT countries. In both groups, we observed a unidirectional causality relationship from trade openness to foreign direct investment for the BRICS and MINT countries. If these countries want to attract FDI first, they have to increase their per capita GDP to a certain level. Foreign investors carefully watch developments and aggregate demand within these countries. Another finding of this study that supports this conclusion is that trade openness is one of the primary causes of FDI in these

countries. As these countries have been opening more to foreign trade, there will be a surge in the inflow of foreign direct investment. As a result of these facts, these countries should increase their per capita GDP and the share of foreign trade in their GDP to implement a development strategy successfully.

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## Proaktif kişilik ile örgütsel vatandaşlık davranışı arasındaki ilişkinin incelenmesi: Banka çalışanları üzerine bir araştırma<sup>1</sup>

### Examining the relationship between proactive personality and organizational citizenship behaviour: A research on bank employees

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#### **Öz**

Örgütler var olma amaçları doğrultusunda içerisinde farklı yaş gruplarından, kültürlerden ve en önemlisi farklı kişilik özelliklerine sahip bireylerden oluşmaktadır. Bu çalışmada, çalışanların proaktif kişiliklerinin, örgütsel vatandaşlık davranışına olan etkisinin ölçülmesi amaçlanmıştır. Araştırmanın örneklemini Türkiye'de faaliyet gösteren bir kamu bankasında çeşitli pozisyonlarda görev yapmakta olan banka çalışanları oluşturmaktadır. Araştırmanın verileri anket yoluyla toplanmış olup örneklem büyüklüğü 183 olarak tespit edilmiştir. Araştırmanın modelinde proaktif kişilik bağımsız değişken, örgütsel vatandaşlık davranışı ve boyutları bağımlı değişken olarak ele alınmıştır. Araştırmada geliştirilen modelin ve bu modele dayanan hipotezlerin test edilmesi için basit doğrusal regresyon analizi kullanılmıştır. Verilerin analizi sonucunda proaktif kişiliğin örgütsel vatandaşlık davranışı üzerinde anlamlı ve pozitif etkisi olduğu gözlenmiştir. Bununla birlikte çalışanların proaktif kişiliğinin örgütsel vatandaşlık davranışı boyutlarından "özgecilik-nezaket, sivil erdem ve vicdanlılık" davranışlarını anlamlı ve pozitif olarak etkilediği görülmektedir.

**Anahtar Kelimeler:** Proaktif Kişilik, Örgütsel Vatandaşlık Davranışı, Banka

**JeI Kodları:** M10, M12, M19

#### **Abstract**

Organizations consist of individuals from different age groups, cultures, and, most importantly, individuals with different personality traits in line with their purpose of existence. Therefore, this study is pointed to measure the effect of the proactive personalities of employees on organizational citizenship behaviour. The research sample comprises bank employees in various positions in a public bank operating in Turkey. The research data were collected through a questionnaire, and the sample size was determined as 183. In the research model, proactive personality is considered the independent variable, and organizational citizenship behaviour and dimensions are considered the dependent variable. Simple linear regression analysis was used to test the model developed in the research and the hypotheses based on this model. As a result of the data obtained, it was observed that a proactive personality has a significant and positive effect on organizational citizenship behaviour. In addition, it has occurred that the employees' proactive personality significantly and positively affects the behaviours of "altruism-courtesy, civic virtue and conscientiousness" among the dimensions of organizational citizenship behaviour.

**Keywords:** Proactive Personality, Organizational Citizenship Behaviours, Banking

**JeI Codes:** M10, M12, M19

## Extended Abstract

### Examining the relationship between proactive personality and organizational citizenship behaviour: A research on bank employees

#### Research subject

A proactive personality is a stable tendency of individuals who seek opportunities, take the initiative, go into action and continue until they achieve a result by bringing about a change (Bateman & Crant, 1993; Crant, 2000). Organizational citizenship is the intentional effort and out-of-role behaviour of individuals going beyond the job descriptions and standards in their work environment (Organ, 1988). Organ (1988) determined five categories of organizational citizenship behaviours: (1) altruism, (2) conscientiousness, (3) sportsmanship, (4) courtesy, and (5) civic virtue. Altruism: It is discretionary behaviour that has the effect of helping a particular person in an organization-related task (MacKenzie, Podsakoff, & Fetter, 1993: 71). Conscientiousness It is the behaviour of assuming more responsibility than is reasonable for a given role and set of tasks (Allison, Voss, & Dryer, 2001). Sportsmanship is a stance that tolerates work's inevitable discomforts and obtrusions uncomplainingly (Organ, 1988). Finally, courtesy is taking actions to prevent others from arising work-related problems (Podsakoff & Mackenzie, 1994; Allison et al., 2001). Civic Virtue is the behaviour of the individual showing that they attend to the organisation's life responsibly or that he/she is interested in the organisation's life (Podsakoff, MacKenzie, Moorman, & Fetter, 1990: 115).

#### Research purpose and importance

This research aims to reveal the effect of the proactive personality of individuals working in a public bank operating in Turkey on their organizational citizenship behaviour. In addition, the study examined the effects of employees' proactive personality on organizational citizenship dimensions.

#### Contribution of the article to the literature

The study contributes to the literature with the findings by assessing the relationship between proactive personality and organizational citizenship behaviour and its dimensions of courtesy, sportsmanship, civic virtue, conscientiousness and altruism.

#### Research type

The study is applied research that uses statistical methods while explaining the relationship between variables.

#### Research problems

In the research, it is tried to determine the effect of the proactive personalities of the employees on their organizational citizenship behaviours. In addition, the relationships between the proactive personality and the five dimensions of organizational citizenship behaviour are questioned.

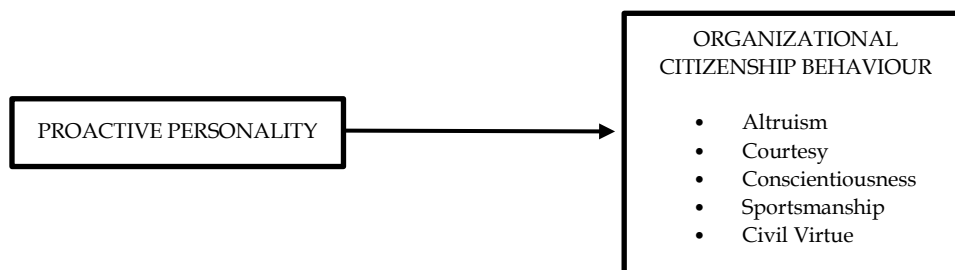
#### Data collection method

The data in the study were collected voluntarily with the survey method. The questionnaire of the research was presented to the participants online. In order to test the research's hypotheses, scales with proven validity and reliability in the literature were used.

#### Quantitative/qualitative analysis

Cronbach alpha, KMO, Barlett test and Factor analysis were used to reveal the validity and reliability of the scales used in the research. In addition, exploratory factor analysis and regression analysis were applied with the SPSS program to explain the relationships between research variables.

#### Research model



#### Research hypotheses

Based on the studies discussed in the literature, five hypotheses were formed as follows to determine the effect of proactive personality on organizational citizenship behaviour and dimensions within the scope of the research:

**H1:** Employees' proactive personalities positively and significantly affect organisational citizenship behaviours.

**H2:** Employees' proactive personality affects their altruism and courtesy behaviours positively and significantly.

**H3:** Employees' proactive personality affects conscientiousness behaviours positively and significantly.

**H4:** Employees' proactive personality affects sportsmanship behaviours positively and significantly.

**H5:** Employees' proactive personality affects civic virtue behaviours positively and significantly.

### **Findings as a result of the analysis**

As a result of the research, it was found that the proactive personalities of the employees positively affected their organizational citizenship behaviours. Similarly, it has been concluded that the proactive personalities of the employees positively affect the organizational citizenship behaviour dimensions of altruism-courtesy, civic virtue and conscientiousness.

### **Hypothesis test results**

According to the research results, H<sub>1</sub>, H<sub>2</sub>, H<sub>3</sub> and H<sub>5</sub> are accepted, and H<sub>4</sub> is rejected.

### **Discussing the findings with the literature**

The analysis revealed that a proactive personality positively and significantly affects organisational citizenship behaviour. This finding is similar to the studies in the literature (Deviren, 2021; Bergeron et al., 2014; Hsiao & Wang, 2020; Carpenter, 2008; Trifiletti et al., 2009). However, as a result of the analyzes carried out to reveal the relations of proactive personality with organizational citizenship behaviour dimensions, it was determined that proactive personality has a significant and positive effect on the "Altruism-Courtesy", "Conscientiousness", and "Civil virtue" dimensions of organizational citizenship behaviour. Similar results were found in some studies in the literature (Baba et al., 2009; Polat and Celep, 2008; Deviren, 2021). However, contrary to many studies, it has been revealed that a proactive personality does not significantly affect the "sportsmanship" dimension, one of the dimensions of organizational citizenship behaviour.

### **Conclusion, recommendation and limitations**

As a result, this research explains how proactive personality affects organizational citizenship behaviour. In this context, proactive people are more likely to engage in organizational citizenship behaviours. Therefore, a proactive personality should be considered one of the necessary tendencies to evaluate hiring decisions. The banking industry is service-oriented and faces constant changes in the working environment. Responding quickly to changing environmental factors is only possible if employees adopt behaviours that benefit the organization in a way that goes beyond their responsibilities. Therefore, bank management should give more importance to the commitment of employees and related factors (for example, organizational citizenship behaviour) to increase employees' performance at work (Zahra and Kee, 2022: 84).

The first limitation of the research is that the data collected for the research is obtained only from the employees of a public bank. In future studies, applying the research model to employees working in different sectors will contribute to the literature in terms of comparison. However, by including different variables in the model, it allows different effects of the variables in the model to emerge; It is thought that it can add richness to the literature.

The second constraint is that the sample employees are individuals living in Turkey. From this point of view, testing the model with the data obtained from employees living in a different cultural environment will provide a different perspective to future studies regarding identifying and interpreting cultural differences in the literature.

## Giriş

Son zamanlarda işletmeler küreselleşme ve bilgi teknolojilerinin hızlı gelişiminin etkisiyle kendilerini sürekli değişen, güncellenen bir iş çevresinde bulmuşlardır. İşletmeler bu çevre içerisinde varlığını sürdürebilmek ve rekabet üstünlüğü sağlayabilmek için oldukça esnek örgüt yapısına ihtiyaç duymaktadır (Li, Liang ve Crant, 2010). Bu esnekliği sağlamada en büyük görev ise işletmenin personeli diğer bir deyişle çalışanlarına düşmektedir. Bu doğrultuda işletmelerin çalışanlardan beklentisi de değişmektedir. Çalışanlardan sadece verilen emirlerin yerine getirilmesi dışında örgütün faydası için kendiliğinden harekete geçmeleri de beklenmektedir. Literatürde bu beklentiyi karşılayabilecek çalışan davranışı olarak karşımıza çıkan temel kavramlardan birisi örgütsel vatandaşlık davranışıdır. Örgütsel vatandaşlık davranışı bir örgütün resmi ödül sistemiyle doğrudan ilgili olmayan, ancak örgütün etkin işleyişine yardımcı olan isteğe bağlı olan ekstra rol davranışı olarak tanımlanmaktadır (Organ, 1988). Örgütsel vatandaşlık davranışı örgüt içerisinde etkileyen birçok etken olduğu belirlenmiştir. Örgütsel vatandaşlık davranışını çeşitli yönlerden etkileyen unsurlardan birisi de çalışanların sahip oldukları kişilik özellikleridir. Mevcut araştırmalar, kişilik özelliklerinin örgütsel vatandaşlık davranışı ile bağlantılı olduğunu ileri sürmektedir (Podsakoff, MacKenzie, Paine ve Bachrach, 2000).

Proaktif kişilik kavramının literatüre girmesinden bu yana endüstriyel ve örgütsel psikoloji ile işyeri davranışı üzerine yapılan çalışmalarda yaygın olarak uygulanmıştır. Bu alandaki araştırmacılar, proaktif kişiliğin iş sonuçları, iş baskısı, işe yönelik tutumlar, iş tatmini ve örgütsel vatandaşlık davranışı gibi faktörler üzerindeki etkilerini inceleyen çalışmalar yayınlamışlardır (Hsiao ve Wang, 2020: 2). Proaktif kişilik, gelişmiş çalışma yöntemlerinin tanımlanması ve uygulanması, uygun çalışma koşullarının yaratılması, statükoya meydan okunması, olağanüstü öğrenme davranışlarında bulunulması yoluyla daha olumlu iş performansı ve örgütsel vatandaşlık davranışı gibi bireyin örgütle ilgili davranışlarının yerine getirilmesine yönelik eğilimidir (Crant, 2000; Fuller ve Marler, 2009; Liguori, McLarty ve Muldoon, 2013: 725).

Proaktif kişiler, kendiliğinden harekete geçen, inisiyatif alabilen bireylerdir. Çalışanların örgütsel vatandaşlık davranışı sergileyebilmesi açısından personel seçiminde proaktif bireylerin öncelikli olarak tercih edilmesi beklenen bir durumdur. Özellikle dinamik bir çevrede faaliyet gösteren işletmelerde proaktif kişilerin çalışması işletme amaçları ile uyumlu olmaktadır. Bankacılık sektörünün hızlı tempolu çalışma ortamında daha iyi iş performansı için proaktif çalışanların gerekli olduğu belirtilmiştir (Johari ve Subramaniam, 2020). Bu tip örgütlerde çalışanların rol ötesi davranış sergilemeleri işe alımlarından itibaren örgütün göz önünde tuttuğu performans kriterlerindedir.

Literatür incelendiğinde proaktif kişilerin bazen yanlış yönlendirilmiş ve verimsiz davranışlarda bulunabileceği görülmüştür (Campbell, 2000). İşletmelerin hangi koşullar altında çalışanların proaktivitesinden zarar görmek yerine proaktivitesinden fayda sağlayabileceği hakkında çok az şey bilinmektedir (Li vd., 2010). Bu nedenle çalışanların proaktif kişiliğe sahip olmasının örgüt yararına davranış olan örgütsel vatandaşlık davranışı üzerindeki etkisini belirlemek işletmelere yol göstermesi açısından önemli bulunmuştur. Araştırmanın özellikle çalışanların işe alımlarında göz önünde tutulan kişilik özelliklerinin tespit edilmesi ve çalışanların işe alındıktan sonra örgüte faydalı davranışlar sergilemesi örgütün çalışan seçim ve elde tutma maliyetlerinde yaşanan sorunların ortadan kaldırılması açısından işletmelere faydalı olacağı düşünülmektedir.

Çeşitli araştırmalarda proaktif kişiliğin örgütsel vatandaşlık davranışı pozitif yönde etkilediği tespit edilmiştir (Baba, Tourigny, Wang ve Liu, 2009; Greguras ve Diefendorff, 2010; Liguori vd., 2013). Bu amaç doğrultusunda araştırmanın ikinci bölümünde proaktif kişilik ve örgütsel vatandaşlık davranışı ile ilgili ayrıntılı kavramsal açıklamalara ve hipotezlere yer verilmiştir. Araştırmanın üçüncü bölümünde araştırma modeli, araştırmanın örnekleme, veri toplama yöntemi ve araçları açıklanmıştır. Araştırmanın dördüncü bölümünde ise analiz sonucunda elde edilen bulgulara yer verilmiştir. Araştırmanın son bölümünde ise araştırmanın sonuçları ve bu sonuçlara dayanan öneriler sunulmuştur.

## Kavramsal çerçeve

### Proaktif kişilik

Bireyler yeni bir işe başvurduklarında eğitim durumları, tecrübeleri, yetenekleri ve son zamanlarda gerçekleştirilen birçok bilimsel çalışmanın da etkisiyle kişilik özelliklerine göre seçilmektedir. Kişilik, bireylerin davranışlarını kalıcı şekilde etkileyen psikolojik özellikler, bireyin kendisi ve çevresiyle ilgili olarak gösterdiği ve kendisine özgü süreklilik gösteren tutarlı davranışlar bütünü olarak açıklanmaktadır. Kişilik faktörü literatürde çok farklı şekillerde ele alınmış ve farklı kişilik türleri ortaya atılmıştır (Çetin ve Köse, 2017: 66). Bu kişilik türlerinden birisi de son zamanlarda akademik

çalışmalarda sıklıkla yer bulan proaktif kişiliktir. Proaktif kişilik, durumsal baskılarla kısıtlanmayan ve çevresel değişimi etkileyen; fırsatları arayan, inisiyatif gösteren, harekete geçen ve bir değişim getirerek sonuca ulaşana kadar sebat eden bireylerin istikrarlı bir eğilimidir (Bateman ve Crant, 1993; Crant, 2000).

Proaktif kişiliğe sahip bireyler, davranışlarını amaçlı olarak gerçekleştirirler ve bu amaç değişime sebep olacak bir etki oluşturmak için harekete geçildiğini ifade etmektedir. Proaktif kişilik kavramı, motivasyon kavramına benzer bir kavram olarak da bilinmektedir çünkü ikisinde de birey içten gelen davranışları gerçekleştirmektedir (Çelik ve Topçuoğlu, 2017: 1224).

Proaktif kişilik özellikleri taşıyan bireyler durumları ve koşulları kendileri yaratarak, yapmaları gereken işe odaklanırlar. Proaktif bireyler, olumsuz olayların onları etkilemelerine izin vermezler. Onlar için önemli olan etki alanlarıdır her zaman yapabilecekleri işlere odaklanarak etki alanlarını genişletip çevrelerine yararlı bireyler olmaya çalışırlar (Kara, Vergili ve Erdem, 2016: 92).

Proaktif kişilik özelliğine sahip bireyler, davranışlarının ardında değerler olan, dikkatlice düşünülmüş tercihler yapabilen ve özümsemiş değerler tarafından yönetilen, özgüvenleri yüksek, kendileriyle barışık bireylerdir. Bilgilerini ve entelektüel yeteneklerini sağduyu ile kullanır ve kaygılarını gerçeklikle yüzleştirip olaylara gerçekçi yaklaşımlar sunarlar (Karasu, 2013: 40-41). Dış ortamda meydana gelebilecek riskleri tahmin ederek bu riskleri en aza indirmede ve oluşabilecek krizleri çözüme etkili bir şekilde rol oynayabilmektedirler. Kriz ortamlarını sadece bir tehdit olarak görmezler aynı zamanda uzmanlık alanlarını kullanarak anlamlı bir değişikliği hayata geçirebilmek için bir fırsat olarak da görürler. Proaktif bireyler, uzmanlık alanlarından faydalandıkları için hedeflerini gerçekleştirme olasılıkları daha yüksek olan kişiler olarak tanımlanabilmektedir (Chen, Crant, Wang, Kou, Qin, Yu ve Sun 2021: 200-201).

Proaktif bireyler, çevresel baskıların pasif alıcıları olmaktan çıkmışlardır. Onlar oldukları ortamları etkileyen ve katkıda bulunan bireylerdir. Bundan dolayı proaktif kişilik özelliğine sahip bireyler diğer bireylere göre daha kolay koçluk, mentorluk ya da liderlik yapabilmektedirler. (Pitt ve Ewing, 2002: 640). Buna göre firmalar, çalışanları daha proaktif davranmaya teşvik etmek için yönetimsel müdahaleler uygulayabilir. Bu müdahalelerden biri, proaktif kişiliği yüksek bireyleri örgüte çekmek, seçmek ve işe almaktır (Liguori vd., 2013: 724).

### **Örgütsel vatandaşlık davranışı**

Sosyal mübadele teorisinin (Blau, 1964) teorik temelleri, örgütsel vatandaşlık davranışının çerçevesini oluşturmaktadır. Sosyal mübadele bağlantısında taraflar arasındaki ilişkiler gönüllülük esasına dayanmaktadır; örgütsel vatandaşlık davranışında olduğu gibi bir yükümlülüğe dayalı değildir. Sosyal mübadele teorisine göre, mübadele sonucunda tarafların elde edecekleri menfaatler müzakere konusu olamaz ve bireylerin takdirine bırakılmalıdır. Bahsi geçen bu menfaatler parasal olarak ifade edilmemektedir (Karacaoğlu ve Güney, 2010: 138).

Bateman ve Organ (1983: 588), örgütsel vatandaşlık davranışının; organizasyonun sosyal mekanizmasını yağlayan ancak doğrudan olağan görev performansı kavramında yer almayan jestlerden örneğin, iş arkadaşlarına işle ilgili bir problemde yardım etmek, çalışma alanını temiz ve düzenli tutmaya özen göstermek, işleştikte geçici zorunlulukları şikâyet etmeden tolere etmek, işyerindeki çatışma ortamını yumuşatmak gibi davranışları içerdiğini belirtmişlerdir.

Örgütsel vatandaşlık davranışı, bireylerin çalışma ortamlarında kendileri için belirlenen iş tanımları ve standartlarının ötesine geçerek, gönüllü olarak çaba ve fazladan rol davranışı göstermeleridir (Organ, 1988). Başka bir ifadeyle örgütsel vatandaşlık davranışı hem bireysel hem örgütsel başarı için çalışanların vasfını ön plana çıkararak; çalışanların resmi görev tanımlarının dışında gönüllü olarak yaptıkları eylem ve faaliyetleri ifade etmektedir (Sezgin, 2005: 318). Bir çalışanın bir faaliyeti gerçekleştirme olasılığının yüksek olduğu faaliyeti rol içi davranış olarak tanımladığımız da örgütsel vatandaşlık davranışında önemli olan rol dışı davranışlardır yani çalışanların kendilerine biçilen rollerden daha fazlasını yapmalarıdır. Çalışanların rol dışındaki davranışlarını bir süre sonra rol içi davranış olarak tanımlayabilmektedir (Morrison, 1994: 1546).

Örgütü düşünmek, örgütün yanında olmak ve gerektiğinde örgüt için fedakârlık yapmak örgütsel vatandaşlık davranışının kapsamındadır. Örgütlerin içlerindeki sorumluluk duygusu büyüdükçe hedeflerine ulaşmaları daha kolaydır. Çalışanların yetkilerini yükümlülükleri çerçevesinde kullanmaları halinde örgüt içi denetimler kolaylaşacak ve kişilerin öz kontrolünün artmasına neden olacaktır (Özdevecioğlu, 2003: 119-120).

Örgütsel kaynakların üretken amaçlar için doğru bir şekilde kullanımına, ekip üyeleri ve çalışma grupları arasında koordinasyonu sağlamaya destek olmak ve çalışanların iş tatminini artırmak örgütsel vatandaşlık kavramı kapsamındadır. Örgütsel vatandaşlık davranışı, şirketin mevcut çalışanları elde tutmasına ve yenilikçi ve üretken olacak yeni çalışanları çekmesine yardımcı olmaktadır (Tokgöz ve Seymen, 2013: 64-65). Organ (1988) beş örgütsel vatandaşlık davranışı kategorisi belirlemiştir: (1) Özgecilik, (2) vicdanlılık, (3) centilmenlik, (4) nezaket ve (5) Sivil erdem. Bu faktörler yıllar içinde oluşturulmuş ve geçerli ve güvenilir bulunmuştur. Örgütsel vatandaşlık davranışı alanındaki en güncel araştırmalar Organ'ın (1988) ölçeğini temel almaktadır (Camarata, 1997: 47).

- Özgecilik: Belirli bir kişiye örgütsel olarak ilgili bir görevde yardım etme etkisine sahip isteğe bağlı davranıştır (MacKenzie, Podsakoff ve Fetter, 1993: 71).
- Vicdanlılık: Asgari düzeyde gerekli olan rol ve görev gereksinimlerinin ötesine geçme, beklenenden fazlasını üstlenme davranışıdır (Allison, Voss ve Dryer, 2001).
- Centilmenlik: Çalışmanın kaçınılmaz rahatsızlıklarına ve dayatmalarına şikâyet etmeden hoşgörülle yaklaşan bir duruştur (Organ, 1988)
- Nezaket: Başkalarının işle ilgili sorunların ortaya çıkmasını önlemeye yönelik eylemlerde bulunmaktır (Podsakoff ve Mackenzie, 1994; Allison vd., 2001).
- Sivil Erdem: Bireyin örgüt yaşamına sorumlu bir şekilde katıldığını, dahil olduğunu veya örgüt yaşamıyla ilgili endişelerini gösteren davranışıdır (Podsakoff vd., 1990: 115).

### Proaktif kişilik ile örgütsel vatandaşlık davranışı ilişkisi ve hipotezler

Bireylerin örgütsel vatandaşlık davranışı içerisinde gösterdikleri rol içi ve rol dışı davranışları, başkalarına yardımcı olma konusundaki heyecanları ölçülebilir kişilik faktörleriyle bağdaştırılabilir (Organ ve Ryan, 1995: 780). Örgütsel vatandaşlık davranışı ve proaktif kişilik birçok ortak yöne sahiptir. Çünkü örgütsel vatandaşlık davranışının tezahürü kişisel bir tercih meselesidir ve oldukça proaktif çalışanların daha fazla örgütsel vatandaşlık davranışı göstermesi beklenen bir durumdur (Baba vd., 2009: 25). Proaktif kişiliğe sahip bireyler sadece kendilerini düşünmez, diğer bireylere de yardımcı olmaya çalışırlar. Bundan dolayı örgütsel vatandaşlık davranışı ile proaktif kişilik arasında pozitif ilişki olduğu söylenebilmektedir (Rioxus ve Penner, 2001: 1310). Proaktif kişilik ve örgütsel vatandaşlık davranışı, doğrudan rol gereksinimlerinin ötesine geçen eylemlere odaklanmaktadır; her ikisi de dolaylı olarak genel örgütsel etkinliğe katkıda bulunmaktadır (Frese, Kring, Soose ve Zempel, 1996).

Proaktif kişilikleri olan çalışanlar, örgütsel başarıya katkıda bulunmak için inisiyatif almaya daha fazla istekli olurlar; muhtemelen bu onların örgütsel vatandaşlık davranışı şeklinde isteğe bağlı katkılarda bulunma isteklerini artıracaktır. Proaktif çalışanlar, kuruluşlarına yardım etmek için aktif olarak fırsatlar aramaya ve formel sorumlulukların ötesine geçen faaliyetlerde bulunmaya istekli olduklarından (Li vd., 2010: 396), proaktif kişilik ile örgütsel vatandaşlık davranışı arasında bir ilişki olabileceği düşünülmüştür.

Çinli havayolu çalışanları üzerinde yapılan bir çalışmada (Baba vd., 2009), proaktif kişilik ve davranışsal sonuçları olan "örgütsel vatandaşlık davranışı ve iş performansı" arasındaki ilişkileri ve duygusal tükenme ile algılanan güvenlik ikliminin etkileşimli etkileri araştırılmıştır. Çalışma, pilotlar, uçuş görevlileri, mühendisler ve servis çalışanları dahil olmak üzere 485 Çinli havayolu çalışanını içermektedir. Çalışma sonucunda proaktif kişiliğin, örgütsel vatandaşlık davranışı ve bireysel performans ile olumlu bir ilişki içerisinde olduğu belirlenmiştir.

Başka bir çalışmada ise proaktif kişilik ile örgütsel vatandaşlık davranışı ilişkisinde kişiler arası uyumun düzenleyici rolü, Çin devletine ait şirketlerdeki 158 çalışan ile anket yoluyla toplanan veriler aracılığı ile incelenmiştir. Bu çalışmanın sonucunda da proaktif kişilik ve örgütsel vatandaşlık davranışı arasındaki ilişkinin anlamlı olduğu tespit edilmiştir (Gan ve Cheung, 2010).

Newman, Schwarz, Cooper ve Sendjaya (2017) Çin'de devlete ait büyük bir işletmedeki 446 süpervizör-ast ikilisi üzerinde gerçekleştirdikleri araştırmalarında, proaktif kişiliğe sahip takipçilerin hizmetkar liderliğe daha yüksek lider-üye değişimi ve daha yüksek örgütsel vatandaşlık davranışı gösterme şeklinde olumlu yanıt verdiği ortaya konulmuştur.

Pakistan'daki yedi kamu sektörü kurumu çalışanları arasından seçilen 292 kişiyle yapılan araştırma sonucunda proaktif kişilik ve örgütsel vatandaşlık davranışı arasında olumlu yönde bir ilişki olduğu sonucuna varılmıştır (Farooq, Khalil ve Tufail, 2019). Başka bir çalışmada ise Li, Liang ve Crant (2010) proaktif kişilik ve örgütsel vatandaşlık davranışı arasındaki ilişkiyi ortaya koymak için 54 çalışma

grubundan 200 Çinli çalışmanı seçmişlerdir. Çalışma sonucunda proaktif kişiliğin örgütsel vatandaşlık davranışını olumlu etkilediği anlaşılmıştır.

Aghighi (2020) ise örgütsel vatandaşlık davranışı üzerinde etik liderlik ve proaktif kişilik özelliklerini arasındaki ilişkiyi duyguların aracılık rolüyle incelemeye çalışmıştır. Bir kimya şirketinde çalışan 470 kişi içerisinde seçilen 212 kişi ile anket yoluyla bir çalışma yapılmıştır. Bu çalışmanın sonucunda, çalışanların proaktif kişiliği örgütsel vatandaşlık davranışını olumlu duygular yoluyla etkilemezken olumsuz duygular yoluyla etkileyebildiği sonucuna varılmıştır (Aghighi, 2020).

Nadeem, Alvi ve Rehman (2021) tarafından, örgütsel vatandaşlık davranışı ile proaktif kişilik özelliklerinin arasındaki ilişkinin işte başarılı olma üzerine etkisini incelemek için Pakistan'ın Lahor kentinde bulunan bir tekstil fabrikasındaki 310 işçiden toplanan veriler ile yapılan çalışma sonucunda proaktif kişilik ve örgütsel vatandaşlık davranışı arasında pozitif yönlü bir ilişki bulunduğu sonucuna varılmıştır. Buna göre çalışanların iş yerlerinde daha iyi koşullarda çalışmalarını sağlamak örgütsel vatandaşlık davranışını arttıracaktır (Nadeem vd., 2021).

Deviren (2021) Türkiye'deki Sivil Toplum Örgütlerinde gönüllülük faaliyetlerinde bulunan 330 kişi üzerinde yapmış olduğu çalışmada proaktif kişiliğin örgütsel vatandaşlık davranışı alt boyutlarından olan özgecilik, nezaket, vicdanlılık, sivil erdem ve centilmenlik davranışlarını artırdığını ortaya koymuştur. Ayrıca, proaktif kişiliğe sahip kişilerin bilinçli farkındalığın aracılığıyla örgütsel vatandaşlık davranışı boyutlarından sadece sivil erdem davranışını sergilediği öne sürülmüştür.

Bozdoğan (2021) tarafından yapılan çalışmada proaktif kişiliğin iş performansı üzerindeki etkisinde örgütsel vatandaşlık davranışının aracılık rolü ve proaktif kişiliğin örgütsel vatandaşlık davranışı üzerindeki etkisinde çalışan seslendirme davranışının aracılık etkisini değerlendirilmiştir. 447 özel hastane çalışanından elde edilen veriler ile gerçekleştirilen analizler sonucunda proaktif kişiliğin, örgütsel vatandaşlık eylemlerinin aracılık rolü ile iş performansı üzerinde olumlu bir etkisinin olduğu keşfedilmiştir. Buna göre, proaktif kişiliğin örgütsel vatandaşlık davranışı üzerinde olumlu bir etkisinin olduğu ve bu ilişkide çalışanın ses davranışının aracılık rolü üstlendiği belirlenmiştir.

Zahra ve Kee (2022) 315 banka çalışmanı üzerinde yapmış oldukları çalışmada proaktif kişilik ile iş performansının üç boyutu (görev performansı, bireye yönelik vatandaşlık davranışı ve örgüte yönelik vatandaşlık davranışı) arasında anlamlı ve pozitif ilişki olduğunu göstermişlerdir.

Banka çalışanlarının çeşitli resmi ve kurumsal düzenlemelere uymak ve yönetim tarafından belirlenen hedeflere ulaşmak için sadece proaktif olmaları yeterli değildir, aynı zamanda görevlerini yerine getirirken gönüllü olarak banka yararına davranışlar, diğer bir deyişle örgütsel vatandaşlık davranışı sergilemeleri de gerekmektedir. Bu nedenle bu makale, Türkiye'deki bir kamu bankasında görev yapan çalışanların proaktif kişiliğinin örgütsel vatandaşlık davranışı göstermeleri üzerindeki etkisini incelemektedir.

Belirtilen çalışmalara dayanılarak araştırma kapsamında proaktif kişiliğin örgütsel vatandaşlık davranışı ve boyutları üzerindeki etkisini belirlemek amacıyla 5 hipotez aşağıdaki şekilde oluşturulmuştur:

**H1:** Çalışanların proaktif kişiliği örgütsel vatandaşlık davranışlarını pozitif ve anlamlı şekilde etkilemektedir.

**H2:** Çalışanların proaktif kişiliği özgecilik ve nezaket davranışlarını pozitif ve anlamlı şekilde etkilemektedir.

**H3:** Çalışanların proaktif kişiliği vicdanlılık davranışlarını pozitif ve anlamlı şekilde etkilemektedir.

**H4:** Çalışanların proaktif kişiliği centilmenlik davranışlarını pozitif ve anlamlı şekilde etkilemektedir.

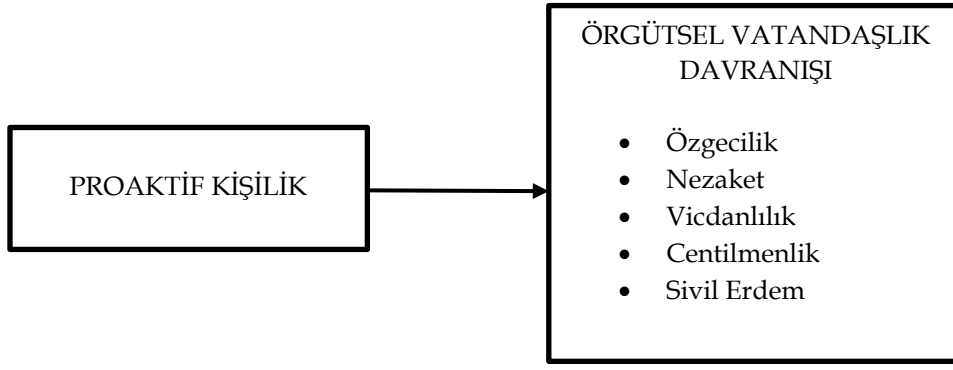
**H5:** Çalışanların proaktif kişiliği sivil erdem davranışlarını pozitif ve anlamlı şekilde etkilemektedir.

## Metodoloji

### Araştırma modeli

Proaktif kişilik ile örgütsel vatandaşlık davranışı arasındaki ilişkiyi ortaya koymak amacıyla geliştirilen araştırma modeli Şekil 1'de verilmiştir.





**Şekil 1:** Araştırmanın Modeli

### Araştırmanın örneklemi

Bu araştırmanın amacı Türkiye’de faaliyet gösteren bir kamu bankasında çalışan bireylerin proaktif kişiliğe sahip olmalarının örgütsel vatandaşlık davranışı göstermelerine etkisini ortaya koymaktır. Bu kapsamda araştırmanın örneklemi kolayda örnekleme yöntemi ile seçilmiştir. Araştırmanın örneklemi 183 kişiden oluşmaktadır. Anket verileri Aralık 2021-Şubat 2022 tarihleri arasında toplanmıştır. Değişkenler arasındaki etkiler, SPSS 22.0 programı kullanılarak korelasyon analizi, regresyon analizi aracılığıyla ortaya konulmuştur.

### Araştırmanın veri toplama araçları

Araştırmada veriler anket yöntemi ile gönüllülük esasına dayalı olarak toplanmıştır. Araştırmanın anketi online olarak katılımcılara sunulmuştur. Araştırmada yer alan hipotezlerin test edilmesi amacıyla literatürde geçerliliği ve güvenilirliği kanıtlanmış ölçekler kullanılmıştır. Anket formu üç bölümden oluşmaktadır. Araştırmada katılımcılara sunulan ankete ilişkin etik kurul onayı 30.11.2021 tarihinde Zonguldak Bülent Ecevit Üniversitesi İnsan Araştırmaları Etik Kurulu’ndan 381 protokol numaralı kararı ile alınmıştır. İlk bölümde katılımcıların cinsiyet, medeni durum, yaş, çalışılan pozisyon, eğitim durumu, buldukları kurumdaki çalışma süreleri ve mesleklerindeki toplam çalışma sürelerini içeren demografik özelliklerine ilişkin sorulara yer verilmiştir. İkinci bölümde ise çalışanların proaktif kişilik özelliklerini tespit etmek amacıyla Seibert, Crant ve Kraimer (1999) tarafından geliştirilen tek boyutlu ve 10 soruluk proaktif kişilik ölçeği kullanılmıştır. Üçüncü bölümde ise çalışanların Örgütsel vatandaşlık davranışının ölçülmesi için Niehoff ve Moorman (1993) tarafından geliştirilen beş boyutlu ve 20 soruluk ölçek kullanılmıştır.

Ölçeklere ilişkin değerlendirme seçenekleri; (1) Kesinlikle katılmıyorum, (2) Katılmıyorum, (3) Kararsızım, (4) Katılıyorum ve (5) Kesinlikle katılıyorum şeklinde; 5’li Likert tipindedir.

### Bulgular

Araştırmanın bu bölümünde katılımcılara ait demografik bilgiler, güvenilirlik analizi ve faktör analizine dair bulgulara yer verilmiştir. Araştırma kapsamındaki değişkenler arasındaki karşılıklı ilişkileri için korelasyon analizi yapılmıştır. Bununla birlikte proaktif kişiliğin örgütsel vatandaşlık ve boyutları üzerine olan etkisini belirlemek amacıyla regresyon analizi uygulanmıştır.

### Demografik bilgiler

Araştırmaya katılan banka çalışanlarının demografik özelliklerine ait bulgular Tablo 1’de gösterilmiştir.

**Tablo 1:** Araştırmanın Katılımcılarına Ait Demografik Özellikler

		N	Yüzde
Cinsiyet	Kadın	102	%55,7
	Erkek	81	%44,3
Medeni Durum	Evli	103	%56,3
	Bekar	80	%43,7
Yaş	19-26	48	%26,2
	27-30	54	%29,5
	31-34	49	%26,8
	35-47	32	%17,5
Eğitim Durumu	Lise	3	%1,6
	Ön Lisans	12	%6,6
	Lisans	142	%77,6
	Lisans Üstü	26	%14,2
Kurumda Çalışma Süresi	1-4	90	%49,2
	5-7	52	%28,4
	8-12	29	%15,8
	13-23	12	%6,6
Meslekte Çalışma Süresi	1-4	72	%39,3
	5-7	49	%26,8
	8-12	46	%25,1
	13-23	16	%8,7
Çalışılan Pozisyon	Memur	76	%41,5
	Yetkili Yardımcısı	35	%19,1
	Yetkili	25	%13,7
	Üst Yetkili	10	%5,5
	Uzman Yardımcısı	14	%7,7
	Uzman	15	%8,2
	Müdür Yardımcısı	5	%2,7
Müdür	3	%1,6	

Tablo 1’den hareketle 183 katılımcının çoğunluğunu kadınlar (%55,7) oluşturmaktadır. Katılımcıların büyük çoğunluğunun evli (%56,3) olduğu belirlenmiştir. Katılımcıların yaş aralıkları incelendiğinde çoğunluğu 27-30 yaş aralığı (%29,5)’nda yer almaktadır. Katılımcılar eğitim düzeyleri açısından değerlendirildiğinde çoğunluğunun yüksek bir oranla lisans mezunu 142 (%77,6) olduğu tespit edilmiştir. Araştırmaya katılanların yarısına yakınının (%49,2) kurumlarında çalışma sürelerinin 1-4 yıl arasında olduğu görülmektedir. 183 katılımcının çoğunluğunun (%39,3) 1-4 yıl arasında meslekte çalışma süresine sahip olduğu tespit edilmiştir. Araştırmaya katılanların çoğunluğunun (%41,5) bankada memur pozisyonunda çalıştığı görülmektedir.

### Araştırma ölçeklerinin güvenilirlik ve faktör analizleri

Araştırma kapsamında proaktif kişilik ve örgütsel vatandaşlık davranışı ölçeklerinin güvenilirliğinin ve geçerliliğinin test edilmesi gerekmektedir.

Faktör analizi, çok sayıda değişken arasındaki ilişkileri analiz etmek ve bu değişkenleri ortak temel boyutları (faktörler) açısından açıklamak için kullanılabilen istatistiksel bir yaklaşımdır (Hair, Anderson, Babin ve Black, 2019: 25-26). Ancak faktör analizine geçilmeden önce ölçeklerin faktör analizine uygunluğunun çeşitli ölçütlerle ortaya konulması gerekmektedir.

Araştırmanın bu bölümünde örneklem büyüklüğünün faktör analizi için yeterliliğini belirlemek için Kaiser-Meyer-Olkin (KMO) testleri yapılmıştır. Değişkenler arasındaki korelasyonun yeterliliğini kontrol etmek amacıyla ise Barlett testi yapılmıştır. Bununla birlikte güvenilirliklerini test etmek amacıyla ölçeklerin Cronbach’s Alpha değerleri belirlenmiştir.

**Tablo 2:** Araştırmada Kullanılan Ölçeklerin Geçerlilik ve Güvenilirlik Değerleri

Ölçek	Cronbach’s Alpha	KMO (Kaiser-Meyer Olkin)	Barlett Testi
Proaktif Kişilik Ölçeği	0,929	0,926	0
Örgütsel Vatandaşlık Davranışı Ölçeği	0,906	0,902	

Tablo 2’de yer alan test sonuçlarından da anlaşılacağı üzere Proaktif kişilik ve Örgütsel vatandaşlık davranışı KMO değerleri 0,50 değerinin üzerinde yer almaktadır, bu sonuca göre iki değişkenin de faktör analizi uygunluğu mükemmel (Kalaycı, 2016: 322) düzeydedir. Tabloda ikinci olarak bakılması

gereken Barlett testinde ise iki değişken için de sonuç anlamlı çıkmaktadır (Hill, 2011: 37-43), bu da değişkenler arasında anlamlı ilişkiler olduğunu işaret etmektedir.

Araştırmada ölçeklerin güvenilirliğini değerlendirmek amacıyla Cronbach's Alpha istatistiği kullanılmıştır. Literatürde bir ölçeğin güvenilir kabul edilebilmesi için Cronbach's Alpha katsayısının en az 0,7 olması uygun bulunmaktadır (Nunnally ve Bernstein, 1994: 264-265). Değerlere bakıldığında ise Proaktif Kişilik Ölçeği Cronbach's Alpha: 0,929 ile Örgütsel Vatandaşlık Davranışı Ölçeği Cronbach's Alpha: 0,906 değeri ile yüksek derecede güvenilir ölçekler olarak yer almaktadır.

Proaktif kişilik ölçeğine uygulanan faktör analizi sonucunda literatürle uyumlu olarak tüm ifadelerin faktör yükleri tek faktör altında toplanmıştır. Bağımlı değişken için yapılan analizde örgütsel vatandaşlık ölçeği soruları içerisinde 4 sorunun (centilmenlik boyutu) ters sorular olması nedeniyle tersine çevrilmiş ve analize devam edilmiştir. Örgütsel vatandaşlık davranışı ölçeğine ilişkin uygulanan faktör analizinde, Nezaket boyutundan 1 madde ve Vicdanlılık boyutundan 1 maddeye ait faktör yükleri faktör ağırlığı dağılımına uyum sağlamadığı için ölçek ortalamasına alınmamıştır. Örgütsel vatandaşlık davranışı ölçeğine uygulanan faktör analizi sonucunda orijinalinde 5 boyutlu olan ölçek, 4 boyutta toplanmıştır. Literatürde benzer durumlarla karşılaşılma birlikte (Polat ve Celep, 2008: 314-315; Ertürk, 2014; Tenteriz ve Tozkoparan, 2022: 97; Özkan Hıdıroğlu, 2021); örgütsel vatandaşlık ölçeği özgecilik-nezaket, centilmenlik, sivil erdem, vicdanlılık olarak faktörleşmiştir.

### Değişkenlere ait bulgular

#### Değişkenler arası korelasyon analizi sonuçları

Değişkenler arasındaki ilişkinin yönü ve büyüklüğünü tespit etmek için korelasyon analizi uygulanmıştır. Korelasyon analizi değişkenler arasında doğrusal ilişkilerin büyüklüğü ve bu ilişkinin yönünü ölçmek için kullanılan istatistiksel bir yöntemdir (Tabachnick ve Fidell, 2015: 57; Kalaycı, 2016: 115).

Araştırmanın ana değişkenleri olan proaktif kişilik ve örgütsel vatandaşlık davranışı arasındaki ilişki ve örgütsel vatandaşlık davranışı boyutları olan Özgecilik-Nezaket, Vicdanlılık, Centilmenlik, Sivil Erdem korelasyon analizi ile incelenecektir.

**Tablo 3:** Proaktif Kişilik ve Örgütsel Vatandaşlık Davranışı Değişkenlerinin Korelasyon Testi

		Proaktif Kişilik
Örgütsel Vatandaşlık Davranışı	Pearson Correlation	0,739**
	Sig. (2 Tailed)	0,000
	N	183
Özgecilik-Nezaket	Pearson Correlation	0,786**
	Sig. (2 Tailed)	0,000
	N	183
Vicdanlılık	Pearson Correlation	0,630**
	Sig. (2 Tailed)	0,000
	N	183
Centilmenlik	Pearson Correlation	-0,122
	Sig. (2 Tailed)	0,099
	N	183
Sivil Erdem	Pearson Correlation	0,728**
	Sig. (2 Tailed)	0,000
	N	183

\*\*Korelasyonlar 0,01 düzeyinde anlamlıdır. (2-tailed)

Değişkenler arasında gerçekleştirilen korelasyon analizi sonucunda Proaktif Kişilik ile Örgütsel Vatandaşlık Davranışı arasında yüksek, Özgecilik-Nezaket boyutu ile yüksek, Vicdanlılık boyutu ile orta, Sivil Erdem boyutu ile yüksek düzeyde pozitif ve anlamlı ilişkiler olduğu belirlenmiştir. Ancak Proaktif Kişilik ile Centilmenlik arasında anlamlı bir ilişki bulunamamıştır.

#### Değişkenler arası regresyon analizi sonuçları

Regresyon analizi, aralarında ilişki bulunan iki ya da daha fazla değişkenden birini bağımlı değişken, diğerlerini bağımsız değişkenler olarak belirleyerek aralarındaki ilişkiyi incelemek için kullanılan istatistiksel yöntemdir (Büyüköztürk, 2021: 93, Coşkun, Altunışık ve Yıldırım, 2017). Araştırmanın bağımsız değişkeni proaktif kişilik ile; bağımlı değişkenleri olan örgütsel vatandaşlık davranışı ve boyutları olan Özgecilik-Nezaket, Vicdanlılık, Sivil Erdem arasındaki ilişkinin açıklanmasına yönelik regresyon analizi uygulanmıştır.

**Tablo 4:** Proaktif Kişiliğin Örgütsel Vatandaşlık Davranışı Üzerine Etkisine İlişkin Regresyon Analizi Sonucu

	R <sup>2</sup>	F	B	P(Sig.)
Model	0,546	217,684		
<b>Bağımsız Değişken:</b> <b>Proaktif Kişilik</b>			0,739	0,000

**Bağımlı Değişken:** Örgütsel Vatandaşlık Davranışı

Tablo 4'te sunulan regresyon analizi sonuçlarına göre proaktif kişiliğin, örgütsel vatandaşlık davranışı üzerinde pozitif ve anlamlı ( $F=217,684$ ;  $p<0,05$ ) bir etkisinin olduğu görülmektedir. Proaktif kişilik yapısındaki 1 birimlik artış, örgütsel vatandaşlık davranışı üzerinde ( $\beta =0,739$ ) 0,739 birimlik artış sağlamaktadır. Örgütsel vatandaşlık davranışının ( $R^2 = 0,546$ ) %54,6'sı proaktif kişilik yapısı ile açıklanmaktadır. Buna göre  $H_1$  hipotezi kabul edilmiştir. Ortaya çıkan sonuçlara göre, banka personelinin proaktif kişiliği örgütsel vatandaşlık davranışını göstermelerini pozitif yönde etkilemektedir.

**Tablo 5:** Proaktif Kişiliğin Özgecilik-Nezaket (ÖVD) Boyutu Üzerine Etkisine İlişkin Regresyon Analizi Sonucu

	R <sup>2</sup>	F	$\beta$	P(Sig.)
Model	0,618	293,092		
<b>Bağımsız Değişken:</b> <b>Proaktif Kişilik</b>			0,786	0,000

**Bağımlı Değişken:** Özgecilik-Nezaket

Tablo 5'te proaktif kişiliğin örgütsel vatandaşlık davranışının bir boyutu olan Özgecilik-Nezaket davranışının üzerindeki etkisine ilişkin gerçekleştirilen regresyon analizi sonuçları bulunmaktadır. Tablo 5 incelendiğinde modelin anlamlı ( $F=293,092$ ;  $p<0,05$ ) olduğu görülmektedir. Proaktif kişiliğin Özgecilik-Nezaket davranışı üzerinde pozitif ve anlamlı bir etkisinin olduğu belirlenmiştir. Proaktif kişilik yapısındaki 1 birimlik artış, Özgecilik-Nezaket davranışı üzerinde ( $\beta=0,786$ ) 0,786 birimlik artış sağlamaktadır. Özgecilik-Nezaket davranışının ( $R^2 = 0,618$ ) %61,8'i proaktif kişilik yapısı ile açıklanmaktadır. Elde edilen bulgulara dayanarak  $H_2$  hipotezi kabul edilmiştir. Banka personelinin proaktif kişiliği Özgecilik-Nezaket davranışı göstermelerini pozitif yönde etkilemektedir.

**Tablo 6:** Proaktif Kişiliğin Vicdanlılık (ÖVD) Boyutu Üzerine Etkisine İlişkin Regresyon Analizi Sonucu

	R <sup>2</sup>	F	$\beta$	P(Sig.)
Model	0,397	119,211		
<b>Bağımsız Değişken:</b> <b>Proaktif Kişilik</b>			0,630	0,000

**Bağımlı Değişken:** Vicdanlılık

Tablo 6'da proaktif kişiliğin örgütsel vatandaşlık davranışının bir boyutu olan vicdanlılık davranışının üzerindeki etkisine ilişkin gerçekleştirilen regresyon analizi sonuçları bulunmaktadır. Tablo 6 incelendiğinde modelin anlamlı ( $F=119,211$ ;  $p<0,05$ ) olduğu görülmektedir. Proaktif kişiliğin vicdanlılık davranışı üzerinde pozitif ve anlamlı bir etkisinin olduğu belirlenmiştir. Proaktif kişilik yapısındaki 1 birimlik artış, vicdanlılık davranışı üzerinde ( $\beta = 0,630$ ) 0,630 birimlik artış sağlamaktadır. Vicdanlılık davranışının ( $R^2= 0,397$ ) %39,7'si proaktif kişilik yapısı ile açıklanmaktadır. Bu nedenle ileri sürülen  $H_3$  hipotezi kabul edilmiştir. Banka personelinin proaktif kişiliği vicdanlılık davranışı göstermelerini pozitif yönde etkilemektedir.

**Tablo 7:** Proaktif Kişiliğin Sivil Erdem (ÖVD) Boyutu Üzerine Etkisine İlişkin Regresyon Analizi Sonucu

	R <sup>2</sup>	F	$\beta$	P(Sig.)
Model	0,530	204,052		
<b>Bağımsız Değişken:</b> <b>Proaktif Kişilik</b>			0,728	0,000

**Bağımlı Değişken:** Sivil Erdem

Tablo 7'de proaktif kişiliğin örgütsel vatandaşlık davranışının bir boyutu olan sivil erdem davranışının üzerindeki etkisine ilişkin gerçekleştirilen regresyon analizi sonuçları bulunmaktadır. Tablo 7 incelendiğinde modelin anlamlı ( $F=204,052$ ;  $p<0,05$ ) olduğu görülmektedir. Proaktif kişiliğin Sivil Erdem davranışı üzerinde pozitif ve anlamlı bir etkisinin olduğu belirlenmiştir. Proaktif kişilik yapısındaki 1 birimlik artış, sivil erdem davranışı üzerinde ( $\beta = 0,728$ ) 0,728 birimlik artış sağlamaktadır. Sivil Erdem davranışının ( $R^2= 0,530$ ) %53'ü proaktif kişilik yapısı ile açıklanmaktadır. Bu nedenle  $H_5$  hipotezi kabul edilmiştir. Banka personelinin proaktif kişiliği sivil erdem davranışı göstermelerini pozitif yönde etkilemektedir.

Bununla birlikte proaktif kişiliğin örgütsel vatandaşlık davranışının bir boyutu olan centilmenlik davranışının üzerinde anlamlı etkisi bulunamamıştır. Bu nedenle H<sub>4</sub> hipotezi reddedilmiştir. Literatürün (Deviren, 2021) aksine proaktif kişiliğin centilmenlik davranışını etkilemediği tespit edilmiştir. Bu durum çalışanların proaktif kişiliğe sahip olmadan da centilmenlik davranışı sergileyebileceği şeklinde yorumlanmıştır. Çalışanların işlerin yürütülmesinde sorun çıkmaması için kişisel ödün verme açısından proaktif olmaları zorunlu değildir. Bu noktada çalışanların proaktif olmasından çok örgütün çalışanların centilmenlik davranışı gösterebilecekleri çalışma ortamı sunmalarının etkili olacağı düşünülmektedir.

## Sonuç ve öneriler

Örgütler katı hiyerarşik yapıları terk ederek yerine inisiyatif alma ve iş birliğine dayalı ekip çalışmasını benimsemeye başlamışlardır. Rekabetin giderek arttığı, sürekli değişen bir dünyaya uyum sağlayabilmeleri için çalışanların güçlü yönlerinin keşfedilmesi ve desteklenmesi kadar bu yönlerin davranışa, eyleme dönüşmesi de bir o kadar önemli olmaktadır. Bu gelişme nedeniyle, proaktif kişilik ve örgütsel vatandaşlık davranışı gibi çalışanların kendilerine verilen emirler dışında örgütün yararı adına faaliyetler yürütülmesini esas alan konular işletme yöneticilerinin ajandalarına girmiştir (Carpenter, 2008: 2). Örgütlerin, çalışanlarının örgütsel vatandaşlık davranışını en üst düzeye çıkarmak için çalışanlarının proaktif kişiliklerini göz önünde bulundurmaları literatürde tavsiye edilen bir durumdur (Newman vd., 2007: 59). Özellikle örgüt içerisinde kendisine verilen görevlerin dışında örgüte faydalı olabilecek davranışları gösterme potansiyeli olan çalışan adayları seçmek için proaktif kişiliğe sahip olmalarının belirlenmesi önemli bir kriterdir.

Araştırmada ilk olarak proaktif kişilik kavramına yer verilmiştir. Araştırmada proaktif kişiliğin kavramsal çerçevesi sunulmuştur. Çalışanlar açısından proaktif kişiliğin önemi literatürden örneklerle desteklenmiştir.

Araştırmada ikinci olarak Örgütsel Vatandaşlık Davranış konusu incelenmiştir. Örgütsel Vatandaşlık Davranışı ve alt boyutları olan "Özgecilik ve Nezaket", "Vicdanlılık", "Centilmenlik" ve "Sivil erdem" kavramları açıklanmıştır. Örgütsel vatandaşlık davranışının literatürdeki yeri ve önemi üzerinde durulmuştur.

Araştırma sonucunda proaktif kişiliğin örgütsel vatandaşlık davranışını anlamlı ve olumlu şekilde etkilediği belirlenmiştir. Bu bulgu literatürdeki çalışmalarla benzerlik göstermektedir (Deviren, 2021; Bergeron vd., 2014; Hsiao ve Wang, 2020; Carpenter, 2008; Trifiletti vd., 2009). Bununla birlikte proaktif kişiliğin Örgütsel Vatandaşlık Davranışı boyutları ile olan ilişkilerini ortaya koymak amacıyla yapılan analizler neticesinde proaktif kişiliğin Örgütsel Vatandaşlık Davranışı boyutlarından "Özgecilik-Nezaket", "Vicdanlılık" ve "Sivil erdem" boyutlarını anlamlı ve pozitif yönlü olarak etkilediği tespit edilmiştir. Elde edilen bulgulara benzer sonuçlar literatürde yer alan bazı araştırmalarda tespit edilmiştir (Baba vd., 2009; Polat ve Celep, 2008; Deviren, 2021). Ancak örgütsel vatandaşlık davranışı boyutlarından "centilmenlik" boyutu üzerinde proaktif kişiliğin anlamlı bir etkisinin olmadığı literatürdeki birçok çalışmaya zıt olarak ortaya konulmuştur.

Sonuç olarak, bu araştırma proaktif kişiliğin örgütsel vatandaşlık davranışını etkilediği sürece dair fikir vermektedir. Bu bağlamda proaktif bir eğilime sahip olan kişilerin, örgütsel vatandaşlık davranışlarında bulunma olasılıkları daha yüksektir. Proaktif kişilik, işe alım kararlarında değerlendirilmesi gereken gerekli eğilimlerden biri olarak düşünülmelidir. Bankacılık sektörü, çalışma ortamında sürekli değişikliklerle karşı karşıya kalan hizmet odaklı bir sektördür. Değişen çevresel unsurlara hızlı cevap verebilmek ancak çalışanların görev sorumluluklarının dışarısına çıkacak şekilde örgüte faydalı davranışları benimsemesi ile mümkün olabilmektedir. Banka yönetimi, çalışanların işteki performansını artırmak için çalışanların işe bağlılığına ve bununla ilgili faktörlere (örneğin örgütsel vatandaşlık davranışı) daha fazla önem vermelidir (Zahra ve Kee, 2022: 84).

Araştırmanın sınırlamaları nedeniyle araştırmaları yeniden üretmek, sürdürmek ve karşılaştırma yapabilmek için gelecekteki araştırmalara ihtiyaç vardır. Öncelikli olarak araştırma için toplanan verilerinin sadece bir kamu bankası çalışanlarından elde edilmesi araştırmanın ilk kısıtını oluşturmaktadır. Bundan sonraki çalışmalarda araştırma modelinin farklı sektörde görev yapan çalışanlara da uygulanması kıyaslama açısından literatüre katkı sağlayacaktır. Bununla birlikte modele farklı değişkenlerin dahil edilmesi ile modeldeki değişkenlerin farklı etkilerinin ortaya çıkabilmesine imkân sunarak; literatüre zenginlik katılabileceği düşünülmektedir.

İkinci kısıt olarak ise örnekleme oluşturan çalışanların Türkiye'de yaşayan bireyler olmasıdır. Bu noktadan hareketle farklı kültür ortamında yaşayan çalışanlardan elde edilen veriler ile modelin test

edilmesinin literatürde kültürel farklılıkların belirlenmesi ve yorumlanması açısından gelecekteki çalışmalara farklı bir bakış açısı sunacaktır.

Gelecekteki araştırmaların, farklı kişilik özellikleri ile örgütsel vatandaşlık davranışı arasındaki ilişkilere odaklanarak örgütsel vatandaşlık davranışı öncüllerinin belirlenmesine katkı sağlayacağı düşünülmektedir. Bununla birlikte modelin uygulandığı sektörün değiştirilmesi modelin farklı sektör çalışanları kapsamında değerlendirilmesine imkân tanyacaktır. Ayrıca birden fazla sektörde uygulanması durumunda ise sektör karşılaştırmasına olanak sağlayacaktır. Araştırma model ve kapsamının zenginleştirilmesi özellikle işe alım sürecinde insan kaynakları uzmanlarına rehberlik edecek çalışmaların ortaya konulması açısından önemli bulunmaktadır.

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#### **Yazar Katkıları / Author Contributions:**

Fikir/Kavram/Tasarım - *Idea/Concept/ Design*: İ.U.Y. Veri Toplama ve/veya İşleme - *Data Collection and/or Processing*: S.Ç. Analiz ve/veya Yorum - *Analysis and/or Interpretation*: İ.U.Y., S.Ç. Kaynak Taraması - *Literature Review*: S.Ç., Makalenin Yazımı - *Writing the Article*: İ.U.Y., S.Ç. Eleştirel İnceleme - *Critical Review*: İ.U.Y., S.Ç., Onay - *Approval*: İ.U.Y., S.Ç.

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## The relationship between external debt and growth under the structural breaks in Turkey

### Türkiye'nin dış borç ile büyüme arasındaki ilişkisinin yapısal kırılmalar altında incelenmesi

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#### **Abstract**

This study aims to investigate whether Turkey's external debt (by considering the debt maturity and ownership separately) has a relationship with economic growth and to explain the direction and size of these effects in case of their existence. At the same time, the relationship between consumption and investment, which are sub-items of growth, and external debt are also discussed. The data subject to the analysis in the study consists of gross domestic product and external debt data provided by the Central Bank of the Republic of Turkey Electronic Data Distribution System and covering the 1998Q1 and 2021Q4 periods. In this study, econometric methods, including both conventional and structural breaks, were used. According to the results, both short-term and long-term external debt significantly and positively affect gross domestic product, consumption and investment. In addition to this situation, it is seen that the effect of long-term external debts is more. However, it is also concluded that the effect of long-term external debt is greater. When evaluated separately on a sectoral basis, it is concluded that the significant and positive relationship between public sector external debt and economic growth and its sub-items is valid both in the short and long term. When the effect of external debt on investments is analyzed, it is seen that the effect of long-term external debt is more than short-term debt. The most important point to note here is that short-term private sector debt, which does not affect gross domestic product and consumption, has a significant effect on investment and is about three times the public sector short-term debt.

**Keywords:** External Debt, Economic Growth, Structural Break

**Jel Codes:** F34, F43, C22

#### **Öz**

Bu çalışmada, Türkiye'nin dış borçlarının, borcun vadesi ve sahipliği bakımından ayrı ayrı ele alınmak suretiyle, hem ekonomik büyüme hem de büyümenin alt kalemleri olan tüketim ve yatırım ile ilişkisinin var olup olmadığının araştırılması ve varlığı durumunda bu etkilerin yönünün ve büyüklüğünün açıklanması amaçlanmaktadır. Çalışmada analize konu olan veriler, Türkiye Cumhuriyet Merkez Bankası Elektronik Veri Dağıtım Sistemi tarafından sunulan ve 1998Q1 ile 2021Q4 dönemlerini kapsayan, gayrisafi yurtiçi hasıla ve dış borç verilerinden oluşmaktadır. Hem geleneksel hem de yapısal kırılmaları içeren ekonometrik yöntemlerin kullanıldığı çalışmada elde edilen sonuçlara göre, kısa ve uzun vadeli dış borçların her ikisinin de, gayrisafi yurtiçi hasıla, tüketim ve yatırım üzerinde anlamlı ve pozitif bir etkiye sahip olduğu, bu duruma ek olarak uzun vadeli dış borçların etkisinin daha fazla olduğu görülmektedir. Sektörel bazda ayrı ayrı değerlendirildiğinde, kamu kesimi dış borcu ile ekonomik büyüme ve alt kalemleri arasındaki anlamlı ve pozitif ilişkinin hem kısa hem de uzun vadede geçerli olduğu sonucuna ulaşılmıştır. Dış borcun yatırımlara etkisi incelendiğinde, uzun vadeli dış borcun etkisinin kısa vadeli borçlara göre daha fazla olduğu görülmektedir. Burada dikkat edilmesi gereken en önemli nokta, gayri safi yurtiçi hasıla ve tüketim üzerinde etkisi olmayan kısa vadeli özel sektör borcunun, yatırım üzerinde önemli bir etkiye sahip olduğu ve kamu kesimi kısa vadeli borcunun yaklaşık üç katı olduğudur.

**Anahtar Kelimeler:** Dış Borç, Ekonomik Büyüme, Yapısal Kırılma

**Jel Kodları:** F34, F43, C22

## Introduction

External debt is a finding that has a historical process and development among countries, based on very old periods, carried out according to the conditions determined between the parties, and which has been the subject of ongoing research and discussions in the economic literature. When external debt is analyzed by definition, it is the process of transferring resources to developing or underdeveloped countries by countries with surplus savings or international organizations. Although the borrowing reasons of developing countries or underdeveloped countries, which are mostly borrowing parties, vary periodically, it is known that the biggest borrowing reasons are insufficient savings. The reason for the inadequacy of savings is that the country's income level is at a level that can only meet the basic needs and wishes of the citizens or is even below this level. This situation creates the need to transfer resources from foreign countries or organizations for countries to finance ordinary expenditures such as any investment, large-scale project initiative and defence expenditures, or extraordinary processes such as war, natural disaster, or epidemic disease. The ultimate goal of all these large-scale projects, employment-creating investments, reduction of foreign trade deficit and elimination of foreign exchange deficiency, which are implemented or thought to be initiated by developing countries, is the ultimate goal of economic growth.

Keynesian theory, the Harrod-Domar model, the twin deficit model and the intertemporal borrowing model can be shown among the models that argue that external borrowing positively affects economic growth. Models suggesting that external debt hurts economic growth are neo-classical and debt surplus models. On the other hand, the debt growth model focuses on debt sustainability. According to Nissanke and Ferrarini (2001), it is rational to go into international borrowing for economies that have to choose between current and future consumption when the domestic interest rate is higher than the world interest rate. Borrowing at a low-interest rate will increase the level of investment and consumption in the country and positively affect economic income and welfare. In Keynesian growth and development models, external debt is thought to affect economic growth positively. In contrast, in Neoclassical models, the negative effects of external debt on economic growth are mentioned. These negativities are based on possible taxes to finance external debt interest payments. Accordingly, the increase in taxes reduces the current consumption of taxpayers and their savings due to the decrease in disposable income and, thus, the capital stock (Diamond, 1965).

In addition to the theories that borrowing will have a positive or negative effect on economic growth, there are also views that borrowing will not impact aggregate demand and growth. These views are based on the Ricardo-Barro (Ricardian equivalence) hypothesis. According to this hypothesis, the public's budget deficit and the closing of this deficit with borrowing do not impact domestic markets and interest rates. The fact that interest rates do not rise prevents the exclusion of private investments. In this model, a budget deficit resulting from tax cuts is financed by borrowing. In the face of this increase in income caused by the expansionary fiscal policy, individuals do not change their consumption and only increase their savings. In this model, in which individuals are assumed to be rational, individuals know that today's tax reduction means an increase in taxes that will be used for debt and interest payments in the future, and they act accordingly. According to this model, the increase in public debt does not affect production, price and interest (Cadik, J. C. J., 2008).

The phenomenon of economic growth is of great importance in the economics literature to measure, predict and explain the changes that have occurred or have the potential to occur, such as progress, change, and development, in modern economic life, using quantitative methods. As it is known, countries in the category of underdeveloped and especially developing countries, to maintain economic life and realize economic growth, their own savings inadequacy is the main reason. Still, they resort to external debt due to many sub-reasons.

This study aims to empirically analyse the relationship between Turkey's external debt between 1998 and 2021 and its economic growth. The analysis of the study differs from the studies in the related literature covering the relationship between external debt and economic growth in three points. The first difference is that in this study, external debt is subjected to public and private sector distinctions and short-term and long-term distinctions. Its relationship with economic growth is analyzed separately. The second difference is that the analysis of the relationship between external debt and economic growth has not only been carried out on the gross domestic product data but also its effects on the sub-items consumption and investment have been examined separately. Finally, the study aims to contribute to the literature by adding a different dimension to the effect of external debt on economic growth by applying structural break models in addition to traditional econometric methods.

## Literature review

When the studies investigating the relationship between external debt and economic growth are examined, the unique situation is that the external debt variable is mostly considered as a whole. However, in practice, the effects of the public or private sector in terms of the ownership of the debt and the short-term or long-term debt in terms of maturity on economic growth may differ. In addition, the impact of external debt on consumption, investment and income, and ultimately on economic growth, may differ, along with the sub-items mentioned earlier. Regarding this situation, Çevik and Cural (2013) differentiated public and private foreign debt in terms of ownership. Still, in their analysis, the effect of external debt on growth was not measured numerically. Instead, only causality results were examined.

When the relevant literature is examined in detail, it is seen that most of the studies examining the relationship between Turkey's foreign debt and economic growth conclude that foreign borrowing has negative effects on economic growth. For example, although the number is less compared to the literature, Umutlu, Alizadeh, and Erkiş (2011), Çevik and Cural (2013), Korkmaz (2015), Toktaş, Altiner and Bozkurt (2019) and Hotunluoğlu and Yavuzer (2020) have reached results that empirically prove that external debt has positive effects on economic growth. In addition to this situation, it is significant that the relevant literature is based on studies examining the effect of change in external debt on economic growth. In contrast, Gürdal and Yavuz (2015) examined the effect of change in economic growth on external debt and concluded that increases in growth rate increase external debt.

**Table 1:** Literature on the Relationship Between Turkey's External Debt and Economic Growth

Article	Method	The Relationship Between External Debt and Growth
Karagöl (2002)	Vector Autoregressive Model, Johansen Cointegration	Negative
Bilginoglu (2008)	Least Square	Negative
Uysal et al. (2009)	Johansen Cointegration, Granger Causality	Negative
Çiçek et al. (2010)	Least Square	Negative
Umutlu et al. (2011)	Johansen Cointegration, Granger Causality	Positive
Çevik ve Cural (2013)	Vector Autoregressive Model, Toda Yamamoto Causality	Positive
Çelik ve Direkci (2013)	Johansen Cointegration, Granger Causality	Negative
Korkmaz (2015)	Johansen Cointegration, Error Correction Model Causality	Positive
Gürdal and Yavuz (2015)	Gregory Hansen Cointegration	Positive
Kutlu ve Yurttagüler (2016)	Johansen Cointegration, Granger Causality	Negative
Ağır (2016)	Johansen Cointegration, Toda Yamamoto Causality, Diks-Panchenko Causality, Hatemi J Asymmetric Causality	Negative
Gögül (2016)	Maki Cointegration	Negative
Tülümce ve Yavuz (2017)	ARDL Cointegration, Error Correction Model	Negative
Doruk (2018)	Bayer-Hanck Cointegration	Negative
Toktaş et al. (2019)	Hacker-Hatemi-J Causality, Hatemi J Asymmetric Causality	Positive
Yıldız (2019)	Johansen Cointegration, Granger Causality	Positive
Benli (2020)	ARDL Cointegration, Error Correction Model	Negative
Hotunluoğlu and Yavuzer (2020)	Engle-Granger Cointegration	Positive
Görgün (2020)	Maki Cointegration	Negative
Biçer (2020)	ARDL Cointegration	Negative
Arslan (2022)	Vector Autoregressive Model, Granger Causality	Negative

Another great point about the literature is that methods that do not take into account the structural breaks that occur in the series, which are called traditional econometric methods, are widely used in the analysis of the studies. As seen in Table 1, only Gürdal and Yavuz (2015), Gögül (2016) and Görgün (2020) used cointegration tests with structural breaks in their analyses. They explained how the external debt growth relationship was shaped when structural breaks were included in the model. In addition to these studies, the only study examining Turkey's external debt using structural break methods is Önel and Utkulu (2006). However, in the study, the relationship between external debt and growth was not analysed, the sustainability of external debt was discussed, and it was concluded that it was unsustainable. In addition, there are studies in the literature that examine the stationarity of the series with structural break unit root tests but use cointegration tests without a structural break (Çevik and Cural (2013), Doruk (2018), Özkul and Öztürk (2021)).

## Empirical findings

In this study, the effect of external debt on economic growth is analysed with quarterly data covering the years 1998 and 2021 provided by the Central Bank of the Republic of Turkey's Electronic Data Distribution System. The dependent variables used in the analysis are gross domestic product (GDP) at

constant prices, consumption (CONS) and investment (INV), which are sub-items of gross domestic product, respectively. The independent variables are short-term external debt (SRED), long-term external debt (LRED), short-term public sector external debt (SRG), short-term private sector external debt (SRP), long-term public sector external debt (LRG) and long-term private sector external debt (LRP). In addition, the logarithm of the data of all variables was used.

For a time series to be stationary, its mean and variance should not change over time, and the covariance between two periods should depend only on the distance between the two periods, not the period in which this covariance was calculated (Gujarati, 2005). Augmented Dickey-Fuller (ADF) (Dickey and Fuller, 1979) and Phillips and Perron (PP) (Phillips and Perron, 1988) unit root tests which is one of the traditional unit root tests used in this study, analyse without considering possible structural breaks in the series. However, one of the causes of non-stationarity in time series is structural breaks in the series. For this reason, the Lee and Strazicich (2003) test, which makes unit root analysis by considering the presence of structural breaks, was also used in the study. The Dickey-Fuller test is based on the following three regression equations:

$$\text{None} \quad : \Delta Y_t = \gamma Y_{t-1} + \mu_t \tag{1}$$

$$\text{Constant} \quad : \Delta Y_t = \alpha_0 + \gamma Y_{t-1} + \mu_t \tag{2}$$

$$\text{Constant and Trend} \quad : \Delta Y_t = \alpha_0 + \alpha_1 t + \gamma Y_{t-1} + \mu_t \tag{3}$$

If there is autocorrelation in the error term  $u_t$  in the above equations, the required number of lags ( $m$ ) is added to the model as in equation (4) to eliminate this situation.

$$\Delta Y_t = \alpha_0 + \alpha_1 t + \gamma Y_{t-1} + \beta_i \sum_{i=1}^m \Delta Y_{t-i} + \mu_t \tag{4}$$

The unit root test applied this way is known as the ADF test. However, since the ADF unit root test does not consider the possibility of structural break, if the series is stationary, the analyses based on these results may be biased (Sevüktekin and Nargeleçekenler, 2010). For this reason, Lee and Strazicich's (2003) unit root test with two breaks, which is an LM (Lagrange Multiplier) based unit root test, was used in the study. According to the results in Table 2, it is seen that the variables are not stationary at the level, but they are stationary at the first difference, that is, I(1).

**Table 2:** Traditional Unit Root Test Results

Variable	ADF		PP		Constant		Constant and Trend	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
GDP	-0.193	-3.258**	-3.243*	-3.240*	-0.660	-18.367***	-7.342***	-18.447***
CONS	0.521	-2.937**	-3.571**	-3.01*	-0.097	-17.000***	-6.571***	-17.576***
INV	-1.277	-2.800*	-2.659	-2.843	-0.820	-16.400***	-4.222***	-16.273***
SRED	-1.196	-6.611***	-1.496	-6.620***	-1.298	-6.681***	-1.480	-6.693***
SRG	-2.158	-8.067***	-3.531*	-8.254***	-2.191	-10.620***	-3.531*	-10.745***
SRP	-1.360	-6.779***	-1.138	-6.826***	-1.489	-6.855***	-1.088	-6.856***
LRED	-2.969*	-7.639***	-0.297	-7.639***	-0.297	-8.166***	-2.526	-7.822***
LRG	-0.772	-9.466***	-2.196	-9.424***	-0.772	-9.463***	-2.196	-9.421***
LRP	-1.232	-3.896***	-0.800	-3.995**	-1.999	-5.505***	-0.661	-5.804***

\*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.

The Lee and Strazicich (2003) test differs from other structural break tests at the point of the null hypothesis. Because the critical values produced in ADF-type unit root tests are problematic, for they are based on the null hypothesis that advocates the absence of breakage. For example, Zivot and Andrews (1992) and Lumsdaine and Papell's (1997) unit root tests assume that there is no break in the null hypothesis of the existence of a unit root, and critical values are produced according to this assumption. The alternative hypothesis is the possibility of a unit root with structural breaks in the series. Rejecting the null hypothesis means that the unit root without a structural break is rejected and rejects the unit root. It is the unit root without a structural break that is rejected here. At this point, Lee and Strazicich (2003) argue that the alternative hypothesis used in these tests should not be stationary with a structural break. While the null hypothesis of Lee and Strazicich (2003) states a structural break, the alternative hypothesis expresses trend stationarity. However, the critical values generated for the LM unit root test have an important advantage as they are not affected by structural breaks (Narayan and Smyth 2007). For this reason, it is considered that the LM unit root test is more flexible and more powerful than the ADF-type tests. The test has two different states: Model A, which indicates a break in level, and Model C, which indicates a break in both level and trend.

**Model A:**

$$\Delta r_t = \alpha y_{t-1} + \mu + \beta_t + \theta DU1_t(\lambda) + \psi DU2_t(\lambda) + \sum_{i=1}^k c_i \Delta r_{t-i} + \varepsilon_t \tag{5}$$

**Model C:**

$$\Delta r_t = \alpha y_{t-1} + \mu + \beta_t + \theta DU1_t(\lambda) + \gamma DT1_t^*(\lambda) + \psi DU2_t(\lambda) + \omega DT2_t^*(\lambda) + \sum_{i=1}^k c_i \Delta r_{t-i} + \varepsilon_t \tag{6}$$

Model A investigates the existence of two structural breaks in the series' mean, while Model C investigates the presence of two structural breaks in the mean and trend of the series. In Model A, DU1t and DU2t are dummy variables created to detect the change periods in the mean. In Model C, DT1t and DT2t (provided that TB2>TB1+2) is the dummy variables created to detect the change periods in the trend and can be expressed as follows:

$$DU1_t = \begin{cases} 1 & \text{if } t > TB_1, 0 \\ & \text{in other case} \end{cases}$$

$$DU2_t = \begin{cases} 1 & \text{if } t > TB_2, 0 \\ & \text{in other case} \end{cases}$$

$$DT1_t = \begin{cases} t - TB_1 & \text{if } t > TB_1, 0 \\ & \text{in other case} \end{cases}$$

$$DT2_t = \begin{cases} t - TB_2 & \text{if } t > TB_2, 0 \\ & \text{in other case} \end{cases}$$

In the LM unit root test, if the t statistic of the  $\alpha$  parameter is smaller than the critical values determined by Lee and Strazizich (2003), it is decided that the series is stationary with a structural break.

Based on this situation, when the Lee and Strazicich unit root test results with two breaks in Table 3 are examined, it is seen that the basic hypothesis for the level value variables, that is, the existence of a unit root with a structural break, is accepted. However, suppose the first difference of the series is taken. In that case, the hypothesis that all variables contain a unit root with a structural break is rejected, and the variables are assumed to be stationary.

**Table 3:** Lee ve Strazicich Unit Root Test Results

	Level				First Difference				
	Model A (t-ist)	Break Date	Model C (t-ist)	Break Date	Model A (t-ist)	Break Date	Model C (t-ist)	Break Date	
GDP	-3.898*	2006Q4 2016Q4	-5.312	2002Q1 2008Q2	-3.216	2016Q2 2019Q2	-9.468***	2001Q3 2007Q4	
CONS	-3.808*	2002Q1 2019Q1	-5.311	2002Q1 2018Q1	-4.482	2006Q1 2016Q1	-10.539***	2016Q3 2019Q2	
INV	-3.346	2002Q1 2019Q4	-5.338	2003Q3 2018Q1	-5.636*	2001Q1 2010Q2	-8.421***	2002Q3 2007Q4	
SRED	-2.161	2008Q1 2015Q3	-4.735	2003Q1 2015Q1	-6.467***	2001Q1 2008Q3	-7.364***	2001Q4 2019Q2	
LRG	-2.682	2001Q4 2019Q3	-4.348	2001Q3 2005Q3	-10.260***	2002Q3 2019Q3	-10.280***	2002Q1 2005Q4	
SRP	-1.888	2008Q1 2015Q3	-4.696	2003Q2 2015Q2	-6.995***	2001Q1 2009Q2	-7.425***	2001Q1 2009Q2	
LRED	-2.567	2010Q4 2014Q4	-5.106	2006Q2 2019Q4	-8.904***	2005Q2 2012Q1	-10.218***	2005Q2 2008Q2	
SRG	-2.447	2015Q2 2018Q2	-3.307	2001Q1 2011Q4	-10.458***	2006Q2 2010Q4	-10.937***	2005Q3 2008Q3	
LRP	-2.664	2004Q4 2010Q2	-5.708	2005Q3 2011Q3	-3.308	2004Q4 2014Q4	-7.064***	2002Q3 2008Q1	

Note: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10. The critical values for Model A are, -4.545, -3.842, -3.504, for model C,  $\lambda_1:0.4 \lambda_2:0.8$  -6.42, -5.65, -5.32;  $\lambda_1:0.4 \lambda_2:0.6$  -6.45, -5.67, -5.31;  $\lambda_1:0.2 \lambda_2:0.8$  -6.33, -5.71, -5.33;  $\lambda_1:0.4 \lambda_2:0.6$  -6.45, -5.67, -5.31;  $\lambda_1:0.6 \lambda_2:0.8$  -6.32, -5.73, -5.32.

If the linear combination of two or more series that are not singularly stationary (but integrated of the same order) are stationary, these series are considered cointegrated (Hendry and Juselius, 2001; Wojcik, 2011). Engel and Granger's (1987) two-stage single equation method and Johansen's (1995) maximum probability approach are two of the most widely used methods to determine the cointegration relationship. This study used Johansen's (1995) cointegration test to define the cointegration relationship. The Johansen cointegration test uses two test statistics. The first is the trace statistic, which tests the null hypothesis that the rank ( $\Pi$ ) of the matrix is less than or equal to the number of cointegration vectors (r), and the second is the maximum eigenvalue statistic, which tests the null hypothesis for the existence of cointegration vectors.

While the vector error correction model (VECM) is used when there is a cointegration relationship between the exogenous variables (Johansen, 1988), the vector autoregressive model (VAR) is used for the differentiated series when there is no cointegration relationship (Sims, 1980). Since there is a cointegration relationship between the series in this study, the VECM model was used. The VECM model is a multi-factor system that brings error correction features to the VAR model. The most

important feature of the model is that it allows the definition of a long-term equilibrium relationship that can be used to increase the success of long-term predictions of the series in the system. The long-run equilibrium relationship can be determined from the cointegration vector. The error correction model with degrees of cointegration  $r (\leq n)$ , represented as VECM (p), can be written as follows:

$$\Delta y_t = \delta + \Pi y_{t-1} + \sum_{i=1}^{p-1} \phi_i^* \Delta y_{t-i} + \varepsilon_t \tag{7}$$

In equation (7),  $r$  is the number of cointegration vectors,  $\Delta$  is the difference operator,  $\Pi = \alpha\beta'$ ,  $\alpha$  and  $\beta$  are  $n \times r$  matrices,  $\phi_i^*$  is  $n \times n$  matrix. Cointegration vector  $\beta$  is the long-run parameter, and  $\alpha$  is the adjustment coefficient. In the case of cointegration with exogenous variables, VECM, VECMX (p,m) with exogenous variables can be written as:

$$\Delta y_t = \delta + \Pi y_{t-1} + \sum_{i=1}^{p-1} \phi_i^* \Delta y_{t-i} + \sum_{l=0}^m I^* x_{t-l} + \varepsilon_t \tag{8}$$

In the Granger causality concept (Granger, 1988), if  $y_t$  can be used in future forecasting for  $x_t$  by definition, then  $y_t$  becomes the granger cause of  $x_t$ . The existence of a causal connection between the series is examined under equation (9) features:

$$[\Delta y_t \ \Delta x_t] = [\sigma_1 \ \sigma_2] + \sum_{i=1}^p [\gamma_{11} \ \gamma_{12} \ \gamma_{21} \ \gamma_{22}] [\Delta y_{t-1} \ \Delta x_{t-1}] + [\varepsilon_1 \ \varepsilon_2] [ECT_{t-1}] + [\mu_{1t} \ \mu_{2t}] \tag{9}$$

In the above equation,  $\Delta$  is the delay operator,  $ECT_{t-1}$  is the delayed error correction term derived from the long-run cointegration relationship.  $\mu_{1t}$  and  $\mu_{2t}$  are independent random error terms. The dependent variable is estimated in response to the past values of itself and other variables. The optimum lag length  $p$  in this process is based on the maximum probability procedure of Johansen and Juselius (1990). However, the causality test does not allow us to know about the dynamic system properties outside the sampling period.

The results of the Johansen (1988) cointegration test applied after it was determined that all variables used in the study were 1st degree integrated  $I(1)$  are presented in Table 4. When the results are examined, at least one and at most 2, there are cointegration equations in both trace and max eigenvalue statistics for all models used in the analysis. This shows that the variables in the models act together in the long run. That is, they are cointegrated.

**Table 4:** Johansen Cointegration Test Results

		$\lambda$	Trace	%10 C.V	Prob.		Max- $\lambda$	%10 C.V	Prob.
GDP SRED LRED	None*	0.197	41.186	24.275	0.000	None*	20.040	17.797	0.022
	At most 1*	0.131	21.145	12.320	0.001	At most 1*	12.825	11.224	0.025
GDP SRG SRP	None***	0.244	32.805	24.275	0.003	None***	32.805	24.275	0.003
	At most 1	0.042	7.314	12.320	0.294	At most 1	7.314	12.320	0.294
GDP LRG LRP	Hiç***	0.244	32.805	24.275	0.003	None***	25.491	17.797	0.002
	En çok 1	0.042	7.314	12.320	0.294	At most 1	3.988	11.224	0.630
CONS SRED LRED	None**	0.254	48.394	42.915	0.012	None***	26.680	25.823	0.038
	At most 1	0.137	21.714	25.872	0.151	At most 1	13.416	19.387	0.295
CONS SRG SRP	None***	0.245	33.988	24.275	0.002	None***	25.608	17.797	0.002
	At most 1	0.055	8.379	12.320	0.208	At most 1	5.237	11.224	0.444
CONS LRG LRP	None**	0.228	39.196	35.192	0.017	None**	23.579	22.299	0.033
	At most 1	0.100	15.616	20.261	0.193	At most 1	9.668	15.892	0.365
INV SRED LRED	None***	0.228	31.633	24.275	0.005	None***	24.404	17.797	0.004
	At most 1	0.062	7.229	12.320	0.302	At most 1	6.083	11.224	0.340
INV SRG SRP	None	0.128	17.474	24.275	0.281	None	12.965	17.797	0.230
	At most 1	0.026	4.508	12.320	0.637	At most 1	2.558	11.224	0.852
INV LRG LRP	None***	0.229	38.264	24.275	0.000	None***	24.301	17.797	0.004
	At most 1**	0.125	13.962	12.320	0.026	At most 1**	12.471	11.224	0.030

\*\*\*, \*\* and \* indicate the presence of cointegration at the level of 1%, 5% and 10%, respectively.

Similar to the situation in unit root tests, cointegration tests that do not consider the possibility of structural break can also produce biased results. For this reason, structural breaks in cointegration tests should be considered. Maki (2012) developed a method that can test the cointegration relationship between the variables in the presence of five structural breaks. In cases where there are three or more structural breaks in the cointegration equation, Maki's (2012) cointegration method is more powerful

than Gregory and Hansen's (1996) and Hatemi-J's (2008) methods. In this method, all variables to be analysed must be I(1) (Göçer and Peker, 2014). Maki (2012) developed four different models for this test:

Model 0: Level Shift;

$$y_t = \mu + \sum_{i=1}^k \mu_i K_{i,t} + \beta x_t + \mu_t \tag{10}$$

Model 1: Level Shift with Trend;

$$y_t = \mu + \sum_{i=1}^k \mu_i K_{i,t} + \beta x_t + \sum_{i=1}^k \beta_i x_i K_{i,t} + \mu_t \tag{11}$$

Model 2: Regime Shift;

$$y_t = \mu + \sum_{i=1}^k \mu_i K_{i,t} + \gamma x + \beta x_t + \sum_{i=1}^k \beta_i x_i K_{i,t} + \mu_t \tag{12}$$

Model 3: Trend and Regime Shift;

$$y_t = \mu + \sum_{i=1}^k \mu_i K_{i,t} + \gamma x + \sum_{i=1}^k \gamma_i t K_{i,t} + \beta x_t + \sum_{i=1}^k \beta_i x_i K_{i,t} + \mu_t \tag{13}$$

$K_i$ , dummy variables are defined as follows:

$$K_i = \{1 \quad t > T_B, 0 \quad \text{in other cases} \} \tag{14}$$

$T_B$  refers to the date of the structural break. Then, depending on the critical values calculated by Monte Carlo simulation and given in Maki (2012), the existence of a cointegration relationship is decided. According to the Maki (2012) cointegration test results in Table 5, it is seen that the null hypothesis is rejected at least once for each model. That is, there is a cointegration relationship.

**Table 5:** Maki (2012) Cointegration Test Results

	Models	Test Statistic	Break Dates
GDP SRED LRED	Model 0 (Level Shift)	-4.233	2020Q2 2019Q1 2000Q4 2009Q4 2013Q4
	Model 1 (Level Shift with Trend)	-4.436	2008Q1 2020Q2 2011Q2 2000Q4 2014Q4
	Model 2 (Regime Shift)	-5.535	2014Q4 1998Q1 2019Q1 2016Q3 2001Q3
	Model 3 (Trend and Regime Shift)	-6.252*	2008Q1 2000Q4 2019Q1 2013Q3 2016Q3
GDP SRG SRP	Model 0 (Level Shift)	-5.296	2020Q2 2016Q3 2014Q4 2002Q4 2013Q1
	Model 1 (Level Shift with Trend)	-4.864	2008Q1 2000Q1 2020Q2 2014Q4 2013Q1
	Model 2 (Regime Shift)	-4.968	2020Q2 2014Q3 2001Q4 2012Q3 2018Q3
	Model 3 (Trend and Regime Shift)	-6.114*	2019Q4 2008Q4 2006Q1 2001Q1 2002Q3
GDP LRG LRP	Model 0 (Level Shift)	-5.185	2020Q2 2019Q1 2008Q1 2011Q2 2013Q1
	Model 1 (Level Shift with Trend)	-4.517	2000Q4 2008Q1 2018Q2 2011Q2 2004Q1
	Model 2 (Regime Shift)	-5.131	2010Q1 2020Q2 2019Q1 2014Q2 2017Q1
	Model 3 (Trend and Regime Shift)	-7.492***	2008Q1 2020Q1 2011Q2 2001Q3 2006Q3
CONS SRED LRED	Model 0 (Level Shift)	-4.704	2020Q2 2016Q3 2012Q4 2005Q4 2014Q4
	Model 1 (Level Shift with Trend)	-4.950	2020Q2 2018Q3 2000Q4 2016Q3 2008Q1
	Model 2 (Regime Shift)	-5.344	2019Q1 2010Q1 2001Q3 2016Q3 2008Q1
	Model 3 (Trend and Regime Shift)	-6.270*	2008Q4 2000Q4 2017Q4 2013Q3 2007Q1
CONS SRG SRP	Model 0 (Level Shift)	-5.944**	2020Q2 2016Q3 2002Q2 2014Q2 2010Q4
	Model 1 (Level Shift with Trend)	-4.888	2020Q2 2008Q1 2016Q3 2012Q4 2010Q4
	Model 2 (Regime Shift)	-5.917	2020Q2 2014Q2 2001Q3 2016Q3 2008Q2
	Model 3 (Trend and Regime Shift)	-6.804**	2019Q4 2008Q1 2010Q3 2001Q3 2005Q4
CONS LRG LRP	Model 0 (Level Shift)	-5.099	2020Q2 2016Q3 2010Q1 2014Q2 2005Q4
	Model 1 (Level Shift with Trend)	-4.843	2020Q2 2010Q4 2008Q1 2018Q3 2001Q1
	Model 2 (Regime Shift)	-4.950	2010Q2 2020Q2 2019Q1 2002Q4 2005Q3
	Model 3 (Trend and Regime Shift)	-6.369*	2020Q1 2001Q2 2014Q2 2008Q1 2011Q1
INV SRED LRED	Model 0 (Level Shift)	-4.719	2020Q2 2008Q1 2013Q4 2004Q4 2000Q4
	Model 1 (Level Shift with Trend)	-4.450	2008Q1 2000Q4 2006Q3 2002Q2 1993Q3
	Model 2 (Regime Shift)	-6.174*	2008Q1 2001Q4 2018Q3 1999Q3 2005Q2
	Model 3 (Trend and Regime Shift)	-5.571*	2008Q1 2001Q4 2003Q3 2001Q3 2018Q1
INV SRG SRP	Model 0 (Level Shift)	-4.264	2020Q2 2011Q1 2001Q4 2008Q1 2006Q4
	Model 1 (Level Shift with Trend)	-4.331	2008Q1 2015Q3 2009Q4 1999Q3 2001Q4
	Model 2 (Regime Shift)	-4.876	2020Q2 2003Q3 2018Q4 2002Q3 2014Q2
	Model 3 (Trend and Regime Shift)	-6.872**	2020Q2 2000Q4 2007Q4 2006Q4 2014Q1
INV LRG LRP	Model 0 (Level Shift)	-4.889	2008Q1 2013Q4 2018Q2 2002Q1 2016Q1
	Model 1 (Level Shift with Trend)	-4.618	2010Q2 2001Q4 2020Q2 2015Q3 2013Q4
	Model 2 (Regime Shift)	-5.691	2008Q1 2020Q2 2011Q2 2002Q3 2004Q2
	Model 3 (Trend and Regime Shift)	-7.337***	2008Q1 2020Q2 1999Q3 2011Q2 2001Q4

\* Critical Values (%1-%5-%10) Level Shift: -6.296 -5.760 -5.491, Level Shift with Trend: -6.530 -5.993 -5.722, Regime Shift: -6.784 -6.250 -5.976, Trend and Regime Shift: -7.053 -6.494 -5.220.

As Granger (1988) stated, if there is any cointegration relationship between the variables analysed in the study handled, it is considered that there is at least a one-way causality relationship between these variables. Because of this situation, it will be more likely to give more reliable, healthy and clear results



by using the error correction model (VECM) instead of using the standard VAR analysis to determine the causality relationships in question (Çetinkaya, 2014).

When the causality analysis results in Table 6 are examined, it is seen that there is a causal relationship with both the gross domestic product, consumption and investment when external debts are divided into short-term and long-term. In addition, it is seen that the direction of causality is from short-term and long-term external debt to gross domestic product, consumption and investment. When the short-term distinction between public and private debts is in question, it is seen that there is a causal relationship with both gross domestic product, consumption and investment. On the other hand, the direction of causality is seen to be from short and long-term external debt to gross domestic product, consumption and investment. Regarding the distinction between public and private long-term external debt, there is only causality with the gross domestic product. Still, there is no valid causality relationship between investment and consumption. When viewed individually, it is seen that there is a causal relationship between both short-term and long-term private sector debt and gross domestic product. However, consumption, investment, and only short-term private sector external debt are in a causal relationship.

**Table 6:** VECM Causality Test Results

	<b>GDP SRED LRED</b>		
	$\Delta$ (SRED)	$\Delta$ (LRED)	$\Delta$ (SRED) / $\Delta$ (LRED)
	12.818 (0.012)**	3.630 (0.458)	17.871 (0.022)**
$\Delta$ (GDP)	<b>GDP SRG SRP</b>		
	$\Delta$ (SRG)	$\Delta$ (SRP)	$\Delta$ (SRG) / $\Delta$ (SRP)
	4.941 (0.293)	16.004 (0.003)***	17.795 (0.022)**
	<b>GDP LRG LRP</b>		
	$\Delta$ (LRG)	$\Delta$ (LRP)	$\Delta$ (LRG) / $\Delta$ (LRP)
	11.584 (0.020)**	28.422 (0.000)***	45.579 (0.000)***
	<b>CONS SRED LRED</b>		
	$\Delta$ (SRED)	$\Delta$ (LRED)	$\Delta$ (SRED) / $\Delta$ (LRED)
	15.451 (0.003)***	2.805 (0.591)	17.254 (0.027)**
$\Delta$ (CONS)	<b>CONS SRG SRP</b>		
	$\Delta$ (SRG)	$\Delta$ (SRP)	$\Delta$ (LRG) / $\Delta$ (SRP)
	2.408 (0.661)	14.971 (0.004)***	15.864 (0.044)**
	<b>CONS LRG LRP</b>		
	$\Delta$ (LRG)	$\Delta$ (LRP)	$\Delta$ (LRG) / $\Delta$ (LRP)
	1.99 (0.736)	4.756 (0.313)	7.616 (0.471)
	<b>INV SRED LRED</b>		
	$\Delta$ (SRED)	$\Delta$ (LRED)	$\Delta$ (SRED) / $\Delta$ (LRED)
	9.313 (0.002)**	0.0162 (0.898)	9.347 (0.009)**
$\Delta$ (INV)	<b>INV SRG SRP</b>		
	$\Delta$ (SRG)	$\Delta$ (SRP)	$\Delta$ (SRG) / $\Delta$ (SRP)
	0.073 (0.786)	6.443 (0.011)**	6.544 (0.037)**
	<b>INV LRG LRP</b>		
	$\Delta$ (LRG)	$\Delta$ (LRP)	$\Delta$ (LRG) / $\Delta$ (LRP)
	1.856 (0.395)	0.201 (0.904)	2.120 (0.713)

\*\*\*, \*\* and \* denote causality at the 1%, 5% and 10% levels, respectively.

The fully modified least squares (FMOLS) estimator was developed by Phillips and Hansen (1990) to eliminate the problems caused by the long-run correlation between the cointegration equation and stochastic shocks. The FMOLS estimator, which gives good results even in small samples, is asymptotically unbiased and consistent. The FMOLS equation is expressed as:

$$Y_t = X_t' \beta + D_{1t}' \gamma_1 + \mu_{1t} \tag{15}$$

In Equation (15),  $D_t = (D_{1t}', D_{2t}')'$  denotes deterministic trend variables. Stochastic variables are obtained from equation (16) with their level values or from equation (17) as their immediate difference.

$$X_t = \Gamma_{21} D_{1t} + \Gamma_{22} D_{2t} + \varepsilon_{2t} \tag{16}$$

$$\Delta X_t = \Gamma_{21} \Delta D_{1t} + \Gamma_{22} \Delta D_{2t} + \mu_{2t} \tag{17}$$

It is expressed  $\mu_{2t} = \Delta \varepsilon_{2t}$  as corrected data,

$$y_t^+ = y_t - \omega_{12} \Omega_{22}^{-1} \mu_{2t} \tag{18}$$

The bias correction term is obtained as follows.

$$\lambda_{12}^+ = \lambda_{12} - \omega_{12} \Omega_{22}^{-1} \Lambda_{22} \tag{19}$$

( $\Omega$  and  $\Lambda$ ) represent long-term covariance matrices calculated with residues  $\mu_t = (\mu_{1t}, \mu_{2t})$ . The FMOLS estimator is expressed as:

$$\theta = \begin{bmatrix} \beta \\ \gamma_1 \end{bmatrix} = (\sum_{t=2}^T Z_t Z_t') (\sum_{t=2}^T Z_t y_t^+ - T \begin{bmatrix} \lambda_{12}^+ \\ 0 \end{bmatrix}) \tag{20}$$

In equation 16,  $Z_t = (X_t', D_t')$ . The FMOLS estimator shows a standard normal distribution asymptotically. The key point in FMOLS estimator is based on the estimation of ( $\Omega$  and  $\Lambda$ ) covariance matrices.

Since there is a cointegration relationship between the variables used in the study, the long-term cointegration coefficients were estimated by the FMOLS method. When the results of the FMOLS model in Table 7 are examined, it is seen that both SRED and LRED have a significant effect on GDP. However, it is seen that the effect of LRED on GDP is approximately 3.5 times greater than SRED, and a 10 per cent increase in LRED increases the GDP by approximately 5 per cent. Considering the public and private sector separation of external debt, the significant impact on GDP is seen in the public's short-term and long-term external debt. The magnitude of this effect is three times greater in favour of the long term. However, it is seen that private sector external debt has only a long-term effect on the gross domestic product. When the effects of external debt on consumption expenditures are examined, it is seen that both public and private sector debt are similar in terms of their effects on gross domestic product. However, the difference in short-term external debt of the private sector is striking regarding the effect of external debt on investment expenditures. SRP does not affect GDP and CONS, only INV. In addition, the investment-increasing effect of the public sector's external debt is approximately 2.5 times less than that of the private sector. And a 10 per cent increase in the SRP increases INV by 4 per cent. However, when it comes to long-term debt, public sector external debt seems to be more effective on INV, as is the case with GDP and CONS. This shows that the efficiency of the private sector in converting short-term external debt into investment is higher than that of the public sector. Still, external public sector debt in the long term leads to more investment.

**Table 7:** Results of FMOLS Model

Model	Coefficient	Standart Error	Test Statistic	R-Squared	Prob.	
GDP = c + $\beta_0$ .SRED + $\beta_1$ .LRED	SRED	0.137	0.074	1.834	0.87	0.069*
	LRED	0.472	0.104	4.505		0.000***
	C	12.225	0.595	20.526		0.000***
GDP = c + $\beta_0$ .SRG + $\beta_1$ .SRP	SRG	0.217	0.033	6.512	0.82	0.000***
	SRP	0.070	0.067	1.037		0.302
	C	16.855	0.509	33.051		0.000***
GDP = c + $\beta_0$ .LRG + $\beta_1$ .LRP	LRG	0.639	0.082	7.733	0.90	0.000***
	LRP	0.133	0.038	3.519		0.000***
	C	10.719	0.596	17.983		0.000***
CONS = c + $\beta_0$ .SRED + $\beta_1$ .LRED	SRED	0.167	0.071	2.323	0.87	0.022**
	LRED	0.369	0.100	3.677		0.000***
	C	12.669	0.571	22.179		0.000***
CONS = c + $\beta_0$ .SRG + $\beta_1$ .SRP	SRG	0.205	0.028	7.171	0.84	0.000***
	SRP	0.055	0.057	0.953		0.342
	C	16.640	0.436	38.110		0.000***
CONS = c + $\beta_0$ .LRG + $\beta_1$ .LRP	LRG	0.603	0.083	7.242	0.90	0.000***
	LRP	0.109	0.038	2.851		0.005***
	C	10.919	0.601	18.159		0.000***
INV = c + $\beta_0$ .SRED + $\beta_1$ .LRED	SRED	0.365	0.092	3.966	0.91	0.000***
	LRED	0.508	0.128	3.944		0.000***
	C	7.841	0.732	10.705		0.000***
INV = c + $\beta_0$ .SRG + $\beta_1$ .SRP	SRG	0.175	0.051	3.427	0.85	0.000***
	SRP	0.409	0.103	3.942		0.000***
	C	12.134	0.782	15.515		0.000***
INV = c + $\beta_0$ .LRG + $\beta_1$ .LRP	LRG	0.724	0.108	6.697	0.90	0.000***
	LRP	0.315	0.049	6.345		0.000***
	C	6.254	0.780	8.011		0.000***

## Conclusion and discussion

In the historical process, the concept of external debt, which dates back to very old times, has great importance in the economic literature due to the ability to sustain the economies of countries or other sub-reasons that have been the subject of the study. The phenomenon of globalization, which has been felt for the last few centuries, has increased its impact exponentially in the post-World War II period. For this reason, developed and developing countries resort to external borrowing to trade, make investments, realize defence and industrial expenditures, and ultimately grow economically. Since developed countries generally have surplus savings, they are mostly on the lender side of this process in external debt processes. Economic growth, which covers the other part of the study, is a phenomenon aimed at every country in the world but is also accepted as a macro indicator for countries. Economic growth refers to the quantitative change in the value of the gross domestic product, which is the financial equivalent of all goods and services produced within one year by the whole society, regardless of nationality, within a country's geographical boundaries, in a determined currency type.

In this study, the effect of external debt on economic growth is analysed with quarterly data between 1998 and 2021 provided by the Central Bank of the Republic of Turkey's Electronic Data Distribution System. The dependent variables used in the study are gross domestic product at fixed prices, consumption and investment, and sub-items of gross domestic product, respectively. The independent variables are short-term external debt, long-term external debt, short-term public sector external debt, short-term private sector external debt, long-term public sector external debt and long-term private sector external debt. In addition, the logarithm of the data of all variables was used. In this context, methods such as Augmented Dickey-Fuller, Phillips and Perron and Lee and Strazicich unit root tests, Johansen and Maki cointegration tests, Vector Error Correction Model causality analysis and Fully Modified Least Squares modelling were used.

In this study, it has been determined that external debt, which is handled separately in terms of both maturity and sector, has a positive effect on gross domestic product in all its independent variables, excluding short-term private sector external debt. Furthermore, it is seen that this situation is similar to the results of Gürdal and Yavuz (2015), among the studies that use structural break tests in their analysis. In addition, it is seen similar results with Umutlu et al. (2011), Çevik and Cural (2013), Korkmaz (2015), and Yıldız (2019). Finally, Hotunluoğlu and Yavuzer (2020) obtained from studies using tests that do not contain structural breaks.

Thus, according to the results of the analysis of the study, it was concluded that as external debt increases, economic growth also increases. However, no significant relationship was found between short-term private sector external debt and economic growth. This can be explained by the fact that the private sector mostly uses short-term debts as working capital, so it does not have an income-enhancing effect. When evaluated in terms of different maturities, it is seen that the effect of long-term external debt on growth is more than three times that of short-term debt. When it comes to sector separation, the effect of the long-term external debt of the public sector on growth is five times higher than the long-term external debt of the private sector. It was concluded that the same situation is valid for consumption, which is one of the sub-items of gross domestic product. When it comes to investments, it is seen that the effect of long-term external debt is more than short-term debt. The most important point to note here is that short-term private sector debt, which has an insignificant effect on gross domestic product and consumption, has a significant effect on investment and is about three times more than public sector short-term debt. The reason why the private sector's short-term debt does not have any effect on economic growth but increases investments more than the public sector can only be clarified by examining the sub-items of investment and in which areas the debt is used. However, this situation falls outside the scope of this study and may set an example for future studies.

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## Bilinçli farkındalık ve iş performansı arasındaki ilişkide öz-düzenlemenin aracı rolü

### The mediating role of self-regulation on the relationship between mindfulness and job performance

Hülya Akdeniz Balyemezler<sup>1</sup> 

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#### Öz

Son yıllarda "bilinçli farkındalık" konusunda yapılan bilimsel yayınlara ilginin gittikçe arttığı görülmektedir. Yapılan araştırmalar, bilinçli farkındalığın, bireylerin fiziksel ve psikolojik sağlıkları üzerinde pek çok pozitif etkiye sahip olduğunu göstermektedir. Ancak bilinçli farkındalığın iş bağlamı ve çalışanlar üzerindeki etkilerine duyulan merak göreceli olarak yenidir. Bilinçli farkındalığın çalışanların iş tutumları üzerindeki etkilerini ve bu etkinin yordayıcılarını açıklayan çalışmaların sayısı oldukça azdır. Bu araştırmanın amacı iş bağlamında bilinçli farkındalığı ve sonuçlarını açıklayabilmek adına, mevcut literatüre dayanarak, bilinçli farkındalığın iş performansı üzerindeki etkisini ve bu etkide öz-düzenlemenin aracı rolünü araştırmaktır. Pozitivist bir yaklaşım ve nicel verilerin analizini içeren araştırmada veriler online anket yöntemi ile toplanmış ve analiz aşamasında yapısal eşitlik modellemesinden yararlanılmıştır. Araştırmanın ana kütlesini sektör ayrımı yapılmaksızın Türkiye'de faaliyet gösteren kurumsal örgütlerde çalışan yönetici, beyaz yaka ve mavi yaka bireyler oluşturmaktadır. Kullanılan online anket formu 1 Mart 2021 ile 1 Nisan 2021 tarihleri arasında yayınlanmıştır. Bu tarihler arasında toplam 390 anket sağlanmış olup, yapılan ön analizler sonrasında n=380 son örneklem büyüklüğü elde edilmiştir. Belirli bir sektörü hedef alarak gerçekleştirilmeyen bu araştırmada %19,7 oranla otomotiv sektörü en fazla katılım gösterilen sektör konumundadır ve otomotiv sektörünü eğitim, hızlı tüketim ve tekstil sektörleri takip etmektedir. Araştırma kapsamında yürütülen analizler sonucu bilinçli farkındalığın iş performansı üzerinde pozitif bir etkisi olduğu sonucuna varılmış ve bu ilişkide öz-düzenlemenin aracı rolü doğrulanmıştır. Çalışanların bilinçli farkındalık düzeyleri arttıkça buna paralel olarak iş performans düzeyleri de artmaktadır ve bu artışta öz-düzenleme aracı bir rol oynamaktadır.

**Anahtar Kelimeler:** Bilinçli Farkındalık, İş Performansı, Öz-Düzenleme

**İel Kodları:** M10, M14, M19

#### Abstract

It is seen that the interest in scientific publications on "mindfulness" has been increasing in the last few years. Studies show that mindfulness has many positive effects on an individual's physical and psychological health. However, the interest in the effects of mindfulness on work life and employees is new. The number of studies explaining mindfulness's effects on employees' work attitudes and how this effect progresses is quite scarce. Based on the existing literature, this research aims to investigate the effect of mindfulness on job performance and the mediating role of self-regulation in this effect to explain the concept of mindfulness in work life and its results. The research includes a positivist approach and quantitative data analysis, the data were collected by online survey method, and structural equation modelling was used in the analysis phase. The research sample includes managers, white-collar and blue-collar employees working in corporate organizations from all industries. The online survey form was published between March 1, 2021, and April 1, 2021. A total of 390 questionnaires were collected between these dates, and a final sample size of n=380 was obtained after preliminary analysis. In this research, the automotive sector had the highest participation rate, with 19.7%. Education, FMCG and textile sectors follow the automotive sector. As a result of the analyzes carried out within the scope of the research, it was concluded that mindfulness has a positive effect on job performance, and the mediating role of self-regulation in this relationship was confirmed. As employees' mindfulness levels increase, their job performance levels also increase, and self-regulation plays a mediating role in this relationship.

**Keywords:** Mindfulness, Job Performance, Self-Regulation

**İel Codes:** M10, M14, M19

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## Extended Abstract

### The mediating role of self-regulation on the relationship between mindfulness and job performance

#### Literature

Mindfulness, essentially a kind of insight meditation, originates in ancient Buddhist traditions (Brown, Ryan, Creswell, 2007: 212). It can be defined as the process of paying attention to the current moment in a non-judgmental manner (Ludwig, Kabat-Zinn, 2008). Mindfulness creates an opportunity for people to be completely open to their surroundings. It is a unique skill that allows them to be more active in the situations they encounter. It may be present as an inborn feature or a genetic predisposition for some people. However, if the level of mindfulness is not enough, it is possible to increase it with regular exercises (Brendel, 2019: 126-127).

When we look at its development throughout history, it is seen that there are two mainstream ideas in mindfulness. According to Jon Kabat-Zinn, mindfulness is "the non-judgmental focus of attention on the present moment". He says that attention should be directed to internal stimuli. According to Ellen Langer, people should focus on external stimuli to raise their mindfulness level. However, these two mainstream ideas are not very different from each other in the direction of the obtained outputs (Damcı, 2010; cited by Uygur, 2017: 19-20). Despite the studies of Kabat-Zinn and Langer, the concept of mindfulness took its place in the literature at the end of the 1990s (Dryden, Still, 2006: 3-28). In the 2000s, the interest in mindfulness increased. This concept has spread daily in different disciplines, such as psychology, education and business (Atalay, 2020: 43).

The strongest aspect of mindfulness is that its positive effects have been proven by reliable scientific studies and supported by academic institutions. (Berret, 2017: 6). According to past research, people spend 47% of their time thinking about different things than their work (Bradt, 2010: 1).

Because, by nature, people tend to think endlessly in the face of problems they cannot handle. In such times, the purpose of mindfulness is to enable people to recognize and accept their thoughts and feelings in their inner world as much as possible, to reduce their stress levels, and to return their attention to the moment, the place, gently. Hence, the work they are doing (Schaufenbuel, 2014: 3). Staying in the moment and allowing the whole team to stay in the moment is a very important issue in terms of both individual and organizational effectiveness.

According to the results of the research in the literature, mindfulness is positively associated with job performance (Reb, Narayanan, Ho, 2014: 119-120), job satisfaction (Hülshager, Alberts, Feinholdt, Lang, 2013: 310-325), work engagement (Zivnuska, Kacmar, Ferguson, Carlson, 2016: 106-124), psychological capital (Avey, Wernsing, Luthans, 2008: 48-70), work-family balance (Allen, Kiburz, 2012: 375-377), and it is negatively associated with stress (Rasmussen, Pidgeon, 2011: 227-233), burnout (Roeser, Schonert-Reichl, Jha, Cullen, Wallace, Wilensky, Oberle, Thomson, Taylor, Harrison, 2013: 787-804), cognitive errors (Carriere, Cheyne, Smilek, 2008: 835-847), and turnover (Dane, Brummel, 2014: 105-128). In addition to all these, other critical employee attitudes and behaviours in work life, such as organizational citizenship behaviour and intention to leave, are also highly related to mindfulness (Saraç, 2020: 55-71). Therefore, it is a serious issue that should be emphasized in terms of both their employees' welfare and the business's success and continuity.

#### Design and method

It is seen that the interest in scientific publications on "mindfulness" has been increasing for the last few years (American Mindfulness Research Association, 2021). Research shows that mindfulness has various positive effects on an individual's physical and psychological health. Nevertheless, the interest in the effects of mindfulness on work life and employees is new. The number of research explaining mindfulness's effects on employees' work attitudes is quite scarce. When the research results in the literature are examined, mindfulness increases people's quality of life and improves the attitudes and behaviours of people both in their private and work life (Dane, 2010: 579-603; Davidson, Kabat-Zinn, Schumacher, Rosenkranz, Muller, Santorelli, Urbanowski, Harrington, Bonus, Sheridan, 2003: 564-570; Fredrickson, Cohn, Coffey, Pek, Finkel, 2008: 1045-1062; Giluk, 2010; Glomb, Duffy, Bono, Yang, 2011: 115-157). For this reason, mindfulness was chosen as the independent variable in the current study.

Mindfulness also affects brain areas and brings individuals into a more realistic and emotion-free form during decision-making. The researchers suggested with evidence that anatomical and functional brain changes are associated with mindfulness, particularly in the insula, the anterior cingulate cortex -ACC- and prefrontal cortices (Gonzales, 2019: 103; Kiken, Shook, 2011: 425-431; Davidson, 2003: 564-570). According to the literature, the higher employees' mindfulness level is the higher their job performance level. Because job performance is one of the most crucial results for successful organizations (Shmailan, 2016: 1-8), this variable was chosen as the dependent variable in this study. It is also aimed to contribute to the literature by examining the relationship between mindfulness and job performance in the sample of Turkey.

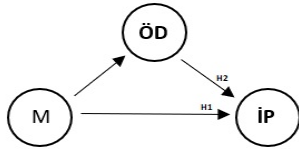
It is known that mindfulness affects brain areas such as ACC, which is associated with self-regulation. It means directing attention and behaviour, intentionally suppressing automatic responses, and switching strategies flexibly (Congleton, Hölzel, Lazar, 2015). Studies in the literature refer to mindfulness as "the foundation of healthy self-regulation" (Brown, Ryan, Creswell, 2007: 218). According to the theoretical framework, the first effect of mindfulness on behaviours is that it helps people make more conscious choices by increasing the ability to create a mental gap between stimulus and response (Good, Iyddy, Glomb, Bono, Brown, Duffy, Baer, Brewer, Lazar, 2016: 114-142). Because self-regulation is associated with a wide range of useful and performance-related outcomes, the self-regulatory benefits of mindfulness may help explain mindfulness's effects on well-being and performance (Sutcliffe, Vogus, Dane, 2016: 71). For this reason, it is thought that the self-regulation will have a mediating role on the relationship between mindfulness and job performance.

The main purpose of this research is to examine the relationship between mindfulness and job performance and analyze the mediating role of self-regulation in these relationships. To achieve the research purpose, the research hypotheses are designed to fill the gap in the literature. It is predicted that mindfulness will affect job performance, and in this effect, self-regulation will have a mediating role. The hypothesis paths in the research model are shown in Figure 1. The hypotheses of the research are as follows;



**H<sub>1</sub>:** There is a positive relationship between mindfulness and job performance.

**H<sub>2</sub>:** The relationship between mindfulness and job performance is mediated by self-regulation.



**Figure 1:** Research Model and Hypothesis Paths

This study used 5-point and 6-point Likert scales with the range of strongly disagree (1) to strongly agree (5) or (6) to obtain the required responses. Brown and Ryan (2003) developed a 15-item scale of mindfulness, and a 5-item version of the same scale measured mindfulness. A few researchers used the same scale in their studies and reported good reliability. This study found a 0.86 Cronbach’s alpha value for the mindfulness scale. Job performance was measured by Kirkman and Rosen’s (1999) 4-item scale in this research. Previous studies also reported the excellent reliability of job performance. In the current research, Cronbach’s alpha value for this scale was 0.92. For self-regulation, we used Tangney, Baumeister and Boone (2004)’s scale. The scale consists of 13 items and two dimensions. Several researchers used the same scale in their studies and reported good reliability. The current study’s value of Cronbach’s alpha for the job satisfaction scale was 0.81.

Research data were collected using an online survey to obtain a fast response and high response rate. It was presented to the respondents with a cover letter to clarify the purpose of the research and some other uncertainties. The survey used in the research consists of 4 parts and 22 questions. Employees of the human resources department of corporate companies were contacted via e-mail and requested data collection. During the data collection process, employees were also reached via LinkedIn. The research sample includes managers and white-collar and blue-collar employees from all industries in Turkey. The online survey used in the research was published between March 1, 2021, and April 1, 2021. Three hundred ninety survey forms were collected between the specified dates, and the research data were analyzed with IBM SPSS version 26.0 and the AMOS tool for IBM SPSS version 26.0. As a result of the preliminary analysis, the survey data of 10 respondents were not included in the analysis, and a final sample size of n=380 was obtained.

**Conclusion, recommendations and constraints**

To confirm the measurement model, we used Confirmatory Factor Analysis (Anderson, Gerbing: 1988). The values of these thresholds: [ $\chi^2 = 475.143$ ,  $df = 130$ ,  $p < .01$ , ( $\chi^2/df = 3.655$ )], [RMSEA=0.08, CFI = 0.90, NFI = 0.87, AGFI = 0.84, GFI=0.87] indicate that measurement model provides an acceptable fit to the data. Table 1 shows the results of CFA, which also confirm the discriminant validity among the variables.

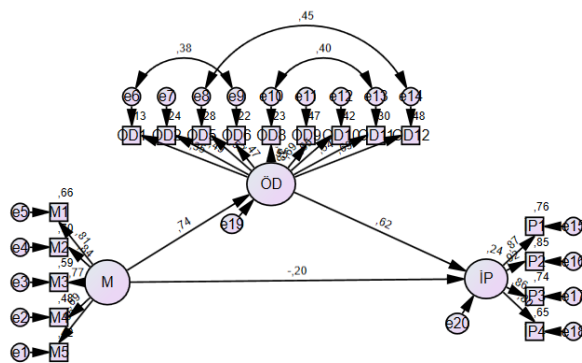
**Table 1:** Measurement Model

Model	$\chi^2$	df	$\chi^2/df$	RMSEA	CFI	NFI	AGFI	GFI
Baseline Model	475.143	130	3.655	0.08	0.90	0.87	0.84	0.87

After having acceptable discriminant validity, we used the IBM AMOS SPSS 26 to validate the proposed relationships H1 and H2. Figure 2 presents the fitted structural model.

**H<sub>1</sub>:** There is a positive relationship between mindfulness and job performance.

**H<sub>2</sub>:** The relationship between mindfulness and job performance is mediated by self-regulation.



**Figure 2:** Structural Model

Table 2 shows the hypothesis's results, testing the positive relationship between Mindfulness (M) and job performance (İP). Finally, table 3 shows the results of hypothesis testing between mindfulness and job performance through the mediating role of self-regulation (ÖD). It is obvious from the results that all hypotheses were statistically supported.

**Table 2:** Results of Testing the Direct Hypothesis

Hypothesis	Path	Estimate	Standardized Estimate	S.E.	C.R.	P
H1	İP ← M	0,251	0,258	0,056	4,466	***

\*\*  $p < 0,01$ , \*  $p < 0,05$

**Table 3:** Results of Testing the Indirect Hypothesis

Hypothesis	Path	p	Upper-Lower Bounds	Result
H2	M → ÖD → İP	0.005*	(0,313)-(0,681)	Support

The results of the analysis support Hypothesis 1 because there is a positive relationship between mindfulness and job performance. This result supports the findings of other researchers examining the relationship between mindfulness and job performance in the literature (Reb, Narayanan, Ho, 2014: 119-120; Dane, Brummel, 2014: 105-128; Shonin, Gordon, Dunn, Singh, Griffiths, 2014: 806-823). Results also support Hypothesis 2 because self-regulation indirectly affects the relationship between mindfulness and job performance. It is an expected result that self-regulation has a mediating role in the relationship between mindfulness and job performance because job performance is an attitude related to goals and concrete outputs. As a result of this study, mindfulness positively affects job performance. As the mindfulness level of an employee increases, his/her job performance level also increases. Therefore, self-regulation has a mediating role in this relationship.

As with any study, this study also has limitations. These limitations should be considered when evaluating the results. First, the sample is limited to corporate company employees that the researchers could reach. The study variables tested depend upon self-reporting. Finally, because the research was conducted during the Covid-19 pandemic, it limits the generalizability of the results to all times.

For future research, it may be recommended to conduct a survey with a larger sample and to use the mixed method after the pandemic. Also, the relationship between dependent and independent variables can be re-examined with variables assumed to affect this relationship.

## Giriş

Eski bir Budist geleneği olan ve günümüzde bir çeşit iç görü meditasyonu olarak bilinen bilinçli farkındalığı, “kişinin mevcut olduğu anda ve yargılayıcı olmayan bir tavırla, iç ve dış dünyasında gerçekleşen olayları farkındalık ile deneyimleme süreci” olarak tanımlamak mümkündür (Brown, Ryan, Creswell, 2007: 212). Bilinçli farkındalık kişilerin alıcılarının tamamen açık olması için bir fırsat ve karşılaştıkları durumlar karşısında daha aktif olmalarına imkân veren eşsiz bir beceridir. Bazı kişilerde doğuştan var olan bir özellik ya da genetik açıdan bir yatkınlık olarak mevcut bulunan bilinçli farkındalığı, düzenli uygulanan egzersizler ile yükseltmek mümkündür (Brendel, 2019: 126-127). Bilinçli farkındalığın belki de en kuvvetli yönü, farkındalık temelli uygulama ve terapilerin etkinliğinin bilimsel çalışmalar ile kanıtlanmış olmasıdır (Atalay Özyeşil, 2016). Literatür incelendiğinde bilinçli farkındalığın her kesim ve her yaş grubundan kişiler için olumlu tutum ve davranışları desteklediği ve iyileştirici etkileri olduğu, yaşam kalitesini ve iyi oluş halini yükselttiği görülmektedir. Bu sonuçlar ışığında, bilinçli farkındalığın iş bağlamında da olumlu sonuçları desteklemesi, iş yerlerinde çalışanların olumlu tutum ve davranışlarının pekiştirmesi, olumsuz olanları ise azaltması yönünde performans yükseltici etkilerinin olması beklenmektedir (Akdeniz, 2020: 1).

1980 – 2020 yılları arasında yayımlanan ve başlığında bilinçli farkındalık kavramı bulunan makalelerin sayısı son on yılda gittikçe artmıştır (American Mindfulness Research Association, 2021). Kavram en çok bireylerin fiziksel ve psikolojik sağlıkları ile ilişkilendirilmiş ve sonraları kavramın iş bağlamına ve çalışanların tutum ve davranışlarına yansımalarını konu alan çalışmalar ortaya konmuştur (Dane, 2010: 579-603; Davidson, Kabat-Zinn, Schumacher, Rosenkranz, Muller, Santorelli, Urbanowski, Harrington, Bonus, Sheridan, 2003: 564-570; Fredrickson, Cohn, Coffey, Pek, Finkel, 2008: 1045-1062; Giluk, 2010). Ancak yine de çok az çalışma bilinçli farkındalık kavramının “neden” ve “nasıl” çalışanların performansı ve iyi oluş halleri üzerinde etkili olduğunu konu edinen teorik bir çerçeve sunabilmiştir (Glomb, Duffy, Bono, Yang, 2011: 115-157).

Bu çalışmaya rehberlik eden “bilinçli farkındalığı işyeri sonuçlarıyla ilişkilendiren bütünleştirici çerçeve”; bilinçli farkındalığın iş yaşamına olan etkilerini mevcut kanıtlar ile göstermekle birlikte, gelecek araştırmaları teşvik edecek açık soru satırı da sağlamaktadır (Good, Iyddy, Glomb, Bono, Brown, Duffy, Baer, Brewer, Lazar, 2016: 114-142). Bu sebeple bu çalışma; bilinçli farkındalığın en önemli iş yeri sonuçlarından biri olan iş performansı ile olan ilişkisini ve öz-düzenlemenin bu ilişkideki aracı rolünü, teorik çerçeve bağlamında analiz ederek literatüre katkıda bulunmayı amaçlamaktadır. Bu çalışma; sektör ayrımı olmaksızın Türkiye’deki kurumsal şirketlerde çalışan yönetici, beyaz yaka ve mavi yaka çalışanların bilinçli farkındalık düzeyleri ve iş performansları arasındaki ilişkiyi ortaya koymakta ve bu ilişkide öz-düzenlemenin aracı rolünü analiz etmektedir.

## Literatür taraması

### Bilinçli farkındalığa dair kavramsal çerçeve

Özünde bir tür iç görü meditasyonu olan bilinçli farkındalığın orijini oldukça eski Budist geleneklerine dayanmaktadır (Brown, Ryan, Creswell, 2007: 212). Bilinçli farkındalık terimi Buda’nın vefatından neredeyse dört yüz yıl sonra öğretilerinin ve öykülerinin yazıya geçirildiği “Pali” dilinde bulunan ve “farkındalık”, “anımsama” ve “dikkat” gibi ifadeler için kullanılan “sati” kelimesinden türetilmiştir (Bodhi, 2012: 279). Bu kelime, İngiliz diline ilk defa T.W. R. Davids ve William Stede tarafından 1921’de “mindfulness” şeklinde çevrilmiştir (Davids, Stede, 2005).

Bilinçli farkındalık uygulamalarından faydalanmak için Budist ya da yogi olmaya gerek yoktur. Bilinçli farkındalık; bilim veya din ile çelişmemektedir ve kesinlikle yeni bir ideoloji ya da inanç sistemi ile ilişkili değildir. Bilinçli farkındalık insanoğlunun olmadığı bir şeye dönüşmeye çalışmadan, kendi varlığı ile bilinçli bir şekilde ve kuvvetli bir ilişki içerisinde olmasına imkân veren yaşama sanatıdır (Kabat-Zinn, 2005: 12-16).

2500 yıldan uzun bir zamandır Budizm felsefe ve eğitiminde bulunan bilinçli farkındalık, son zamanlarda bütün dünyanın ilgi odağı halindedir (Kang, Whittingham, 2010: 161-173). Özellikle 68 kuşağının genişleyen perspektifi ile birlikte insanların yalnızca maddi şeyler ile gerçek mutluluğu yakalayamayacağı fark edilmiş ve meditasyon ile bilinçli farkındalık egzersizleri kişisel gelişim alanında batı dünyasında kendine yer edinmiştir. Tarih boyunca gösterdiği gelişime bakıldığında bilinçli farkındalığa dair iki ana akım olduğu görülmektedir. Kavramın dünya çapında bilinirliğe ulaşmasında önemli rolü olan Jon Kabat-Zinn’e göre bilinçli farkındalık “dikkatin yargısız bir biçimde yaşanan ana odaklanmasıdır” ve bu akım, kişilerin farkındalıklarını yükseltebilmek için dikkatlerini iç uyaranlarına yönlendirmeleri gerektiğini savunmaktadır. Bilinçli farkındalığı farklı bir biçimde ele alan Ellen Langer’a göre ise, kişiler farkındalıklarını yükseltebilmek için dikkatlerini dış uyaranlara

yönlendirmelidir. Ancak uygulandığı vakit elde edilen çıktılar doğrultusunda bu iki akımın birbirlerinden çok farklı olduğu söylenemez (Damcı, 2010; Uygur, 2017: 19-20). Kabat-Zinn'in ve Langer'ın çalışmalarına rağmen bilinçli farkındalık kavramı literatürdeki yerini 1990'lı yılların sonunda alabilmiştir (Dryden, Still, 2006: 3-28). 2000'li yıllara gelindiğinde ise bilinçli farkındalığa duyulan ilgi artmış ve kavram hem günlük yaşamda hem de psikoloji, eğitim ve işletme gibi farklı disiplinlerde yayılım göstermiştir (Atalay, 2020: 43). Bilinçli farkındalığın birden çok bileşeni olduğu için üzerinde uzlaşılan tek bir tanımı yoktur ve bilinçli farkındalık ile ilgili yapılan çeşitli çalışmalarda kullanılmış pek çok tanım mevcuttur (Baer, 2003: 125-143).

Bir kişilik özelliği veya genetik bir yatkınlık şeklinde mevcut bulunabilen bilinçli farkındalığı, düzenli uygulanan egzersizler sayesinde beyin kaslarını güçlendirerek arttırmak mümkündür (Brendel, 2019: 126-127). Farkındalık egzersizleri stresli durumlar karşısında güçlü kalmaya yardımcı olduğu için duyulan endişeyi azaltmakta ve iyi oluş halini arttırmaktadır (Weinstain, Brown, Ryan, 2009: 381). Benzer biçimde bilinçli farkındalığın tükenmişlik ile başa etmeye yardım ettiği ve meditasyon yapan bireylerin mutluluk düzeylerinin yapmayanlara oranla çok daha yüksek olduğu bilinmektedir (Ivanovski, Malhi, 2007: 76-91).

Bilinçli farkında olabilmek için aynı süreçte ve bir arada meydana gelmesi gereken üç temel adım gereklidir. Bunlar; dikkat, niyet ve tutumdur.

- Dikkat; kişinin anda ve o mekânda gerçekleşen olayları anlık olarak gözlemlemesidir.
- Niyet; kişinin dikkatini neden ve hangi yöne şekillendireceğinin belirleyicisidir.
- Tutum ise; kişinin dikkatini ne şekilde yönlendirdiğiyle ilgilidir (Kınay, 2013: 13-15).

Nasıl ki kameranın sabitlenmemesi net bir fotoğraf çekimine engel oluyorsa, sabitlenmemiş bir dikkat de yaşamda olup bitenin net bir şekilde farkında olunmasına engel olmaktadır. Bu yüzden bilinçli farkındalığın ilk basamağı "dikkat"tir. Fakat insanın gerek dış çevresinde gerekse iç dünyasında dikkat etmesi gereken ve aynı anda meydana gelen çok fazla durum vardır ve hepsine aynı anda dikkat etmek mümkün değildir. Bu sebeple "niyet" de en az dikkat kadar önem arz eder. Niyet, dikkatin hangi yönde olacağını belirleyicisidir. Bir örnekle pekiştirmek gerekirse, sosyal anksiyete bozukluğu olan bir kişi dikkatini sürekli olarak diğerlerinin kendisi hakkındaki düşünce ve sözlerine verir. Bu kişinin dikkatini bu yöne çeken şey, o kişinin niyetidir. Son adım olan "tutum" ise, kişinin farkında olduğu durumları hangi tutumlarla değerlendireceğini deneysel olarak öğrenmesidir (Atalay, 2020: 20-23). Bilinçli farkındalık anlarına pekiştirici olarak kabul edilen bazı tutumlar vardır. Jon Kabat-Zinn bu tutumları; kabullenmek, yargılamamak, çabalamamak, oluruna bırakmak, sabretmek, güvenmek, tıpkı bir çocuk gibi acemi bir zihne sahip olmak, şükretmek ve cömertlik olarak gruplandırmıştır. Ancak daha sonra bu listeye Christiane Wolf ve J. Greg Serpa tarafından yapılan bir çalışmada merak, iyilik ve mizah tutumları da dahil edilmiştir (Kırca, 2017: 13).

Germer, Siegel ve Fulton'a göre tüm bilinçli farkındalık anlarının bazı ortak özellikleri vardır. Bilinçli farkındalık anları;

- Kavramsal değildir (Nonconceptual): Düşünme eylemi gerçekleşmeden meydana gelen bilinçli farkında olma durumudur.
- Şimdi odaklıdır (Present-centered): Her zaman yaşanmakta olan andadır. Kişilerin yaşadığı olaylar ile ilgili düşünceleri, bilinçli farkındalık anlarının bir adım sonrasındadır.
- Yargılayıcı değildir (Nonjudgemental): Yaşananların farklı olmasının istendiği durumlarda bilinçli farkındalık meydana gelememektedir.
- Amaçlıdır (Intentional): Bilinçli farkındalık anlarında dikkat belirli bir yere yönlendirilmiş durumdadır. Kişinin dağıldığı anda dikkatini yeniden yaşadığı ana döndürmesi zamanla bilinçli farkındalığı sürekli hale getirmektedir.
- Katılımcı gözlemi gerektirir (Participant observation): Bilinçli farkındalık olaylara üçüncü şahıs gözüyle bakmak değildir. Beden ve zihni yakın bir şekilde hissetmektir.
- Sözel değildir (Nonverbal): Farkındalık hali kelimelerden bağımsızdır ve kelimeler zihinde canlanmadan önce oluşur.
- Keşfe dayalıdır (Exploratory): Algılananın her zaman daha ince detaylarını araştırmaktır.
- Özgürleştiricidir (Liberating): Bilinçli farkındalık anları, kişilerin kendilerini şartlandırdığı hüznü ruh halinden kurtulmalarına olanak sağlar (Germer, Siegel, Fulton, 2005; akt. Özyeşil, 2011: 32-34).

Siegel'e göre bilinçli farkındalığı arttıracak üç tür uygulama vardır. Bunlar;

- Biçimsel uygulamalar: Belli bir zamanda ve sessiz bir yerde yapılan meditasyonlardır. Oturarak, uzanarak, ayakta ya da yürüyüş esnasında yapılabilir. İdeal olanı günlük olarak tekrarlanmasıdır. Konsantre olabilmek için dikkat belli bir nesneye yönlendirilir. Bu nesne fiziksel bir duyu ya da geçmiş duygusal yaşantılar olabilir.
- Biçimsel olmayan uygulamalar: Günlük aktiviteler sırasında dikkat dağıldığında onu tekrar yaşanan ana yönlendirmeyi kendine hatırlatmaktır. Yürürken dış çevrede olan bitenin farkında olarak yürümek ya da bir şeyler yerken yiyeceğin tadını hissederek yavaş yemek bu tür uygulamalara örnek olabilir.
- İnziva: Sakin bir ortamda ve mümkün olduğu kadar az kişi ile iletişim kurularak yapılan uygulamalardır. Etrafta dikkat dağıtacak bir şey olmadığı için gündelik yaşamda yapılan tüm etkinlikler (yemek yemek, duş almak, evi temizlemek vs.) ekstra bilinçli farkındalık ile yapılmaktadır (Siegel, 2010; akt. Özyeşil, 2011: 45-46).

Germer'e göre bilinçli farkındalığı arttıran bu uygulamaların temelinde üç madde vardır. Bunlar; durmak, gözlemek ve ana geri dönmektir. Bir şey yaparken duraksamak veya anı yavaşlatmak bilinçli farkındalığın artmasını sağlamaktadır. Çünkü hareket yavaşlamaya başlayınca düşünce hızı da yavaşlar ve böyle zamanlarda kişi düşünceleri üzerinde daha fazla kontrol sahibi olur, onları gözlemleyebilir ve odağını tekrar yaşanan ana döndürebilir (Germer, 2009: 82).

Bilinçli farkındalığın en güçlü yönü, olumlu etkilerinin dünya çapında güvenilir ve bilimsel çalışmalarla kanıtlanmış ve akademik kurumlarca destek görmüş olmasıdır (Berret, 2017: 6). Bilinçli farkındalık uygulamaları; psikodinamik psikoterapi, bilişsel-davranışçı terapi, gestalt psikoloji, hümanistik psikoterapi ve varoluşçu psikoterapi gibi çeşitli psikoterapi yaklaşımlarıyla ilişkilendirilebilir. İlişkilendirilebileceği terapilerin yanı sıra, direkt olarak bilinçli farkındalığı temeline alan terapiler de mevcuttur. Bu tür terapiler özellikle son zamanlarda ruh sağlığı alanında da kullanılmaktadır. Farkındalık temelli pek çok yaklaşım olmakla birlikte en yaygın dört yaklaşım; bilinçli farkındalık temelli stres azaltma, bilinçli farkındalık temelli bilişsel terapi, kabul ve kararlılık terapisi ve diyalektik davranış terapisi (Akdeniz, 2021: 18-22).

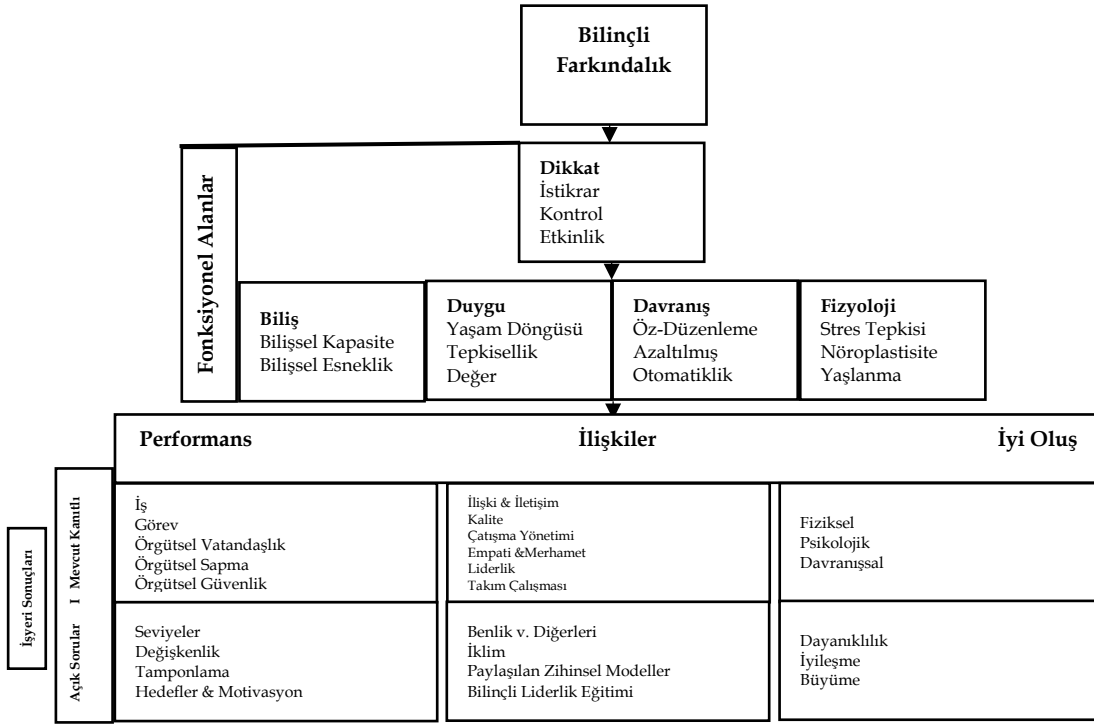
İş hayatında başarı elde etme, para kazanma, terfi alma gibi olumlu durumların yanı sıra; yapılan işte tatmin olamama, stresli bir çalışma ortamına sahip olma, zaman baskısı altında çalışma, profesyonel ve kişisel yaşam arasındaki dengeyi kuramama ve hatta tükenmişlik sendromuna yakalanma gibi baş etmesi zor olan olumsuz durumlar da mevcuttur. Ancak örgütler içerden veya dışardan gelen pek çok uyarıcıya rağmen çalışanlarının performanslarını düşürmeden çalışmaya devam etmelerini istemekte ve bu durum bazen çalışanları sıkıntıya sokabilmektedir (Küçük, 2019: 40). Araştırmalara göre insanlar zamanlarının %47'sini yapmakta olduğu işlerden daha farklı şeyleri düşünmekle geçirmektedir (Bradt, 2010: 1). Çünkü doğası gereği insan, başa çıkamadığı ve çözüme ulaşamadığı problemleri karşısında çözüm bulana dek durmaksızın düşünme eğilimine girmektedir. Böyle zamanlarda bilinçli farkındalığın amacı kişilerin iç dünyalarındaki düşünce ve duygularını tanımlarını ve olduğunca kabul etmelerini sağlamak, stres düzeylerini düşürmek ve dikkatlerini yaşanan ana, bulunan mekâna ve yaptıkları işe nazikçe geri döndürmektir (Schaufenbuel, 2014: 3). Anda kalmak ve tüm çalışma ekibinin anda kalmasına imkân sağlamak hem bireysel hem de örgütsel etkinlik açısından oldukça önemli bir konudur. Yönetim koçu ve psikiyatrist Dr. Brendel; bir iş üzerinde çalışırken anda kalma, stresle başa çıkma, tükenmişlik sendromundan kaçınma, yöneticiliğe dair becerileri geliştirme gibi konularda ve yapılan işle ilgili önemli kararlar alınması gereken zamanlarda bilinçli farkındalık uygulamalarının özellikle de üst düzey yöneticiler tarafından uygulanmasını önermektedir. Bilinçli farkındalık; stres yönetimi, bireysel ve örgütsel maksimum performans seviyesine ulaşma ve çalışanların hem profesyonel hem de özel hayatlarında tatmin düzeylerinin artması gibi örgütlere çeşitli yararlar sağlamaktadır (Brendel, 2019: 121-123).

Örgüt içerisinde uygulandığı zaman farkındalığın muhtemel etkileri; stres seviyesini düşürmek, yaratıcılığı ve üretkenliği arttırmak, iletişimi güçlendirmek, dikkat seviyesini arttırmak, çalışanların doğru kararlar almalarını ve zamanlarını etkin kullanmalarını sağlamak, özellikle stres düzeyi yüksek meslek mensuplarının enerji seviyelerini ve bağışıklık sistemlerini güçlendirmek, çalışanların empati becerilerini ve duygusal zekalarını geliştirmek, çatışmaları engellemek, işe bağlılığı arttırmak, devamsızlığı azaltmak ve personel devir hızını düşürmek şeklinde olacaktır. Özellikle stresli çalışma ortamı gibi bireylerin ruh sağlığını tehdit eden sorunlar örgüt içi devamsızlık oranının artmasına ve personel devir hızının yükselmesine sebep olmaktadır. Bu durumların meydana gelmesi örgütler için

gittikçe artan maliyetler anlamına gelmektedir. Bu yüzden mücadele etmek yerine, bu durumlar henüz gerçekleşmeden önlenmeli ve çalışanların ruh sağlıkları korunmalıdır. Bilinçli farkındalık temelli terapiler ve eğitimler kişilerin psikolojik dayanıklılığını arttırmaktadır ve bilinçli farkındalık düzeyi yüksek kişilerin stres düzeyleri ve tükenmişlik sendromuna yakalanma oranları diğerlerine göre daha düşük olmaktadır (Atalay, 2020: 163-169; Schaufenbuel, 2014: 4; Hyland, Lee, Mills, 2015: 585).

Bu araştırmaya rehberlik eden teorik çerçeve, Good ve diğerleri tarafından, iş yerleri üzerine geniş bir araştırma grubunun sentezi olarak geliştirilen “Bilinçli farkındalığı işyeri sonuçlarıyla ilişkilendiren bütünleştirici çerçeve (Framework relating mindfulness to workplace outcomes – IFRMWO)” dir (Good vd., 2016: 114-142).

**Tablo 1:** Bilinçli Farkındalığı İşyeri Sonuçlarıyla İlişkilendiren Bütünleştirici Çerçeve



Tablodaki ikinci aşama bilinçli farkındalığın; istikrar, kontrol ve etkinlik olmak üzere dikkatin üç kritik alanını etkilediğini göstermektedir. Dikkat istikrarı, dikkat ve odaklanmayı sürdürme eğilimi; dikkat kontrolü, dikkatin dağılmasına direnme yeteneği (Wadlinger, Isaacowitz, 2011: 75-102); ve dikkat etkinliği, bilişsel kaynakların idareli kullanımınıdır (Erickson, 2020: 12-14).

Şekildeki üçüncü aşamada, bilinçli farkındalığın dikkat üzerinden kişilerin biliş, duygu, davranış ve fizyolojilerine olan etkilerini açıklanmaktadır.

- **Biliş:** Bilinçli farkındalık ile bilişsel kapasite ve bilişsel esneklik arasında bağlantılar bulunmaktadır (Smallwood, Schooler, 2015: 487-518). Bilinçli farkındalığın çalışma belleğini artırdığına dair kuvvetli kanıtlar vardır (Ruocco, Direkoglou, 2013: 226-230). Bununla birlikte bilinçli farkındalık; yeni perspektifler, yaratıcılık, farklı düşünme ve iç görü problem çözme ile de ilişkilendirilmektedir (Ostafin, Kassman, 2012: 1031-1036).
- **Duygu:** Duygular kişilerin hislerine karşı ne tür tepkiler verdiğidir. Duyguların iki yönü, yaşam döngüsü ve tepkisellik. Farkındalığın duygusal tepki yaşam döngülerini kısalttığı ve duygusal tepkiselliği azalttığı bilinmektedir. Bilinçli farkındalık uygulayıcılarının duygusal tonu veya değerleri de zamanla daha çok olumlu yöne eğilim göstermektedir (Erickson, 2020: 14-15).
- **Davranış:** Bilinçli farkındalık kişilerin uyaran ve tepki arasında zihinsel bir boşluk yaratma yeteneğini artırır, bu durum da harekete geçmeden önce daha bilinçli seçimler yapması için kişiye zaman ve alan sağlar. Tekrara dayalı ve farklılık içermeyen bazı işler için “otomatiklik” avantaj olarak kabul edilse de (Bargh, Chartrand, 1999: 462-479), daha uyumlu davranışlar gerektiren diğer meslek gruplarında, otomatiklik engel teşkil edebilir ve bu durumlarda öz-düzenlemenin varlığına ihtiyaç duyulmaktadır (Sawyer, 2015: 21).

Fizyoloji: Bilinçli farkındalığın stres tepkisi, sinirsel esneklik ve yaşlanma alanlarında olumlu etkileri vardır. Bilinçli farkındalığın stres reaksiyonlarının şiddetini ve kişilerin kortizol düzeylerini düşürdüğüne dair kanıtlar vardır (Creswell, Lindsay, 2014: 401-407). Yapılan çalışmalarda, dikkat ile beyindeki amigdalanın küçültülmesi ve dikkat, hafıza ve duygusal düzenleme ile bağlantılı büyüyen bölgeler gibi gerçek değişiklikler arasında bir ilişki olduğunu gösteren dikkate değer sonuçlar da elde edilmiştir (Fox, Nijboer, Dixon, Floman, Ellamil, Rumak, Sedlmeier, Christoff, 2014: 48-73). Özellikle deneyimli meditasyoncular arasında daha yavaş ve daha az beyin dejenerasyonu vakası gösteren kanıtlarla, farkındalığın yaşlanma ile de bağlantılı olduğu bilinmektedir.

Tüm bu sonuçlar iş yerlerinin içindeki ve dışındaki kişiler için doğal olarak faydalıdır (Erickson, 2020: 15). "Bilinçli farkındalığı işyeri sonuçlarıyla ilişkilendiren bütünleştirici çerçeve"; bilinçli farkındalığın iş yaşamına etkilerini mevcut kanıtlarıyla birlikte göstermekle birlikte, daha fazla araştırmayı teşvik edecek bir açık soru satırı sağlama avantajına da sahiptir.

Konu ile ilgili literatürde yer alan geçmiş araştırma sonuçlarına göre, bilinçli farkındalık ile iş performansı (Reb, Narayanan, Ho, 2014: 119-120), iş tatmini (Hülshager vd., 2013: 310-325), işe tutkunluk (Zivnuska, Kacmar, Ferguson, Carlson, 2016: 106-124), psikolojik sermaye (Avey, Wernsing, Luthans, 2008: 48-70) ve iş-aile dengesi (Allen, Kiburuz, 2012: 375-377) arasında anlamlı ve pozitif yönlü bir ilişki mevcuttur. Bilinçli farkındalık ile stres (Rasmussen, Pidgeon, 2011: 227-233), tükenmişlik (Roeser, Schonert-Reichl, Jha, Cullen, Wallace, Wilensky, Oberle, Thomson, Taylor, Harrison, 2013: 787-804), bilişsel hatalar (Carriere, Cheyne, Smilek, 2008: 835-847) ve personel devir hızı (Dane, Brummel, 2014: 105-128) gibi değişkenlerin arasındaki ilişkinin yönü ise negatiftir (Akdeniz, 2021: 41-58). Tüm bunların yanı sıra, örgütsel vatandaşlık davranışı ve işten ayrılma niyeti gibi iş yaşamında kritik öneme sahip diğer iş sonuçları da bilinçli farkındalık ile oldukça ilgili yapılarıdır. Bilinçli farkındalık iş yerlerinde istenen iş tutum ve davranışlarının güçlü bir yordayıcısıdır (Saraç, 2020: 55-71).

### **Bilinçli farkındalık ve iş performansı**

İş performansı, varlık sürdürülebilmek ve rekabet avantajı elde edebilmek için teoride ve pratikte örgütsel açıdan en fazla önem addedilen iş sonuçlarından birisidir. İş performansı iş görenlerin iş tanımlarında bulunan görev ve sorumluluklarının ne kadarını yerine getirdikleriyle ölçülen bir davranış olarak değerlendirilmektedir. Bilinçli farkındalık ve iş performansı arasındaki ilişkiyi inceleyen çalışmalar bilinçli farkındalık ile iş performansı arasında anlamlı ve pozitif yönlü bir ilişkinin olduğu sonucuna varmışlardır (Karavardar, 2015: 186-199; Dane, Brummel, 2014: 105-128; Shonin, Gordon, Dunn, Singh, Griffiths, 2014: 806-823).

Bilinçli farkındalık egzersizlerinin; insan beynini neredeyse sil baştan programladığı ve bireyleri karar alma esnasında daha gerçekçi ve duygulardan arınmış bir forma getirdiği bilinmektedir. Çünkü farkındalıkları yüksek bireylerin önemli bir karar aşamasındayken arka insula bölgelerindeki hareketlilik artmaktadır ve bu durum alınan kararların rasyonel ve somut gerçekliklere dayanmasını sağlamaktadır. Bununla birlikte bilinçli farkındalık, karar alma süreçlerinde bireylerin pozitif yargılarını arttırırken negatif eğilimlerini azaltmaktadır (Gonzales, 2019: 103; Kiken, Shook, 2011: 425-431). Bilinçli farkındalığın beyne olan yapısal ve işlevsel etkilerini inceleyen bir diğer araştırma, bilinçli farkındalık eğitimi alan katılımcıların sol prefrontal kortekslerinin gelişim gösterdiği ve gri madde sayılarında artış olduğu sonucuna ulaşmıştır. Sol prefrontal korteks iyi oluş, mutluluk ve pozitif duygular ile ilişkiliyken; gri madde yoğunluğu yeni şeyler öğrenmeyi ve öğrenilenleri hatırlamayı sağlamaktadır (Davidson, 2003: 564-570).

Literatürde yer alan bir çalışmaya göre, çalışanın bilinçli farkındalık düzeyi ne kadar yüksek olursa, görev tanımı doğrultusunda sergilediği iş performansındaki nitelik ve yöneticinin o çalışana verdiği performans değerlendirme notu da aynı derecede yüksek olmaktadır (Reb, Narayanan, Ho, 2013: 120). Örnekleme orta düzey yöneticilerden oluşan bir çalışmaya göre ise, sekiz hafta boyunca bilinçli farkındalık egzersizleri uygulayan yöneticilerin üst düzey öğrenme, doğru karar verebilme, sorun çözebilme ve belirsizlik yönetebilme becerilerinin gelişim gösterdiği gözlemlenmiştir. Çalışmanın sonunda gerçekleştirilen 360 derece performans değerlendirme ile yöneticilerdeki bu değişimin astları tarafından da fark edildiği çalışmanın bulguları arasındadır (Wasylikiw, Holton, Azar, Cook, 2015: 893-911). Ayrıca, yöneticilerin bilinçli farkındalık düzeyleri astlarının da iş performans düzeyleri ile pozitif ilişki içerisindedir (Reb, Narayanan, Chaturvedi, 2014: 36-45).

Başka bir önemli konuya daha değinmek gerekirse, örgütlerin verimliliğini arttıracak ve maliyetlerini düşürecek yaratıcı fikirler, rekabetin yoğun olduğu küreselleşen dünyada varlık sürdürülebilmek açısından örgüt adına kritik bir önem taşımaktadır (Şimşek, 2002: 306). Yaratıcılık yalnızca yeni ürün veya hizmet geliştirme aşamasında değil, aynı zamanda iş gören performansları, problem çözme stilleri

ve daha etkin yönetim teknikleri üzerinde de rol oynamaktadır. Araştırmalar göstermektedir ki bilinçli farkındalık ile yaratıcılık arasında anlamlı ve pozitif yönlü bir ilişki bulunmaktadır (Ostafin, Kassman, 2012: 1031-1036; Schootstra, Deichmann, Dolgova, 2017: 1). Google, Apple, Target ve P&G gibi temeli yaratıcılığa ve yeniliğe dayalı pek çok başarılı şirket bilinçli farkındalık egzersiz ve eğitim programlarından faydalanmaktadır. Tüm örgütün dahil edildiği bu programlar sayesinde farkındalık örgüt içerisinde standarda oturmakta ve norm haline gelmektedir (Atalay, 2020: 172-173).

Bu araştırma dahilinde bilinçli farkındalık ile ilişkisi analiz edilen iş sonucunun iş performansı olarak seçilmiş olmasının sebepleri; ilgili teorik çerçevenin rehber edinilmesi (Good vd., 2016: 114-142), bu iş sonucunun iş yerlerinde en çok istenen ve en önemli iş sonuçlarından biri olması (Shmailan, 2016: 1-8) ve bilinçli farkındalık ile iş performansı arasındaki ilişkiyi bir de Türkiye örnekleminde inceleyerek literatüre katkıda bulunmanın hedeflenmesidir. Araştırmanın ilgili hipotezi aşağıdaki gibidir.

**H<sub>1</sub>:** *Bilinçli farkındalık ve iş performansı arasında pozitif bir ilişki vardır.*

### **Bilinçli farkındalık ve iş performansı arasındaki ilişkide öz-düzenlemenin aracı rolü**

Öz-düzenleme, içsel denetim mekanizmalarını tanımlamak için kullanılan bir kavramdır ve bireylerin hedeflerini gerçekleştirebilmek için duygularını, düşüncelerini ve davranışlarını yönlendirdikleri süreçleri ifade etmektedir (Zimmerman, 2000: 13-39). Sadece bir kişilik özelliği değil, aynı zamanda edinilmesi belirli durumlara bağlı olan bir yetenektir (Zimmerman, 2002: 64-70). Bu yeteneği gelişmiş bireyler sorumluluk sahibi olan, kontrolünü ellerinde tutabildikleri düzenli bir yaşama ve yüksek düzey motivasyona sahip bireylerdir (Zimmerman, 1989: 329-339).

Literatürde yer alan çalışmalar, bilinçli farkındalık kavramından "sağlıklı bir öz-düzenlemenin temeli" olarak bahsetmektedir (Brown, Ryan, Creswell, 2007: 218). Öz-düzenleme, davranış değişikliği elde etmek için farkındalığın harekete geçebileceği olası bir yoldur (Shapiro, Carlson, Astin, Freedman, 2006: 373-386). Farkındalık düzeyi yüksek bireyler dikkatlerini buldukları ana ve deneyimlerine daha rahat yönlendirebildikleri için, öz-düzenleme yetenekleri farkındalık düzeyi düşük olan bireylere kıyasla daha yüksek düzeydedir (Küçük, 2019: 41). Bilinçli farkındalık; yaşanan anda gerçekleşen olaylara daha esnek ve duruma bağlı olarak revize edilebilir tepkiler verilmesini sağlamakta, otomatik davranış ve alışkanlıklarından kurtulmasına yardımcı olmakta ve böylece öz-düzenleme yeteneğinin gelişimine destek vermektedir. Bilinçli farkında bir dikkate sahip bireyler, bunun doğal bir sonucu olarak, kendi kontrolünü sağlama ve düzenleme konusunda yeteneklidir (Brown, Ryan, Creswell, 2007: 223-228).

Öz-düzenleme kavramı, performans ile ilişkili çıktılarla ilgili bir kavram olduğu için, bilinçli farkındalığın öz-düzenleyici faydaları, farkındalığın iyi oluş hali ve performans üzerindeki etkilerini açıklamaya yardımcı olabilir (Sutcliffe, Vogus, Dane, 2016: 71). İlgili konu üzerinde yoğunlaşan çalışmalardan biri, öz-düzenlemenin, bilinçli farkındalık ve farkındalık ile ilişkilendirilen faydalar arasında, önemli bir nedensel bağlantı olabileceğini öne sürmektedir (Masicampo, Baumeister, 2007: 255). Öz-kontrol ve bilinçli farkındalık müdahalelerinin yapıları ve süreçleri birbirine oldukça benzerdir. Bireyin düşünce ve davranışlarını dikkatli bir şekilde düzenlemesi, ilgili egzersizlere günlük devam etmesi ve bu tür egzersizlere haftalar ya da aylar boyunca sürdürmesi gibi bir dizi ortak özellik taşır. Bu müdahalelerinin tasarımlarındaki ve uygulama tarzlarındaki benzerlikler göz önüne alındığında, benzer sonuçlar üretmeleri de şaşırtıcı değildir. Bilinçli farkındalık egzersizlerine atfedilen çeşitli sonuçlar arasında fiziksel sağlık, zihinsel sağlık, davranış düzenleme, duygu düzenleme ve kişilerarası ilişkilerdeki gelişmeler yer almaktadır ve bu faydaların birçoğu, düzenli öz kontrol egzersizlerine de atfedilmektedir (Masicampo, Baumeister, 2007: 256).

Öz-düzenlemenin bilinçli farkındalığın önemli bir parçası olduğunu gösteren çalışmalara rağmen, farkındalık ve iş sonuçları arasında aracı olarak öz-düzenlemenin incelenmesi konusunda literatürde bir yetersizlik mevcuttur. İncelenen literatüre ve çalışma kapsamında rehber edinilen teorik çerçeveye göre, bilinçli farkındalığın davranışlar üzerindeki ilk etkisi, uyarıcı ve tepki arasında zihinsel bir boşluk oluşturma becerisini arttırarak bireylere daha bilinçli seçimler yapmaları adına yardım etmesidir. Çoğu zaman farkında olmak tutum ve davranış değişikliği için yeterli olmayabilir. Fark etmenin ardından bireyin olumlu tutum ve davranışları seçerek sergilemek ve bunları sürdürmek ve iyi performans göstermek için öz-düzenleme becerisine ihtiyacı vardır. Bu sebeple farkındalık ve iş performansı arasındaki ilişkide potansiyel bir mekanizma olarak öz-düzenlemenin ele alınabileceği ve bilinçli farkındalık ile iş performansı arasındaki öngörülen pozitif ilişkide öz-düzenlemenin aracı bir role sahip olacağı varsayılmaktadır. İlgili hipotez aşağıdaki gibidir.

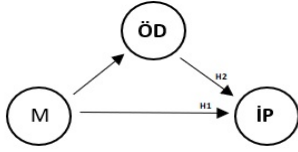
**H<sub>2</sub>:** *Bilinçli farkındalık ve iş performansı arasındaki ilişkide öz-düzenleme aracı bir role sahiptir.*



## Yöntem

### Araştırmanın hipotezleri, örnekleme ve veri toplama prosedürü

Araştırmanın amacı doğrultusunda ve literatürdeki boşluğu doldurmak üzere tasarlanan araştırma hipotezleri ve araştırma modeli Şekil 1'de gösterilmiştir.



Şekil 1: Araştırma Modeli ve Hipotez Yolları

Bu araştırmanın örneklemini Türkiye’de faaliyet gösteren sektör ayrımı gözetmeksizin araştırmacıların ulaşabildiği tüm özel ve kurumsal şirketlerde çalışan yönetici, beyaz ve mavi yakalı çalışanlar oluşturmaktadır. Kurumsal örgütlerin insan kaynakları departmanı çalışanları ile e-posta yoluyla iletişime geçilmiş ve veri toplanması için talepte bulunulmuştur. Bununla birlikte, veri toplama sürecinde katılımcılara LinkedIn üzerinden de ulaşılmıştır. Araştırma verileri, hızlı geri dönüş sağlanması ve yüksek yanıt oranı elde edilmesi amacıyla çevrimiçi anket yöntemi kullanılarak toplanmıştır. Araştırmanın amacını ve diğer bazı belirsizlikleri açıklığa kavuşturmak için katılımcılara anket öncesi bir ön yazı sunulmuştur. Araştırmada kullanılan anket 4 bölümden ve 22 sorudan oluşmaktadır. Araştırmada kullanılan çevrimiçi anket formu 1 Mart 2021 ile 1 Nisan 2021 tarihleri arasında yayınlanmıştır. Araştırmanın veri toplama aşaması 2021 yılında gerçekleşmiş olsa da, araştırma konusu ve ana hatları 2019 yılında belirlendiğinden ve o tarihte gerekmediğinden bu araştırma için etik kurul izin belgesi alınmamıştır. Belirtilen tarihler arasında toplam 390 anket geri dönüşü sağlanmıştır. Ön analizler sonucu 10 katılımcının anket verileri analize dahil edilmemiş ve n=380 nihai örneklem büyüklüğü elde edilmiştir. Örnekleme ilişkin toplamda ulaşılan sayı (380), araştırma kapsamında yürütülecek yapısal eşitlik analizleri için yeterli görülmektedir. Yapısal eşitlik analizleri için uygun örneklem büyüklüğünün, gözlenen değişken (madde) sayısının en az 10 katı olması önerilmektedir (Klein, 2010: 12). Bu araştırmanın ölçüm modelinde toplam 22 değişken (madde) olduğundan, örneklem büyüklüğünün en az (22x10=220) olması beklenmektedir. Araştırmada elde edilen örneklem büyüklüğü bu sayının üzerindedir. Araştırma verileri IBM SPSS 26.0 ve AMOS 26.0 ile analiz edilmiştir.

### Araştırmanın değişkenleri ve kullanılan ölçekler

Çalışmanın bağımsız değişkenini oluşturan bilinçli farkındalığın ölçümünde 6-lı likert tipi bir ölçek kullanılmış; çalışmanın bağımlı değişkeni iş performansı ve aracı değişkeni olan öz-düzenleme değişkenlerinin ölçümünde ise 5-li likert tipi ölçeklerden yararlanılmıştır. 5’li likert tipi ölçeklerde, katılımcıların ölçeklerde yer alan soruları 1-“Kesinlikle katılmıyorum” ile 5-“Kesinlikle katılıyorum” arasında değerlendirmeleri ve 6’lı likert tipi ölçekte yer alan soruları ise 1-“Hemen hemen hiçbir zaman” ile 6-“Hemen hemen her zaman” arasında değerlendirmeleri istenmiştir. Aşağıda çalışmanın değişkenlerinin ölçümünde kullanılan ölçekler ve bu ölçeklerde yer alan maddeler açıklanmaktadır.

#### Bilinçli farkındalık

Bu çalışmada katılımcıların bilinçli farkındalık seviyelerini ölçebilmek için Brown ve Ryan’ın (2003) geliştirmiş olduğu bilinçli farkındalık ölçeğinin, tek faktör altında toplanan ve beş soruya indirgenmiş versiyonu kullanılmıştır. Ölçeğin Türkçe çevirisi bu çalışmada kullanılmak üzere araştırmacılar tarafından yapılmıştır. Ölçek önce Türkçeye ve ardından tekrar İngilizceye çevrilerek anlam farklılıklarına bakılmıştır.

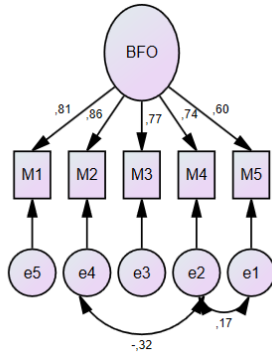
Beş sorudan oluşan bilinçli farkındalık ölçeğine yönelik güvenilirlik ve temel bileşenler analizleri, faktör sayısı belirlenerek, varimax döndürme metodu kullanılarak elde edilmiştir. KMO değeri (0,839) ve Barlett küresellik testi sonuçları ( $X^2(10) = 908,167$ ;  $p < 0,001$ ) verinin faktör analizi için uygun olduğunu göstermektedir. Faktör analizi sonuçları, güvenilirlik katsayısı ve tanımlayıcı istatistikler Tablo 3’te gösterilmektedir.

**Tablo 2:** Bilinçli Farkındalık Ölçeğine Ait Faktör Analizi Sonuçları Betimleyici İstatistikler ve Güvenilirlik Katsayısı

Sorular	Ortalama	Standart sapma	Madde-toplam korelasyon	Soru silinirse alfa	Faktör yükü
1 - Şu anda olana odaklanmakta zorlanırım.	4,59	1,242	0,731	0,825	0,843
2 - Kendimi yaptığım işlere dikkatimi vermemiş bulurum.	4,71	1,216	0,732	0,826	0,843
3 - Kendimi gelecek veya geçmişle meşgul bulurum.	3,94	1,553	0,714	0,831	0,828
4 - Yaptıklarımı farkında olmadan otomatikçe bağlanmış gibi yaparım.	4,13	1,368	0,678	0,838	0,794
5 - Aktiviteleri ne olduklarına dikkat etmeden acele ile yerine getiririm.	4,94	1,245	0,592	0,857	0,728
Ölçeğin toplamı	$\alpha = 0,864$ Açıklanan toplam varsayans yüzdesi = 65,38 Maddeler arası ort. korelasyon= 0,565				

Tablo 2’de görüldüğü üzere beş sorudan oluşan tek faktörlü yapı toplam varyansın %65,38’ini açıklamaktadır ve maddelerin faktör yükleri 0,728 - 0,843 arasında değişmektedir. Güvenilirlik analizi sonucu ölçeğin Cronbach alfa değeri ( $\alpha$ )=0,86 ve maddeler arası ortalama korelasyon 0,565 olarak hesaplanmıştır. Her soruya ait madde toplam korelasyonları 0,592 - 0,732 arasında değerler almaktadır. Güvenilirlik analiz sonuçları ölçeğin iç tutarlılığının iyi seviyede olduğunu göstermektedir.

Ölçeğin yapı geçerliliğini değerlendirebilmek için ise doğrulayıcı faktör analizi yürütülmüştür. İlk aşamada modelde iyileştirmeler yapılmıştır. İyileştirme yapılırken modifikasyon değerleri en yüksek olan alt boyut hatalar arasında kovaryans oluşturulmuştur. Ölçeğin yapısının teorik yapıya uygunluğunun ölçülmesinde analiz sonucunda ortaya çıkan uyum iyiliği değerlerinden ilk olarak ki-kare ve serbestlik derecesi ele alınmıştır ve ki-kare değeri serbestlik derecesine bölündüğünde ortaya çıkan değer modelin kabul edilebilir uyuma sahip olduğunu göstermiştir. [ $\chi^2 = 9,814$ , Sd = 3 p < .05 ( $\chi^2/Sd = 3,271$ )] Doğrulayıcı faktör analizi sonucunda diğer uyum iyiliği değerlerine bakıldığında ise [RMSEA=0,07, CFI = 0,99, AGFI = 0,95, GFI=0,99] olarak bulunmuştur. Doğrulayıcı faktör analizi ile elde edilen veriler sonucunda, ölçeğin teorik model ile iyi uyum gösterdiği tespit edilmiştir. Elde edilen bulgular Şekil 2’de gösterilmektedir.

**Şekil 2:** Bilinçli Farkındalık Ölçeği Doğrulayıcı Faktör Analizi

### İş performansı

Bu çalışmada katılımcıların iş performansı seviyelerini ölçebilmek için kullanılan ve tek faktör altında toplanmış dört sorudan oluşan iş performansı ölçeği; Kirkman ve Rosen (1999) tarafından geliştirilmiş olup, ilk kez Sigler ve Pearson (2000) tarafından kullanılmıştır ve değişkenlerin güvenilirliklerinin kabul edilebilir 0,70’lik Cronbach  $\alpha$  seviyesinin üzerinde olduğu tespit edilmiştir. Ölçeğin Türkçeye çevirisi, güvenilirlik ve geçerliliği ise Çöl (2008) tarafından gerçekleştirilmiştir ( $\alpha=0.8277$ ). Literatürde bu ölçekten faydalanan diğer çalışmalarda da güvenilirlik seviyelerinin iyi olduğu görülmektedir (Genç, 2018; Çelik, Çıra, 2013; Mercanlıoğlu, 2021). Bu çalışmada ise iş performansı ölçeği için Cronbach alfa değeri ( $\alpha$ )= 0,92 olarak bulunmuştur.

### Öz-Düzenleme

Çalışma dahilinde katılımcıların öz-düzenleme seviyelerini tespit etmek amacıyla Tangney, Baumeister ve Boone (2004) tarafından geliştirilen ve Nebioglu, Konuk, Akbaba, Eroğlu (2012) tarafından Türkçeye adapte edilen, geçerlilik ve güvenilirlik analizleri gerçekleştirilen iki boyutlu öz-düzenleme ölçeği kullanılmıştır ( $\alpha=0.92$ ). İlgili ölçek, öz disiplin ve dürtüsellik olmak üzere iki alt boyut ve on üç sorudan

oluşmaktadır. Literatür incelendiği zaman bu ölçekten yararlanan diğer çalışmalarda da güvenilirlik seviyelerinin iyi olduğu görülmektedir (Kaymaz, Şakiroğlu, 2020; Yetgin, 2020; Eksi, Turgut, Sevim, 2019). Bu çalışmada ise öz-düzenleme ölçeğine yönelik yürütülen güvenilirlik analizi sonuçları; öz disiplin boyutu için Cronbach alfa değeri ( $\alpha$ ) = 0,75, dürtüsellik boyutu için Cronbach alfa değeri ( $\alpha$ ) = 0,79 ve ölçeğin Cronbach alfa değeri ( $\alpha$ ) = 0,81 olarak bulunmuştur.

## Bulgular

### Demografik Bulgular

Katılımcıların demografik bilgilerine ilişkin frekans ve yüzde dağılımları Tablo 3'te verilmiştir.

**Tablo 3:** Demografik Bulgular

Cinsiyet	Sayı (N)	Yüzde (%)
Kadın	186	48,9
Erkek	194	51,1
Yaş	N	%
≤ 30	193	50,8
31-40	139	36,6
41-50	33	8,7
≥ 51	15	3,9
Eğitim	N	%
Lise	15	3,9
Önlisans	22	5,8
Lisans	215	56,6
Lisansüstü	128	33,7
Medeni durum	N	%
Bekar	207	54,5
Evli	162	42,6
Dul/boşanmış	11	2,9
Sektör	N	%
Otomotiv	75	19,7
Eğitim	49	12,9
Hızlı Tüketim	33	8,7
Tekstil	32	8,4
Diğer	191	50,3
Kurum içi pozisyon	N	%
Yönetici	80	21,1
Beyaz yakalı	285	75,0
Mavi yakalı	15	3,9
Kurum içi çalışma süresi	N	%
< 3	165	43,4
3-6	92	24,2
7-10	61	16,1
11-14	27	7,1
≥ 15	35	9,2
Toplam	380	100,0

**Not:** Katılımcıların "Hangi sektörde çalışıyorsunuz?" sorusuna verdikleri diğer cevaplar ve yüzdeleri şu şekildedir: bankacılık (%3.6), danışmanlık (%4.1), dayanıklı tüketim (%1.8), elektronik (%1.5), enerji (%1.8), gayrimenkul (%1.8), gıda (%2.6), havacılık (%0.5), lojistik (%0.8), perakende (%2.6), sağlık (%3.8), savunma (%1), sigorta (%1.3), tarım (%1.5), teknoloji/yazılım (%3.1), telekomünikasyon (%3.3), turizm (%2.6), üretim (%4.6) ve diğer (%8).

### Ölçüm modeli

Bir çalışmada yer alan hipotezleri test edecek modellere ve gerekli analizlere geçmeden önce, araştırmada incelenmesi gereken korelasyonları göstermek gerekmektedir. Bu çalışmada kullanılan tüm değişkenlerin birbirleriyle olan korelasyonları Tablo 4'te gösterilmektedir.

**Tablo 4:** Korelasyonlar ve Tanımlayıcı İstatistikler

Değişkenler	Ort	SS	1	2	3
1. Bilinçli farkındalık	4,46	1,07	1		
2. İş performansı	4,21	0,80	0,208**	1	
3. Öz-düzenleme	35,57	7,49	0,574**	0,422**	1

\*\* p<.01, \*p>.05

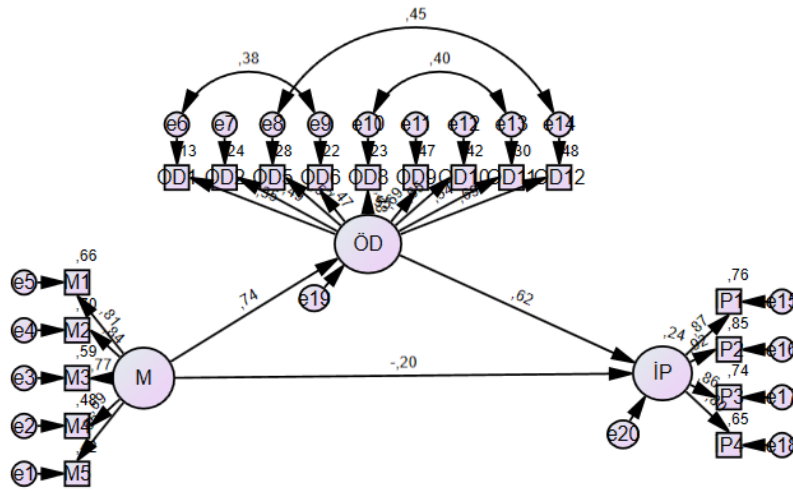
Ölçüm modeli uyumunu ve gözlenen değişken faktör yüklerini değerlendirmek için doğrulayıcı faktör analizi gerçekleştirilmiştir. Doğrulayıcı faktör analizinden elde edilen sonuçlara göre, ölçeklerin uyum iyiliği çeşitli indekslere dayanarak değerlendirilmektedir. Uyum iyiliğinin değerlendirilmesinde kullanılan başlıca ölçüt ise Ki-kare istatistığıdır. Bu istatistik, model ile veri arasındaki uyumu değerlendirmektedir. Çalışmanın modelinde [ $\chi^2 = 475.143$ ,  $df = 130$ ,  $p < .01$ , ( $\chi^2/df = 3.655$ )] olarak bulunmuştur. Elde edilen bu sonuç modelin kabul edilebilir uyum iyiliği değeri olduğunu göstermektedir. Doğrulayıcı faktör analizleri sonucunda diğer uyum iyiliği değerlerine bakıldığında ise; [RMSEA=0.08, CFI = 0.90, NFI = 0.87, AGFI = 0.84, GFI=0.87] olarak bulunmuştur. Elde edilen bu sonuçlara göre modelin kabul edilebilir / iyi uyuma sahip olduğu söylenebilir. Araştırma modeli uyum iyiliği değerleri Tablo 5'te gösterilmektedir.

**Tablo 5:** Araştırma Modeli Uyum İyiliği Değerleri

Model	$\chi^2$	df	$\chi^2/df$	RMSEA	CFI	NFI	AGFI	GFI
Araştırma modeli	475.143	130	3.655	0.08	0.90	0.87	0.84	0.87

### Hipotez testleri

Çalışmanın hipotetik modelinde yer alan yapısal ilişkiler; yapısal eşitlik modellemesi (YEM) yöntemi kullanılarak analiz edilmiştir ve hipotezleri aynı anda değerlendirmek için yol (path) analizi uygulanmıştır. Yapısal eşitlik modellemesi için varsayımlar karşılanmış ve maksimum olabilirlik tahmini uygulanmıştır. Şekil 3'te hipotez testlerine yönelik analizler ve elde edilen bulgular yer almaktadır.



**Şekil 3:** Yol Analizi Modeli

Tablo 6, bağımsız değişken bilinçli farkındalık (M) ile bağımlı değişken iş performansı (İP) arasında pozitif ilişki olduğunu varsayan hipotezin sonuçlarını göstermektedir. Tablo 7 ise, bilinçli farkındalık ve iş performansı arasındaki ilişkide öz-düzenlemenin (ÖD) aracılık rolü olduğunu varsayan hipotez testinin sonuçlarını göstermektedir. Elde edilen bu sonuçlardan hareketle, çalışma kapsamında kurulan hipotezlerin istatistiksel olarak desteklendiği açıkça görülmektedir.

**Tablo 6:** Direkt Etki

Hipotez	Hipotez yolu	Tahmin	S. Tahmin	S.E.	C.R.	P
H1	İP ← M	0,251	0,258	0,056	4,466	***

\*\*  $p < 0,01$ , \*  $p < 0,05$

**Tablo 7:** Dolaylı Etki

Hipotez	Hipotez yolu	p	Etki katsayısı aralığı	Sonuç
H2	M → ÖD → İP	0,005*	(0,313)-(0,681)	Aracılık etkisi anlamlı

\*\*  $p < 0,01$ , \*  $p < 0,05$

Kabul edilen H1 hipotezine göre bilinçli farkındalık ile iş performansı arasında pozitif bir ilişki vardır. Çalışanların bilinçli farkındalık düzeyleri yükseldikçe iş performans düzeyleri de yükselmektedir. Kabul edilen H2 hipotezine göre ise bilinçli farkındalık ve iş performansı arasındaki ilişkide öz-düzenleme aracı bir role sahiptir.

## Sonuç, tartışma ve öneriler

Bu çalışmanın amacı, çalışanların bilinçli farkındalık düzeylerinin iş performansı üzerindeki etkilerini araştırmak ve bu etkide öz-düzenlemenin aracı rolünü incelemektir. Bu amaç doğrultusunda bu çalışma, bilinçli farkındalık ile iş performansı arasındaki ilişkide aracı bir değişken olarak öz-düzenlemeyi inceleyen ilk çalışmalardan biri olma özelliği taşımaktadır. Bu çalışmada, çalışanların bilinçli farkındalık düzeylerinin iş performansı üzerinde pozitif bir etkiye sahip olacağı ve bu etkide öz-düzenlemenin aracı bir role sahip olacağı varsayılmıştır. Çalışmanın amacı doğrultusunda nicel araştırma yöntemi kullanılarak araştırma modelinde bulunan değişkenler arasındaki ilişki ve aracı değişkenin bu ilişkideki rolü sınanmıştır. Bu çalışma kapsamında bilinçli farkındalığın iş performansı üzerinde pozitif etkisi olduğunu ve bu etkide öz-düzenlemenin aracı rolde olacağını varsayan iki ayrı hipotez sınanmış ve elde edilen bulgular doğrultusunda hipotezler kabul edilmiştir.

Kabul edilen H1 hipotezine göre, bilinçli farkındalık ile iş performansı arasında pozitif yönlü bir ilişki vardır. Elde edilen bu bulgu, literatürde yer alan bilinçli farkındalık ile iş performansı arasında pozitif yönde ilişki olduğunu gösteren diğer araştırma bulguları ile uyumludur. (Glomb, 2011; Reb, Narayanan, Ho, 2013; Dane, Brummel, 2014; Shonin vd., 2014; Karavardar, 2015; Vaculik, Vytaskova, Prochazka, Zalis, 2016; Limphaibool W, Limphaibool N, Davidson, 2017; Aydoğmuş, 2022). Çalışanların bilinçli farkındalık düzeyleri yükseldikçe iş performansı düzeyleri de yükselmektedir. Bilinçli farkındalık düzeyi yüksek çalışanlar, içerisinde buldukları ana yönelik olan dikkatlerini artırarak niyet ettikleri durumlar doğrultusunda (hedeflerine ulaşma konusunda) daha rahat aksiyon almaktadırlar.

Kabul edilen H2 hipotezine göre ise, bilinçli farkındalık ile iş performansı arasındaki ilişkide öz-düzenleme aracı bir role sahiptir. Öz-düzenleme becerisi üzerine göze çarpan en önemli çalışmalardan biri çocukların hazzı erteleme becerisi ve hedef odaklı davranışlarının sonuçlarını araştıran kapsamlı çalışma olmuştur (Mischel, Shoda, Rodriguez: 1989). Bu araştırma bireylerin öz-düzenleme becerisindeki farklılıklarının okul öncesi dönemde başladığını ve bireyin sonraki akademik ve iş performansında ve iyi oluş hallerinde belirleyici bir role sahip olduğunu öne sürmektedir. Tangney vd. (2004) gibi benzer çalışmalar da yüksek öz-düzenlemenin, bireyin iyi uyumu, akademik başarısı ve kişiler arası ilişkilerindeki başarısının önemli bir öncülü olduğunu desteklemektedir. Bireyler arasında öz-denetime bağlı bu farklılıkların organizasyon bağlamında da geçerli olacağı düşünülmüştür. Sınırlı sayıda çalışma; öz-denetimin organizasyon içinde istenen ve istenmeyen bazı sonuçlar ve davranışlarla yakın ilişki içinde olduğunu göstermektedir. Tangney vd. (2004), öz-denetim gösterme becerisinin, sorumluluğun önemli bir parçası olduğunu belirtmektedir. Van den Berg (2011)'in öz-denetim ile organizasyon bağlamında istenen ve istenmeyen davranışlar arasındaki ilişkiyi araştıran çalışması; öz-denetim ile planlama, zaman yönetimi ve performans kalitesi arasında pozitif ilişki olduğunu ortaya koymuştur. Ayrıca öz-denetim ile çalışanın uyumlu davranışı ve sosyal yetenekleri arasında da pozitif ilişki elde edilmiştir. Bunun yanı sıra öz-denetim ile organizasyonla ilişkili istenmeyen sonuçlar ve davranışlar arasında negatif ilişki tespit edilmiştir. Örneğin öz-denetim; fiziksel ve zihinsel rahatsızlıklar nedeniyle çalışanın devamsızlığı ve işe karşı geliştirilen davranış ile güçlü bir negatif ilişki bulunmuştur. Ayrıca söz konusu çalışmada, istenen pozitif organizasyonel sonuçlar üzerinde öz-denetimin; diğer personel seçim kriterlerine (kişilik faktörleri, eğitim ve deneyim gibi) kıyasla daha güçlü bir tahmin edici olduğu elde edilmiştir. Diğer yandan bilinçli farkındalığı yüksek bireyler, bunun doğal bir sonucu olarak, kendi kontrolünü sağlama ve düzenleme konusunda yeteneklidir (Brown, Ryan, Creswell, 2007: 223-228). Literatürde yer alan benzer çalışmalar bu ilişkiyi desteklemektedir (Küçük, 2019: 41; Sutcliffe, Vogus, Dane, 2016: 71; Masicampo, Baumeister, 2007: 255). Bu çerçeveden bakıldığında, bilinçli farkındalık ile doğası gereği amaçlar ve somut çıktılar ile ilişkili bir tutum olan iş performansı arasındaki ilişkide öz-düzenlemenin aracı rolde olması beklenen bir sonuçtur. Çünkü çalışanların performans hedeflerine ulaşma konusunda aksiyon almaları bir kontrol mekanizması aracılığıyla, yani öz-düzenlemenin varlığıyla gerçekleşmektedir. Bir diğer deyişle, bilinçli farkındalığın etkisiyle, öz-düzenleme tutumu, daha yüksek iş performansı düzeylerine ulaşma konusunda anahtar rolü görmektedir.

Bu çalışma, çalışanların hayatlarının ve davranışlarının normalinden daha farklı olduğu pandemi sürecinde gerçekleşmesine rağmen, bilinçli farkındalık düzeyi yüksek çalışanların hem kendi hayatlarına hem de içinde buldukları örgütlere sağladıkları birtakım katkıları ortaya koymaktadır. Faydaları kanıtlanan bilinçli farkındalık değişkeni, bu çalışma kapsamında bir kişilik özelliği olarak ele alınmış olsa da anlık farkındalıklar çeşitli egzersizler yardımıyla geliştirilebilir ve düzenli uygulanan pratikler yardımıyla bu durum kişilik özelliği haline getirilebilir. Çalışanların kişisel farkındalıklarının yanı sıra örgütsel farkındalık seviyesinin de yüksek olmasının, örgüte ve çalışanlarına sağladığı pek çok fayda göz önünde bulundurulduğunda, örgütlerin çalışanlarına iş başında, iş dışında veya çevrimiçi

ortamlarda bilinçli farkındalık bazlı eğitim ve uygulama olanakları sağlamaları ve bu şekilde çalışanlarının bilinçli farkındalık düzeylerini yükseltmeleri önerilebilir.

Bu çalışma mevcut literatüre sunduğu katkıları açısından önem teşkil etmektedir. Bilinçli farkındalığı ölçebilmek adına bu çalışmada Brown ve Ryan (2003)'ün tek faktör altında toplanan ve 5 soruya indirgenmiş olan "Bilinçli Farkındalık Ölçeği" Türkçeye adapte edilmiş ve Cronbach alfa değeri ( $\alpha$ )=0,86 şeklinde elde edilmiştir. Yürütülen analizler sonucu elde edilen bulgular, bu ölçeğin geçerli ve güvenilir bir ölçek olduğunu göstermektedir. Çalışmanın mevcut literatüre bir diğer katkısı ise, bilinçli farkındalığın iş performansını öz-düzenleme üzerinden etkileyip etkilemediğinin araştırılmış olmasıdır. Bilinçli farkındalık üzerine sınırlı olan literatür göz önüne alındığında, öz-düzenlemenin aracı değişken olarak incelenmesi, bilinçli farkındalık için teorik çerçeve oluşturabilmek açısından önemli bir katkı sağlamaktadır.

Her çalışmanın olduğu gibi bu çalışmanın da kısıtları bulunmaktadır ve bulgular değerlendirilirken bu kısıtlar mutlaka dikkate alınmalıdır. İlk olarak, örneklem araştırmacının e-mail ve profesyonel ağlar aracılığıyla erişebildiği kurumsal şirketler ile sınırlıdır. Ayrıca çalışmanın sektör ayrımı gözetmeksizin gerçekleştirilmiş olması yani belirli bir sektörü dikkate almaması da oldukça önemli bir kısıttır. Araştırmaya katılım gösteren çalışanların ankete katılımları gönüllülük esasına dayalıdır. Gönüllülük esaslı katılım, kendi isteği ile katılan birey tiplerinde ortak olan belirli özellikler varsa, sonuçları olumlu ya da olumsuz yönde etkileyebilir. Bununla birlikte, tüm veriler katılımcıların kendileriyle ilgili öz-bildirim vermelerine bağlı olduğu için bu konuda da doğal olarak bir kısıt mevcuttur çünkü öz-bildirim ölçeklerinin katılımcıların cevaplarında taraflılığa zemin hazırlayabileceği bilinen bir gerçektir. Diğer bir kısıt ise, bu çalışma son aşırda benzeri görülmemiş bir hadise olan Covid-19 pandemisi sebebiyle örgütlerin uzaktan ve esnek çalışma sistemine geçtiği süreçte yapıldığı için, bu durum bulguların tüm zamanlara genellenebilirliğini sınırlamaktadır.

Gelecek araştırmalar için çeşitli sektörlerden daha fazla sayıda katılımcı ile daha geniş bir kümeden örneklem görülmesi ya da sadece belirli bir sektörü dikkate alan araştırmaların gerçekleştirilmesi önerilmektedir. Ayrıca pandemi sonrası karma yöntemden yararlanarak daha zengin bir çalışma yapılması önerilebilir. Son olarak da çalışmada kullanılan bağımlı ve bağımsız değişkenler arasındaki ilişki, bu ilişkiyi etkileyebileceği varsayılan farklı değişkenler ile tekrar incelenebilir.

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## Z kuşağının sürdürülebilir tüketim davranışını etkileyen faktörlere yönelik keşifsel bir araştırma

### Exploratory research on the factors affecting the sustainable consumption behaviour of gen Z

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#### **Öz**

Dünyanın farklı bölgelerinde yaşanan sel felaketleri, orman yangınları, balıkçılığın bitmesi, orman arazilerinin yok olması gibi iklim krizinin olumsuz etkileri, mevcut üretim ve tüketim anlayışının artık sürdürülemez olduğuna işaret etmektedir. Baskın Sosyal Paradigmanın etkisi altındaki geleneksel işletme anlayışı, dünyanın sınırlı kaynaklarını kar maksimizasyonu amacıyla tüketmiştir. Fakat bu baskın anlayış, bilinçli tüketiciler ve Z jenerasyonunun tüketim alışkanlıklarındaki değişimi yakalayamamış ve demode olmuştur. Günümüzde, bilinçli tüketiciler ve Z Kuşağı, işletmelerin olumsuz dışsallıklarını en aza indirmelerini ve ekonomik çıkarlardan çok, çevresel ve sosyal amaçlara katkıda bulunmalarını beklemektedir. Bu çalışma, Z kuşağı temsilcisi üniversite öğrencilerinin, sürdürülebilir tüketim davranışını etkileyen değişkenlerdeki boyutları belirlemeyi amaçlamaktadır. Çalışmada kolayda örnekleme yöntemi kullanılarak, İstanbul'daki üniversite öğrencilerinden yüz yüze anket yöntemiyle veriler toplanmıştır. Veriler analiz edilirken, veri, önce keşifsel faktör analizine, daha sonra doğrulayıcı faktör analizine tabi tutulmuştur. Daha önceki çalışmalardan farklı olarak, bu çalışma, sürdürülebilirliğin sosyal boyutunu içeren değişkenlerle birlikte, sürdürülebilir tüketim davranışını etkileyen unsurların, dokuz boyuttan oluştuğunu belirlemektedir. Bu boyutlar; çevresel ve sosyal endişeler, çevresel ve sosyal problemlere yönelik ciddiye algısı ve sorumluluk algısı, çevresel ve sosyal problemler hakkındaki bilinç seviyesi, ülke imajı, ağızdan ağıza iletişimin etkisi, sosyal normlar, sürdürülebilir tüketim için tutum ve niyetten oluşmaktadır.

**Anahtar Kelimeler:** Pazarlama, Sürdürülebilir Kalkınma, Sürdürülebilir Tüketim, Tüketici İktisadı: Deneysel Analiz, Çevre ve Kalkınma

**İel Kodları:** M31, Q01, Q56, D12, O13

#### **Abstract**

The consequential impact of flash floods, wildfires, collapsing fisheries, deforestation due to global climate change, and depleting natural resources indicates that the regnant production and consumption patterns are no longer tenable. So far, the traditional business approach under the influence of the Dominant Social Paradigm (DSP) has devoured limited planetary resources with the goal of pure profit maximization. Nevertheless, this dominant logic is outdated and cannot keep up with the changing consumption habits of conscious consumers and Gen Z. Today, mindful consumers and Gen Z expect business entities to minimize their negative externalities. They also expect business entities to contribute to environmental and social causes other than economic interests. The study aims to determine the dimensions of the variables that affect the sustainable consumption behaviour of the university students who represent Gen Z. The data has been gathered via non-random convenience sampling by administering face-to-face surveys among university students in Istanbul. First, exploratory factor analysis was conducted in data analysis, and then a confirmatory factor analysis was performed. Unlike the previous studies, the present study puts forward that sustainable consumption behaviour consists of nine dimensions with variables, including social sustainability. These dimensions are environmental and social concerns, perceived seriousness of environmental and social problems, perceived environmental and social responsibility, consumers' existing knowledge about environmental and social problems, country image, word-of-mouth communication, social norms, and attitude and intention toward sustainable consumption.

**Keywords:** Marketing, Sustainable Development, Sustainable Consumption, Consumer Economics: Empirical Analysis, Environment and Growth

**İel Codes:** M52, M31, E24 M31, Q01, Q56, D12, O13

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## Extended Abstract

### Exploratory research on the factors affecting the sustainable consumption behaviour of gen Z

#### Literature

Previous literature has categorized the determinants of sustainable consumption behaviour as internal, external, and situational (Kumar and Ghodeswar, 2015). The internal determinants comprise factors such as concerns toward perceived environmental problems and perceived responsibility. The external determinants include price, functional performance, and social norms. Finally, the situational determinants involve legal regulations and economic incentives (Carrete, Castaño, Felix, Centeno, González, 2012). Moreover, the literature concerning sustainable consumption behaviour employs factors, which are: quality of product, social influence, environmental concern, perceived seriousness of environmental problems, perceived environmental responsibility, concern for self-image, and environmental attitude (Lee, 2008; Zhao and Zhong, 2014), green product experience, social appeal (Kumar and Ghodeswar, 2015), personal knowledge, perceived consumer effectiveness and behavioural intention (Jaiswal and Kant, 2018), confidence in green products, subjective norms, perceived behavioural control (Liobikiene, Mandravickaitė, Bernatoniene, 2016), perceived marketplace influence, attitude toward sustainable purchasing, supportive behaviours for environmental organizations (Joshi and Rahman, 2017), product price, product brand, perceived availability of sustainable products (Cerri, Testa, Rizzi, 2018), government initiatives, and green values, (Al-Swidi and Saleh, 2021).

#### Research subject

This study investigates the factors affecting the sustainable consumption behaviour of gen Z.

#### Research purpose and importance

The present paper aims to identify the dimensions of sustainable consumption behaviour of Gen Z, who are more eager to accept and adopt novelties compared to previous generations (Wood, 2022). Considering the common determinants of sustainable consumption, this study seeks to explain sustainable consumption behaviour by incorporating social sustainability indicators, which have been employed in a relatively limited number of studies. The present paper endeavours to explain the sustainable consumption behaviour of Gen Z by conducting exploratory and confirmatory factor analysis, which contributes to Sustainable Development Goal 12 (SDG 12) of the UN and devising behavioural changes toward sustainable consumption patterns.

#### Contribution of the article to the literature

The present study explains the dimensions of sustainable consumption behaviour by incorporating social sustainability indicators. Thus, this article will contribute to both business enterprises and academics seeking to examine sustainable consumption holistically.

#### Design and method

In this study, a quantitative methodology has been conducted, which employs questionnaires. Considering the most frequently used factors concerning sustainable consumption behaviour, first, a 42-item questionnaire was handed out to 330 participants that represent Gen Z. Secondly, exploratory factor analysis was performed to identify factors which affect sustainable consumption behaviour. Thirdly, a confirmatory factor analysis has been conducted to verify the sustainable consumption behaviour of Gen Z.

#### Research type

Quantitative

#### Research problems

The present paper seeks to answer the following question: What factors affect gen Z's sustainable consumption behaviour?

#### Data collection method

This research was conducted using quantitative research methods and techniques. Data has been collected by survey technique. The data is gathered via a face-to-face questionnaire delivered. Three hundred and fifty participants have been reached with the convenience sampling method.

#### Quantitative/qualitative analysis

First, exploratory factor analysis has been performed to identify factors affecting sustainable consumption behaviour. Then, a confirmatory factor analysis was conducted to verify the sustainable consumption behaviour of Gen Z.

#### Research model

Not Applicable

#### Research hypotheses

Not Applicable

#### Findings and discussion

The verified factors in this study differ from those of the previous research. The first is WOM communication, which helps adopt and diffuse sustainable products. To illustrate, communicating sustainable product practices at all stages, from the provision of raw materials to the sales stage, will raise awareness about sustainable consumption behaviour, helping to change consumption patterns to be replaced by more sustainable ones. The second one is a country image, which means that states, local authorities and corporations' sustainability applications should be associated with environmental and social sustainability dimensions. This, as a consequence, will have implications on the behaviour of consumers. Lastly, the present study explains the dimensions of sustainable consumption behaviour by incorporating social sustainability indicators.

**Findings as a result of the analysis**

In the exploratory phase of the research, sustainable consumption behaviour consists of 9 dimensions and 41 items. The dimensions have been labelled as (1) perceived seriousness of environmental and social problems, (2) perceived environmental and social responsibility, (3) word of mouth, (4) environmental and social concerns, (5) social norms, (6) country image, (7) existing knowledge about environmental and social problems, (8) attitude toward sustainable consumption, and (9) behavioural intention toward sustainable consumption. In the confirmatory phase of the research, sustainable consumption behaviour has been verified with nine dimensions, which are similar to those of the exploratory phase. The remaining indicators include 35 items. All dimensions meet the prerequisites of validity and reliability.

**Hypothesis test results**

Not Applicable

**Discussing the findings with the literature**

In parallel with previous research, the present study has revealed that the perception of seriousness towards environmental and social problems is a significant variable in explaining sustainable consumption (Mostafa, 2006; Lee, 2008). The environmental and social responsibility perception dimension has also been verified similarly to previous findings (Al-Swidi and Saleh, 2021; Kumar and Ghodeswar, 2015; Konuk, Rahman, Salo, 2015). Confirmation of the dimension "concerns about environmental and social problems" resembles previous literature results (Cerri et al., 2018; Joshi and Rahman, 2017; Suki, 2016). In a similar fashion to those of the previous literature studies, peers impact gen Z's sustainable consumption behaviour, stimulating them to buy sustainable product alternatives. (Al-Swidi and Saleh, 2021; Liobikienė, Grincevičienė, Bernatoniene, 2017; Joshi and Rahman, 2017; Chen and Hung, 2016). In congruence with previous research, consumers' knowledge about social problems significantly impacts sustainable consumption (Joshi and Rahman, 2017; Maniatis, 2016; Chen and Hung, 2016). Lastly, confirmation of attitudes and intentions towards sustainable consumption is in line with extant findings in sustainability literature (Al-Swidi and Saleh, 2021; Chen and Hung, 2016; Biswas and Roy, 2015; Lee, 2008).

**Conclusion, recommendation and limitations****Results of the article**

The present study suggests that sustainable consumption behaviour consists of nine dimensions with variables, including the dimension of social sustainability. These dimensions are environmental and social concerns, perceived seriousness of environmental and social problems, perceived environmental and social responsibility, consumers' existing knowledge about environmental and social problems, country image, word-of-mouth communication, social norms, and attitude and intention toward sustainable consumption

**Suggestions based on results**

Business enterprises should pay heed to gender equality, equal wage policies, paternity and maternity leave, and the termination of child labour. This will increase the image of business enterprises and help grow market share for sustainable products.

**Limitations of the article**

This study has two major limitations: (1) the sample population includes university students that represent Gen Z, living in Istanbul, and (2) the present paper employs common limiting factors that have been used in the previous research.

Table 1: The Factors Affecting Sustainable Consumption Behaviour

Dimensions and items (Explained Variation): (% 67)	Perceived seriousness of environmental and social problems (α 0.888)	Perceived social and environmental responsibility (α 0.896)	Behavioural Intention (α 0.860)	WOM (α 0.839)	Attitude towards sustainable consumption (α 0.864)	Environmental and social concerns (α 0.790)	Social norms (α 0.732)	Existing knowledge about environmental and social problems (α 0.777)	Country image (α 0.778)
VAR25	.833 (.744)								
VAR21	.745 (-)								
VAR26	.810 (.812)								
VAR27	.671 (.752)								
VAR22	.624 (.712)								
VAR24	.650 (.767)								
VAR23	.633 (.687)								
VAR35		.868 (-)							
VAR36		.848 (-)							
VAR37		.772 (.647)							
VAR32		.586 (.912)							
VAR38		.791 (.552)							
VAR34		.525 (.698)							
VAR33		.531 (.770)							
VAR31		.449 (.868)							
VAR52			.920 (.841)						
VAR51			.859 (.781)						
VAR50			.857 (.721)						
VAR53			.722 (.782)						
VAR44				.842 (.798)					
VAR45				.824 (.827)					
VAR43				.756 (.697)					
VAR46				.658 (.704)					
VAR7					.946 (.913)				
VAR8					.861 (.713)				
VAR6					.880 (.861)				
VAR16						.895 (.624)			
VAR15						.836 (.641)			
VAR14						.661 (.790)			
VAR13						.385 (.638)			
VAR1							.793 (.741)		
VAR2							.715 (.764)		
VAR3							.743(-)		
VAR4							.675(-)		
VAR20								.881 (-)	
VAR19								.804 (.573)	
VAR18								.480 (.797)	
VAR17								.369 (.751)	
VAR29									.899 (.536)
VAR30									.832 (.730)
VAR28									.492 (.802)

Table 2: Validity and Reliability Scores

The Validity and Reliability of Dimensions	Composite Reliability (CR)	Average Variance Explained (AVE)
Perceived Seriousness of environmental and social problems	0.883	0.558
Perceived social and environmental responsibility	0.883	0.565
WOM	0.844	0.576
Existing knowledge about environmental and social problems	0.753	0.509
Attitude towards sustainable consumption	0.871	0.694
Environmental and social concerns	0.770	0.458

Social norms	0.723	0.566
Behavioural Intention	0.863	0.612
Country Image	0.736	0.488

**Table 3:** Correlation Coefficients Between Latent Variables

	Seriousness	Responsibility	WOM	Knowledge	Attitude	Concerns	Social norms	Intention	Country image
Perceived Seriousness of environmental and social problems	0.747								
Perceived social and environmental responsibility	0.562***	0.752							
WOM	0.288***	0.480 ***	0.759						
Existing knowledge about environmental and social problems	0.268***	0.383 ***	0.598***	0,713					
Attitude towards sustainable consumption	0.557***	0.504 ***	0.178 **	0,173 *	0.833				
Environmental and social concerns	0.614 ***	0.479 **	0.284***	0.501***	0.352***	0.676			
Social norms	0.112*	0.361***	0.418***	0.403***	0.238 **	0.188*	0.753		
Behavioural Intention	0.379***	0.545 ***	0.577***	0.531***	0.305***	0.318 ***	0.352***	0.782	
Country Image	0.604***	0.603***	0.321***	0.267***	0.529***	0.601***	0.106 *	0.280***	0.690

Note: \*p < 0.050; \*\*\*p < 0.001

## Giriş

Baskın sosyal paradigmada vücut bulan ve bu anlayış içerisinde gelişen işletmelerin kısa dönemli bakış açıları, daha çok pazarda faaliyet gösterip daha çok mal ve hizmet satmak adına doğada bulunan sınırlı kaynakların sömürülmesini beraberinde getirmiştir (Kelleci ve Yıldız, 2021: 2). Dünya üstündeki popülasyonların artış hızı da işletmelerin, tüketicilerin istek ve ihtiyaçlarını karşılamak amacıyla, kısa dönemli amaçlar uğruna, bütün kaynakları fütursuzca tüketme eğilimlerini körüklemiştir. Ayrıca, artan nüfus orman alanlarının yerleşim amacıyla tahribine, hava kirliliğine, hane halkı tüketim alışkanlıkları sebebiyle atık yığınlarının ortaya çıkmasına sebep olmuştur. Hane halkı tüketim alışkanlıkları küresel bazda sera gazı emisyonlarının %60'ına temel teşkil ederken, yerleşim alanlarının kullanımı, materyal gereksinimi, su tüketimiyle birleştiğinde, insanların küresel sera gazına olan katkısı %80 oranına kadar çıkabilmektedir (Ivanova, Stadler, Steen-Olsen, Wood, Vita, Tukker ve Hertwich, 2015). Bu durum çevrenin asimilasyon kapasitesinin çok üstünde bir yüke işaret etmektedir. Bunun yanında gelir dağılımındaki eşitsizlikler de sosyal sorunlara temel teşkil etmektedir. Maden ocakları ve benzeri yerlerde çocuk işçilerin çalıştırılması, kız çocuklarının okutulmaması ve aktif bireyler olarak üretim hayatına katılmamaları, kadın erkek çalışan sayıları dikkate alındığında ataerkil anlayış çerçevesinde bir cinsiyetin baskın kılınması bu tür sosyal problemlerin sadece birkaçını oluşturmaktadır. Üretim ve tüketim kaynaklı faaliyetler sonucu sera gazı salınımlarındaki artış, iklim değişikliğini körüklemektedir. Dünyanın farklı ülkelerinden gelen ani sel baskını ve orman yangını haberleri günümüzde yaygın bir hal almakta ve iklim değişikliğinin artık iklim krizine doğru ilerlediğini ortaya koymaktadır. Dolayısıyla artık kısa dönemli amaçlarla, "dünya" üstünde hayatın idame ettirilmesi ve sınırlı doğal kaynakların gelecekteki nesillerin ihtiyacını karşılaması pek mümkün görünmemektedir (Yıldız, 2022). Bu doğrultuda; insanların doğanın geri kalanından kendini ayırık ve üstün bir varlık olduğunu varsayan insan-merkezci (anthropocentric) anlayıştan, insanların diğer türlerle eşit seviyede doğanın bir parçası olduğunu kabul eden, ekolojik-merkezci (eco-centric) anlayışa doğru geçilmesi bir zorunluluk arz etmektedir (Kemper ve Ballantine, 2019: 4; Borland ve Lindgreen, 2013).

İklim değişikliğinin yarattığı olumsuz etkilerin azaltılması amacıyla, Birleşmiş Milletler (BM) ve Avrupa Birliği (AB) öncülüğünde, ekolojik-merkezci anlayış ve sürdürülebilir kalkınmayı temel alan plan ve programlar geliştirilmiştir. Sürdürülebilir kalkınma en temel anlamıyla, ekonomik faaliyetler gerçekleştirilirken doğaya verilen zararın asgari seviye indirilmesi, mümkünse bertaraf edilmesi ve içinde bulunulan topluma azami seviyede fayda sağlanması anlamına gelmektedir (Elkington, 1998: 72). Ekolojik-merkezci anlayışı da kapsayan ve sürdürülebilir kalkınmayı odak noktası olarak belirleyen "sürdürülebilir kalkınma hedefleri", BM üye devletlerince 2015 yılında Paris İklim Anlaşması çerçevesinde kabul edilmiştir. 17 adet sürdürülebilir kalkınma hedefi; nitelikli eğitim, eşitsizliklerin azaltılması, global ölçekte adil gelir paylaşımı, iklim değişikliği ile mücadele, karada ve denizlerdeki canlı hayatının korunması gibi unsurları içinde barındırmaktadır. Bahse konu 17 sürdürülebilir kalkınma hedefleri arasında sorumlu üretim ve tüketim amacı on ikinci hedef olarak belirlenmiştir. Sorumlu üretim; ürünler için gerekli olan kaynak gereksinimini azaltan tasarımlara yine bu ürünlerin yaşam döngüsü boyunca çevreye olan olumsuz etkilerini minimize etmeye işaret etmektedir (OECD, 2009; Biswas ve Roy, 2015; Zhao ve Zhong, 2015). Kullanılmış plastikten üretilmiş ev eşyalarını, kâğıttan yapılmış, geri dönüştürülebilir veya tekrar kullanıma sahip paketleri, yüksek enerji verimliliğine sahip aydınlatma ürünlerini, doğada çözünebilir içeriğe sahip deterjanları, doğayı kirletmeyen ve sentetik içermeyen boyaları ve parfümleri kullanmak, sürdürülebilir tüketim davranışına örnek olarak gösterilebilir (Mostafa, 2006). Günümüzde özellikle Z kuşağının öncülüğündeki bilinçli tüketicilerin tercih ettiği sürdürülebilir tüketim davranışı, aynı zamanda doğaya ve çevreye zarar vermeyen ürün ve hizmetlerin tüketimini de içermektedir (Liobikienė, Mandravickaitė, ve Bernatoniene, 2016; Wood, 2022). Bu anlamda sürdürülebilir tüketim alışkanlıklarının toplumun geniş bir kesimine kazandırılması, sürdürülebilir kalkınma hedefinin gerçekleştirilmesinde anahtar bir unsur olarak ön plana çıkmaktadır. Dolayısıyla sürdürülebilir tüketim davranışını teşvik eden ve önünde engel olarak duran unsurların anlaşılması, hem sürdürülebilir kalkınma hedefi olarak belirlenen on ikinci sorumlu üretim ve tüketim amacının gerçekleştirilmesine hizmet edecek hem de söz konusu davranış değişikliği gerekliliklerinin formüle edilmesi ve tasarlanmasına katkı sağlayacaktır (Ritter, Borchardt, Vaccaro, Pereira ve Almeida, 2015; Mont, Neuvonen, ve Lähteenoja, 2014). Öte yandan araştırma kapsamında yapılan literatür taramasında, sürdürülebilir tüketimin çoğunlukla çevresel boyutta davranışı etkileyen unsurlar çerçevesinde açıklanmaya çalışıldığı görülmüştür. Fakat, iş yerinde çocuk işçi çalıştırılması, kadın ve erkek çalışanları sayısının eşit olmaması, toplumda farklı özellik ve tercihlere sahip bireylerin işlemede istihdam edilmemesi ve ayrımcılık yapılması gibi sürdürülebilirliğin sosyal unsurları da tüketicilerin, sürdürülebilir tüketim davranışını etkilemektedir. Bahse konu açıklamalar ışığında, bu çalışmada, sürdürülebilirliğin sosyal değişkenleri de araştırmaya dahil edilerek, yeniliklere uyum göstermesi ve alışkanlık olarak benimseme potansiyeli en yüksek olan Z kuşağının (Wood, 2022), sürdürülebilir



tüketim davranışını etkileyen faktörlerin, hangi boyutlardan oluştuğunun belirlenmesi amaçlanmıştır. Çalışmada sorumlu üretim ve tüketime yönelik uygulamalar, ürünler ve pazarlar ülkemiz için nispeten yeni olarak nitelendirilebileceğinden, Z kuşağının sürdürülebilir tüketime yönelik davranışsal niyeti ve bu niyeti etkileyen faktörler araştırılmıştır.

## Literatür taraması

2015 yılında Birleşmiş Milletler üye devletleri tarafından kabul edilen Sürdürülebilir Kalkınma için 2030 Ajandası, 17 sürdürülebilir kalkınma hedefini içermektedir. Bu hedeflerin on ikincisi, sorumlu üretim ve tüketim olarak adlandırılmaktadır. Sorumlu üretim ve tüketim, doğal kaynakların verimli kullanımına hem yiyeceklerden kaynaklanan atıkların hem de diğer atıkların azaltılmasına, kimyasal süreçlerin sorumlu yönetimine, sürdürülebilir tedarik süreçlerine ve işletmeler açısından sürdürülebilirlik uygulamalarının desteklenmesine işaret etmektedir (Rajadurai, Hanafi, Bathmanathan, 2021). Literatürde sorumlu tüketim davranışı, uzun dönemde faydayı maksimize eden ve toplum ile tüketicilere olan olumsuz etkileri minimize eden ürünlerin satın alınması ve tüketilmesi şeklinde tanımlanmaktadır (Mohr, Webb, Harris, 2001). Sürdürülebilir tüketim ise, gelecek nesillerin ihtiyaçları göz ardı edilmeksizin var olan nesillerin ihtiyaçlarının karşılanması anlamına gelmektedir (WCED, 1987). Ayrıca sürdürülebilir tüketim; çevresel kaygıların azaltılması, gelişmiş ekonomik büyüme, iyileştirilmiş güvenlik, toplumların üst seviyede ilerlemesi, istihdam, doğal kaynakların eşit dağılımı, artırılmış refah, sağlıklı yaşam tarzı ve sosyal sorumluluk konularının bütünsel bir şekilde iyileştirilmesine yardım etmektedir (Kilbourne, McDonagh, ve Prothero, 1997). 1990'ların sonlarından bu yana, sorumlu tüketim kavramına paralel bir şekilde gelişen sürdürülebilir davranış kavramı ise, doğal kaynakların korunmasını gözeten bir dizi bilinçli ve önleyici eylem olarak tanımlanmıştır. Ayrıca, hayvan ve bitki yaşamının bütünlüğü, mevcut ve gelecekteki nesillerin bireysel ve sosyal refahı da sorumlu ve sürdürülebilir tüketim kavramı içerisinde yer almaktadır. (Corral-Verdugo ve Pinheiro, 2004).

Sürdürülebilir tüketim davranışın ortaya çıkmasıyla birlikte, işletmeler sürdürülebilir tüketim pazarındaki fırsatları değerlendirmek amacıyla, yeşil ürün ve hizmetleri tüketicilere sunmaya başlamıştır. Yukarıda da belirtildiği üzere, yeşil ürün satın alma davranışı, gelecekteki nesillerin kaynak ihtiyacını gözeten ve doğadaki diğer canlıların yaşam hakkını dikkate alan bir anlayışa işaret etmektedir. Bu gelişmelere paralel olarak, tüketicilerin yeşil ürün satın alma davranışlarını etkileyen faktörler, literatürde, üç başlıkta sınıflandırılmaktadır. Birinci kategoride; çevre sorumluluğuna sahip olunması, bilgi edinme arayışı, kişisel ilgi, kaynakların korunması ve çevre üstündeki olumsuz etkilerin azaltılmasına yönelik eyleme geçme istekliliği gibi içsel faktörler yer almaktadır (Kumar ve Ghodeswar, 2015). İkinci kategoride yer alan dışsal faktörler ise; fiyat, fonksiyonel performans, güvenlik gibi ürün özelliklerinden, tüketicilerin sosyal imajından oluşmaktadır. Son olarak üçüncü kategori; yasalar ve teşvik edici ekonomik ödüller gibi durumsal faktörleri içermektedir (Carrete vd. 2012).

Araştırma kapsamında yapılan literatür taramasında, sürdürülebilir tüketim davranışının incelendiği bir çalışmada çevresel kaygıların, ekolojik etiketlere verilen önemin, iletişim kampanyalarına atfedilen önemin, ürün niteliğinin, satıcıya olan güvenin ve ürün güvenliğinin sürdürülebilir ürünlere yönelik tutum üstünde ve sürdürülebilir ürünlerin satın alınması kararında etkili olduğu ileri sürülmektedir (Ceri vd. 2018). Avusturya ve Litvanya'nın yeşil tüketim alışkanlıklarının karşılaştırıldığı bir çalışmada ise; çevre dostu davranış karakteristiğinin, sosyal normların, ürün fiyatının ve cinsiyetin yeşil satın alma davranışını etkilediği varsayılmaktadır (Liobikienė vd. 2017). Tüketicilerin sürdürülebilir satın alma davranışının araştırıldığı bir çalışmada, çevresel örgütleri destekleyici davranışların, sürdürülebilirlik hakkındaki bilgi seviyesinin, çevresel konulara yönelik kaygıların, sosyal normların, sürdürülebilir satın almaya yönelik tutumun ve algılanan pazar etkisi unsurlarının bağımsız değişkenler olarak incelendiği görülmüştür (Joshi ve Rahman, 2017). Algılanan pazar etkisi kavramı, söz konusu çalışmada tüketicilerin sürdürülebilir tüketime dönük davranışlarının, pazarda diğer tüketicilerin ve işletmelerin davranışlarını etkileyeceği varsayımına dayandırılmaktadır. Yeşil ürünlerin satın alınmasına karar verilmesi sürecinde tüketicileri etkileyen faktörlerin tespit edildiği bir diğer çalışmada, tüketicilerin bilgi dağarcığının, bağlılıklarının ve genel farkındalıklarının araştırıldığı; bunların çevresel, ekonomik, güvenilirliğe yönelik bilinç ile ilişkilendirildiği belirlenmektedir (Maniatis, 2016). Malezya'da yeşil ürün satın alma davranışının incelendiği bir başka çalışmada (Sheth, Newman, ve Gross 1991), geliştirilen fonksiyonel, sosyal, duygusal, koşula ve bilgiye dayalı değer yapılarının, yeşil ürünlerin satın alma davranışını etkilemesi yoluyla tüketicilerin çevresel kaygılarını açıkladığı ileri sürülmektedir (Suki, 2016). Planlı davranış teorisinin (Ajzen, 1991) genişletilerek yeşil ürünlerin benimsenmesini etkileyen faktörlerin incelendiği bir çalışmada, yeşil ürünlere yönelik tutumun, öznel normların, algılanan davranışsal kontrolün, sosyal izlenimin, çevresel etik algısının, çevresel bilinç seviyesinin, kabul davranışı üstünde etkili olduğu ileri sürülmektedir (Chen ve Hung, 2016). Yine tüketicilerin yeşil ürün

satın alma kararını etkileyen faktörlerin araştırıldığı bir diğer çalışmada, çevre koruma faaliyetlerinin desteklenmesi, çevresel duyarlılık, yeşil ürün deneyimleri, işletmelerin çevre dostu anlayışı ve sosyal normların, satın alma kararları üstünde etkiye sahip olduğu ileri sürülmüştür (Kumar ve Ghodeswar, 2015). Yeşil tüketici davranışının önündeki engellerin ve onları motive edici unsurların araştırıldığı bir çalışmada ise, yeşil ürünlerin yararları hakkında yeterli bilgi sahibi olmanın, eğitim seviyesinin, medyanın bilgilendirici faaliyetlerinin içeriğinin, geleneksel alternatiflerine göre fiyat seviyesinin söz konusu davranışın yerleştirilmesinde önemli unsurlar olduğu ileri sürülmüştür (Carrete vd. 2012). Son olarak gençleri yeşil satın alma davranışına motive eden faktörlerin araştırıldığı bir çalışmada, tutum, çevresel kaygılar, çevresel problemlerin ciddiyetine yönelik algı, çevresel sorumluluk algısı, çevresel davranışların etkinliği, kişisel imaja yönelik kaygıların söz konusu davranışı etkilediği ileri sürülmektedir (Lee, 2008). Sürdürülebilirlik kavramının temelini çevresel, sosyal ve ekonomik boyuta dayandığı göz önünde bulundurulduğunda, literatürde, sürdürülebilir tüketimin çoğunlukla çevresel boyutta davranışı etkileyen unsurlarla açıklanmaya çalışıldığı görülmektedir. Oysa çocuk işçiler, kadın ve erkek çalışan sayısının eşitliği, işyerinde çeşitliliğin desteklenmesi gibi sosyal unsurların da sürdürülebilir tüketim davranışının açıklanmasında rol oynadığı aşikardır. Bu anlamda, literatürde sürdürülebilir tüketim davranışını, sosyal boyutta açıklamaya yönelik sınırlı bir yaklaşım sergilendiğini söylemek mümkündür.

## Metodoloji

Z kuşağının sürdürülebilir tüketim davranışını etkileyen faktörlerin belirlenmesi amacıyla yapılan literatür taramasında, üst üste geçen kavramsal yapılar dışarda bırakılarak, literatürde sürdürülebilir tüketim davranışının açıklanmasında, sıkça kullanılan değişkenler ile sosyal boyuttaki değişkenler de araştırmaya dahil edilmiştir. Sürdürülebilir tüketim için 4 (Ajzen, 1991; Kaiser ve Shimoda, 1999), sürdürülebilir tüketim niyeti için 4 (Ajzen, 1991; Taylor ve Todd, 1985); sosyal ve çevresel kaygılar için 8 (Schultz, Shriver, Tabanico, ve Khazian, 2004; Joshi ve Rahman, 2017), sosyal ve çevresel problemlerin ciddiyetine yönelik algı için 10 (Garcia-Mira, Real, ve Jose, 2005), sosyal ve çevresel sorumluluk algısı için 8 (Kumar ve Ghodeswar, 2015) ağızdan ağıza iletişimin etkisi için 4 (Turel, Serenko, ve Bontis, 2010; Yıldız, 2021), sosyal norm için 4 (Joshi ve Rahman, 2017) değişken ve toplamda ise 42 değişken (**Ek-1**), keşifsel faktör analizi yapılmak üzere araştırmaya dahil edilmiştir. Araştırma kapsamında oluşturulan anket katılımcıların sürdürülebilir tüketim farkındalığını belirlemek amacıyla, çeşitli sürdürülebilir tüketim davranışlarının ölçümlendiği bir soruyla başlamakta ve literatürde konuyla ilgili daha önceki çalışmalarda ölçümlenmiş, uyarlanmış ve test edilmiş 42 değişkenle devam etmektedir. Ankette yer alan 42 değişken beşli Likert tipi ölçek kullanılarak "1" Kesinlikle Katılmıyorum ve "5" Kesinlikle Katılıyorum şeklinde etiketlenerek, cevaplayanlara uygulanmıştır. Oluşturulan anket, İstanbul'da yaşayan, sürdürülebilir tüketim hakkında farkındalığa sahip üniversite öğrencilerine, kolayda örnekleme yöntemi tercih edilerek, 2022 yılı ocak ve şubat aylarında, yüz yüze anket tekniğiyle uygulanmıştır. 330 adet veriden işlemeye uygun 312 adet anket araştırmaya dahil edilmiştir. Gözlemlenen değişkenlerin oransal ifadesi anlamında, genel bir kural olarak, faktör analizinde gözlem sayısının beş katı kadar veri toplanması, minimum seviyede yeterliliğe işaret etmektedir (Hair, Babin, Anderson ve Black, 2019). Bu bağlamda, anketteki gözlemlenen değişken sayısının beş katından fazla veri toplanmıştır. Ankete katılan Z kuşağı temsilcisi üniversite öğrencilerinin yaş aralığı 18-24'tür. Z kuşağı yaş aralığı literatürde değişkenlik göstermekle birlikte, çalışmadaki katılımcıların Z kuşağının temsilcisi olarak değerlendirildiği çeşitli araştırmalar bulunmaktadır (Francis ve Hoefel, 2018; Wood, 2022). Ayrıca çalışmadaki katılımcıların %55'ini kadınlar ve %45'ini erkekler oluşturmaktadır. 312 adet veri, SPSS 25 yazılımı ile temel komponent analizi (principal component analysis) ve promax döndürme yöntemi kullanılarak keşifsel faktör analizine tabi tutulmuştur. Sonrasında, faktörlerin içsel tutarlılıkları (Cronbach's Alpha -  $\alpha$ ) test edilmiştir. Bir sonraki aşamada ise, keşifsel faktör analizi sonucu ortaya çıkan örtük değişkenlerin sağlamlarını yapmak amacıyla, Amos 24 yazılımı ile doğrulayıcı faktör analizi yapılmış ve boyutların geçerlilik ve güvenilirlik değerleri hesaplanmıştır.

## Bulgular

Araştırma kapsamında Z kuşağının sürdürülebilir tüketim davranışını ölçümlemek üzere toplanan veri, SPSS 24 yazılımı ile analiz edilmiştir. Keşifsel faktör analizinde sürdürülebilir tüketimi etkileyen değişkenlerin temel boyutlarını ortaya koymak ve ölçek geliştirmek amacıyla temel bileşenler analizi (principal component analysis) ve faktörler arasında temel seviyede bir ilişki olması sebebiyle, eğik döndürme yöntemlerinden Promax yöntemi tercih edilmiştir. KMO değeri 0,873 olarak gerçekleştiği ve ayrıca Bartlett's küresellik test sonucu 0.05'ten küçük olduğu için değişkenler arasında yeterli seviyede korelasyon olduğu tespit edilerek faktör analizi sürecine devam edilmiştir (Hair vd. 2019). Keşifsel faktör analizi sürecinde beş nolu değişken "ülkemizde sürdürülebilir tüketimin benimsetilmesi temel

esastır" değişkeni 0.3'ün altında faktör yüküne sahip olduğu için analiz dışında bırakılmıştır. Ayrıca 0,385 skoru ile yüklenen çevresel ve sosyal endişeler/kaygılar boyutu değişkeni ile 0,369 skoru ile yüklenen ülke imajı boyutu değişkeni, faktör yüklerini anlamlı kılacak örneklem büyüklüğü şartını sağladıkları ve ölçekte daha çok değişken tutulması adına, analizden çıkarılmamıştır (Hair vd. 2019) Keşifsel faktör analizinde kullanılan 41 değişken ve analiz sonucunda ortaya çıkan 9 örtük değişken ile bunlara ait değişkenlerin faktör yükleri, açıklanan varyans oranı ve güvenilirlik değerleri Tablo - 1'de verilmiştir. Keşifsel faktör analizi sonucunda sürdürülebilir tüketim davranışı: 7 değişkenli çevresel ve sosyal problemlere yönelik ciddiye algısı (%29), 8 değişkenli çevresel ve sosyal sorumluluk algısı (%10), 4 değişkenli sürdürülebilir tüketim niyeti (%6), 4 değişkenli sürdürülebilir tüketimde ağızdan ağıza iletişimin etkisi (%5), 3 değişkenli sürdürülebilir tüketime yönelik tutum (%4), 4 değişkenli çevresel ve sosyal endişeler/kaygılar (%4), 4 değişkenli sosyal norm (%3), 4 değişkenli çevresel ve sosyal problemler hakkındaki bilinç seviyesi (%3), 3 değişkenli ülke imajı (%3) boyutlarından oluşmakla birlikte sürdürülebilir tüketim davranışı, toplamda %67 oranında açıklanmıştır. Keşifsel faktör analizindeki faktör yükleri 0,369 ve 0,946 arasında değişkenlik gösterirken 9 boyutun içsel tutarlılığını ölçümlemek amacıyla, Cronbach's Alpha değeri hesaplanmıştır. Söz konusu değer çevresel ve sosyal problemlere yönelik ciddiye algısı boyutu için 0,888, çevresel ve sosyal sorumluluk algısı için 0,896, sürdürülebilir tüketim niyeti için 0,860, sürdürülebilir tüketimde ağızdan ağıza iletişimin etkisi için 0,839, sürdürülebilir tüketime yönelik tutum için 0,864, çevresel ve sosyal endişeler/kaygılar için 0,790, sosyal norm için 0,732, çevresel ve sosyal problemler hakkındaki bilinç seviyesi için 0,777, ülke imajı için 0,778 olarak hesaplanmıştır. Söz konusu içsel tutarlılık değerlerinin 0,7'nin üstünde olması sebebiyle, faktör analizi sonucu ortaya çıkan boyutların güvenilir olduğu sonucuna ulaşılmıştır (Hair vd. 2019).

Keşifsel faktör analizi sonucu ortaya çıkan ölçüm modelinin sağlamasını yapmak amacıyla, yapısal eşitlik modellemesi kullanılarak veri üstünde doğrulayıcı faktör analizi yapılmıştır. Doğrulayıcı faktör analizi, deneysel olmayan verinin çözümlenmesi, ilişki ve etkileşim alanının test edilmesinde sıkça kullanılan bir tekniktir (Kumar ve Ghodeswar, 2015). Doğrulayıcı faktör analizi sürecinde, AMOS 24 yazılımı ve "maximum likelihood" yöntemi tercih edilmiştir. Doğrulayıcı faktör analizi ilk aşamasında, bazı uyum iyiliği değerleri açısından yeterli sonuçlar elde edilmemiştir ( $\chi^2 = 1945,562$ ; CFI: .823 < ,90; RMSEA: ,075 > ,07). Dolayısıyla daha iyi bir model uyumu elde etmek amacıyla, düşük faktör yüklü 21 no'lu değişken "bence ülkemizdeki çevresel problemler (hava ve su kirliliği vb.) çok ciddi bir seviyededir," 35 no'lu değişken "çevrenin korunmasında sorumlu bir davranış sergilediğimi düşünüyorum," 36 no'lu değişken "toplumsal kalkınmada sorumlu bir davranış sergilediğimi düşünüyorum," 20 no'lu değişken "ülkemizdeki toplumsal problemlerin nasıl düzeltilebileceği hakkında sık sık düşünürüm," 3 no'lu değişken "sürdürülebilir tüketim/ürünler hakkında üniversitemden yeterince bilgi edinirim," 4 no'lu değişken "sürdürülebilir tüketim/ürünler hakkında ebeveynlerimden yeterince bilgi edinirim," analizden çıkarılmıştır. Ek 1'de parantez içinde gösterilen değerler, değişkenlerin doğrulayıcı faktör analizi sürecinde aldığı yükleri göstermektedir. 250'nin üstünde örnekleme ve 30'un üzerinde değişkene sahip ölçüm modellerinde geçerli olan model uyumu değerleri açısından  $\chi^2 / df = 1.961$  (p:0,000) olması, CFI değerinin 0,92 olması, SRMR değerinin 0,049 olması, RMSEA değerinin 0,056 olması, söz konusu ölçüm modelinin uyumluluk açısından gerekli şartları sağladığını ortaya koymaktadır (Hair vd. 2019). Dolayısıyla sürdürülebilir tüketim davranışını etkileyen değişkenlerin, dokuz boyuttan meydana geldiği ortaya konmuştur.

Tablo-1 ölçüm modelindeki güvenilirlik değerlerinin (composite reliability- CR) eşik değer olarak belirlenen değerden (0,7) yüksek değerler (0,723 - 0,883) aldığını göstermektedir (Hair vd. 2019). Ayrıca yakınsak geçerliliği ortaya koyan AVE skorlarının çevresel ve sosyal endişeler/kaygılar (0,458) ile çevresel ve sosyal unsurların ülke itibarına etkisi (0,488) boyutları dışında eşik olarak kabul edilen 0.5 değerinin üstünde olduğu tespit edilmiştir (Gaskin ve Lim, 2016). Diğer taraftan literatürde varyansın yüzde 50'sinden fazlası hatadan kaynaklansa bile, araştırmacının yalnızca CR değerini temel alarak, ilgili yapının yakınsak geçerliliğinin yeterliliğine karar verebileceği belirtilmektedir (Malhotra ve Dash, 2011). Bu doğrultuda eşik değere çok yakın AVE skorlarına sahip çevresel ve sosyal endişeler/kaygılar boyutu ile çevresel ve sosyal unsurların ülke itibarına etkisi boyutunun, CR değerleri çerçevesinde, yakınsak geçerliliğe sahip olduğu kabul edilmiştir.

Araştırmada son olarak ayırt edici geçerlilik göstergesi olarak yapılar arası korelasyon matrisi (Tablo 2) hesaplanmış ve her yapı için AVE skorunun kareköküne karşılık gelen değerlerin, örtük yapı korelasyonlarından daha yüksek olduğu tespit edilmiştir (Fornell ve Larcker, 1981). Böylece Tablo - 2'te ölçümlerin ayırt edici geçerliliği kanıtlanmıştır.

**Tablo 1:** Boyutlara Ait Geçerlilik ve Güvenilirlik

Güvenilirlik ve Geçerlilik Boyutlar	Bileşik Güvenilirlik (CR)	Açıklanan Ortalama Varyans (AVE)
Çevresel ve sosyal problemlere yönelik ciddiye algısı	0,883	0,558
Çevresel ve sosyal sorumluluk algısı	0,883	0,565
Ağızdan ağza iletişimin etkisi	0,844	0,576
Çevresel ve sosyal problemler hakkındaki bilinç seviyesi	0,753	0,509
Sürdürülebilir tüketime yönelik tutum	0,871	0,694
Çevresel ve sosyal endişeler / kaygılar	0,770	0,458
Sosyal norm	0,723	0,566
Sürdürülebilir tüketim niyeti	0,863	0,612
Ülke imajı	0,736	0,488

**Tablo 2:** Örtük Değişkenler Arası Korelasyon

	Ciddiyet algısı	Sorumluluk algısı	Ağızdan ağza iletişim	Bilinç Seviyesi	Tutum	Endişeler	Sosyal Norm	Niyet	Ülke İmajı
Çevresel ve sosyal problemlere yönelik ciddiye algısı	0,747								
Çevresel ve sosyal sorumluluk algısı	0,562***	0,752							
Ağızdan ağza iletişimin etkisi	0,288***	0,480 ***	0,759						
Çevresel ve sosyal problemler hakkındaki bilinç seviyesi	0,268***	0,383 ***	0,598***	0,713					
Sürdürülebilir tüketime yönelik tutum	0,557***	0,504 ***	0,178 **	0,173 *	0,833				
Çevresel ve sosyal endişeler / kaygılar	0,614 ***	0,479 **	0,284***	0,501***	0,352***	0,676			
Sosyal norm	0,112*	0,361***	0,418***	0,403***	0,238 **	0,188*	0,753		
Sürdürülebilir tüketim niyeti	0,379***	0,545 ***	0,577***	0,531***	0,305***	0,318 ***	0,352***	0,782	
Ülke imajı	0,604***	0,603***	0,321***	0,267***	0,529***	0,601***	0,106 *	0,280***	0,690

\*p &lt; 0.050; \*\*\*p &lt; 0.001

## Tartışma

Araştırma kapsamında Z kuşağı temsilcisi olan üniversite öğrencilerinin, sürdürülebilir tüketim davranışını etkileyen faktörlerin hangi boyutlardan meydana geldiğinin belirlenmesi amaçlanmıştır. Ek olarak, literatürde sürdürülebilirliğin sosyal boyutunu dikkate alan sınırlı sayıda çalışma olması nedeniyle, sosyal boyuttaki değişkenler çalışmaya dahil edilmiştir. Çalışmada yapılan literatür taraması sonucu, sürdürülebilir tüketime yönelik tutum, sürdürülebilir tüketim niyeti, sosyal ve çevresel kaygılar/endişeler, sosyal ve çevresel problemlerin ciddiye yönelik algı, sosyal ve çevresel sorumluluk algısı, ağızdan ağza iletişim, sosyal norm kavramsal yapılarıyla ilgili değişkenler, keşifsel faktör analizine dahil edilmiştir.

Keşifsel faktör analizi sonucu ortaya çıkan boyutlardan, çevresel ve sosyal problemlere yönelik ciddiye algısı toplam açıklanan varyansta en yüksek yüzdeliğe sahip boyut olarak yer almıştır. İklim krizi etkilerinin dünya ölçeğinde her geçen gün daha hissedilir bir hal aldığı göz önünde bulundurulduğunda, Z kuşağının sürdürülebilir tüketim davranışının, çevresel ve sosyal problemlere yönelik ciddiye algısı ile şekillenmesi makul görülmektedir. Analiz sürecinde en yüksek ikinci açıklanan varyans yüzdesine sahip boyut ise, çevresel ve sosyal sorumluluk algısıdır. Satın alma davranışlarıyla işletmeleri etkileme potansiyeli yüksek olan Z kuşağının, işletmelerden birinci beklentisinin sürdürülebilirlik uygulamalarını artırmaları olduğu ifade edilmektedir (Stambor, 2022). Bu doğrultuda Z kuşağının çevresel ve sosyal konulardaki sorumluluk algılarının yüksek olması ve sürdürülebilir tüketim davranışlarına rehberlik etmesi olağan bir sonuçtur. Keşifsel faktör analizinde, çevresel ve sosyal problemlere yönelik ciddiye ve sorumluluk algısından sonra açıklanan varyans oranında, en yüksek üçüncü yüzdeliğe sahip boyut, sürdürülebilir tüketim niyeti olmuştur. Gereççeli Eylem Teorisi (Ajzen ve Fishbein, 1980), Planlı Davranış Teorisi (Ajzen, 1991), Teknoloji Kabul Modeli (Davis, 1989) gibi temel davranış kuramları; insanların davranışlarının niyetler çerçevesinde şekillendiği, niyetlerin de tutumlara temel teşkil ettiğini ileri sürmektedir. Özellikle yeni ürün ya da hizmetlere yönelik bilgi dağarcığının tüketicide yeterli seviyede olmaması ve söz konusu ürün ya da hizmetlere yönelik pazarların gelişmediği ya da oturmadağı durumlarda, tüketicilerin davranış niyetleri ve tutumları çerçevesinde belirlenmektedir. Sürdürülebilir üretim ve tüketime yönelik bilincin yeni geliştiği ülkemizde, tutum ve niyet boyutunun sürdürülebilir tüketim davranışının açıklanmasında yer

alması anlamlı bir sonuçtur. Analiz sürecinde açıklanan varyans oranında, yüksek yüzdeye sahip bir diğer faktör, sürdürülebilir tüketimde ağızdan ağıza iletişimin etkisi boyutudur. Sosyal medya mecralarıyla elektronik bir forma da bürünebilen ağızdan ağıza iletişim, tüketici davranışlarında önemli bir rol oynarken, bazı çalışmalar söz konusu iletişim türünün satın alma davranışlarındaki belirsizliğin azaltılmasında anlamlı bir rol oynadığını ileri sürmektedir (Bansal ve Voyer, 2000; Koller ve Salzberger, 2007). Bu anlamda sosyal medya mecralarını yoğun bir şekilde kullanan Z kuşağının, sürdürülebilir tüketimle ilgili geri bildirimlerle sürdürülebilir tüketim davranışı göstermesi, olağan bir sonuç olarak karşımıza çıkmaktadır. Keşifsel faktör analizi sürecinde, çevresel ve sosyal problemlere yönelik endişeler ile Z kuşağının fikirlerine değer verdiği yakın çevrenin, sürdürülebilir tüketime yönelik beklentilerinin algılanmasına işaret eden sosyal baskı boyutunun, sürdürülebilir tüketim davranışı boyutları arasında olduğu belirlenmiştir. Yukarıdaki sonuçlardan farklı ve en az bir o kadarda önemli olarak keşifsel faktör analizi sürecinde, Türk kültürüne özel iki farklı boyutta değişkenlerin bir araya geldiği gözlemlenmiştir. Bunlardan ilki, Z kuşağı temsilcisi üniversite öğrencilerinin çevresel ve sosyal problemler hakkındaki bilinç seviyesi boyutudur. Bu boyutta yer alan “ülkemizdeki toplumsal/çevresel problemlerin nasıl düzeltilebileceği hakkında sık sık düşünürüm” ve “ülkemizdeki toplumsal problemlerin (çocuk işçi, cinsiyet ayrımcılığı vb.) ve çevresel problemlerin (hava ve su kirliliği) çözümü ile ilgileniyorum” değişkenleri, Z kuşağının içinde bulunduğu toplumun sosyal ve çevresel problemleriyle ilgili bilişsel eylemler içerisinde olduğunu kanıtlamaktadır. İkincisi ise, “ülkemizdeki toplumsal problemler (çocuk işçi, cinsiyet ayrımcılığı vb.) ve çevresel problemler (hava ve su kirliliği) ülkemizin itibarına zarar vermektedir” değişkenlerinin yer aldığı ülke imajının, sürdürülebilir tüketim davranışı üstünde anlamlı bir etkiye sahip olduğu belirlenmiştir.

Araştırma kapsamında yapılan doğrulayıcı faktör analizinde, keşifsel faktör analizi sonucu ortaya çıkan boyutlar doğrulanmış ve sürdürülebilir tüketimi dokuz boyutta açıklayan 35 değişken tespit edilmiştir. Doğrulayıcı faktör analizi sonucu ortaya çıkan boyutlar, literatürde daha önce yapılan çalışmalarla birlikte değerlendirildiğinde keşifsel faktör analizi sürecinde en büyük açıklayıcılığa sahip çevresel ve sosyal problemlere yönelik ciddiye algısının, benzer çalışmalarda da sürdürülebilir tüketimin açıklanmasında anlamlı bir değişken olduğu tespit edilmiştir (Mostafa, 2006; Lee, 2008). Bu anlamda yukarıda da belirtildiği üzere iklim değişikliğinin gözle görülür sonuçları tüketicilerde doğal felaketlerin daha da kötüleşeceği algısını desteklemektedir. Dolayısıyla şirketlerin çevresel ve toplumsal sorunların ciddiyetinin farkında olduklarını ortaya koyan stratejiler geliştirmeleri ve aynı zamanda iklim değişikliği ile mücadelede hedeflenen amaçlar ve gerçekleştirilen eylemleri tüketicilerine anlatmaları gerekmektedir. Doğrulan boyutlar arasında yer alan çevresel ve sosyal sorumluluk algısı boyutunun; çevresel sorumluluğun teşviki, sorumluluk duyma kavramsal yapılarıyla paralellik gösterdiği belirlenmiştir (Al-Swidi ve Saleh, 2021; Kumar ve Ghodeswar, 2015; Konuk vd., 2015). Mevcut üretim ve tüketim anlayışlarının olumsuz sonuçları ile iklim krizinin etkilerinde tüketicilerin de önemli bir paya sahip olduklarını ortaya koyan bu sonuç, gelecekte atılması gereken adımlar anlamında merkezi otoritelerin ve yeşil tüketim davranışına yönelik ürün ve hizmetler üreten işletmelerin işini kolaylaştıracaktır. Bu noktada söz konusu sorumluluk algısının Z kuşağının temsilcileri olan üniversite öğrencilerine ait olduğunu unutmamak gerekmektedir. Dolayısıyla diğer kuşakların da çevresel ve sosyal problemlerin ortaya çıkmasından sorumlu oldukları fikrinin yerleştirilmesi ve farkındalık yaratılması, sürdürülebilir tüketimin benimsenmesi açısından büyük bir önem taşımaktadır. Teknolojik yeniliklerin kabulü ve benimsenmesinde etkisi olduğu kanıtlanan ağızdan ağıza iletişimin sürdürülebilir tüketim davranışında da etkili olması olağan görünmektedir. Bu noktada sorumlu üretim ve tüketimin ne anlama geldiği, sürdürülebilir tüketimin hangi ürünlerle nasıl desteklenebileceğinin açıklanması büyük bir önem arz etmektedir. Sürdürülebilir ürünlerin benzerleriyle rekabetçi özelliklere sahip olması, sürdürülebilir ürünlerin ham maddeden nihai tüketiciye ulaştığı tüm aşamalarda sürdürülebilir uygulamaları takip ettiğinin açıklanması, sürdürülebilir tüketim davranışı hakkında farkındalık oluşturacak ve bu davranışın tüketiciler arasında ağızdan ağıza iletişim yoluyla yayılmasını sağlayacaktır. Bu anlamda sorumlu ve sürdürülebilir üretim yapan şirketlerin tutundurma eylemlerinde sürdürülebilir tüketimin sosyal ve çevresel faydalarına vurgu yapması ve özellikle Z kuşağının kullandığı sosyal medya mecralarını tercih etmesi gerekmektedir. Yine sınırlı kaynaklara sahip bir gezegende yaşadığımız algısını kanıtlayan çevresel ve sosyal problemlere yönelik endişelerin ve kaygıların nispeten bilinçli Z kuşağı temsilcilerince doğrulanması önemli bir sonuç olarak karşımıza çıkmaktadır. Ayrıca bu sonuç literatürdeki benzer çalışmalarla paralellik göstermektedir (Cerri vd., 2018; Joshi ve Rahman, 2017; Suki, 2016). Çevresel ve sosyal kaygı ve endişeleri giderecek politika ve eylemler gerçekleştirmede hem merkezi ve yerel otoritelere hem de ürün ve hizmet üreten işletmelere büyük görevler düşmektedir. Bu anlamda sorumlu üretim yapan şirketlere vergi indirimi, teşvik sağlanması gibi avantajların sunulması, sürdürülebilir üretimi destekleyecektir. Bunun yanı sıra ilk öğretimden itibaren toplumlara sorumlu / sürdürülebilir tüketim davranışının benimsetilmesi, kaygı ve endişelerin giderilmesinde büyük bir rol oynayacaktır.

Gerekçeli Eylem, Planlı Davranış, Teknoloji Kabul Modeli gibi davranışı açıklayan temel teori ve modeller, sosyal normu davranışın gösterilmesinde etkili bir unsur olarak kabul etmektedir. İnsanların fikirlerine değer verdiği yakın çevresinin, sürdürülebilir davranış kalıpları hakkındaki görüşleri, tüketicileri sorumlu ve sürdürülebilir tüketim yapmaya yönlendirmektedir. Çalışmadaki bu sonuca benzer şekilde, literatürde birçok araştırma bulunmaktadır (Al-Swidi ve Saleh, 2021; Liobikienė vd. 2017; Joshi ve Rahman, 2017; Chen ve Hung, 2016). Dolayısıyla devlet yönetimlerinin temel eğitim sürecinde sürdürülebilirlikle ilgili farkındalığı artırması, sürdürülebilir tüketimin kural koyucular ve işletmeler tarafından teşvik edilmesi, sürdürülebilir tüketim kalıplarının toplumda yazılı olmayan kurallar şeklinde yerleşmesine ve benimsenmesine katkı sağlayacaktır. Z kuşağının temsilcisi üniversite öğrencilerinin sosyal ve çevresel problemler hakkında bilince sahip olması, bu kuşağın en önemli farklılıklarından biridir. Toplumlarda her ne kadar farklı nesillerden bilinçli tüketiciler bulunsa da sayıları sınırlıdır. Ayrıca Z kuşağının yerleşik iş/üretim anlayışlarının getirdiği olumsuzluklar (karbon salınımı, hava ve çevre kirliliği, iklim değişikliği, çeşitlilik ve kapsayıcılığın desteklenmemesi) hakkındaki bilgi dağarcığı daha yüksektir. Bu anlamda Türk kültüründe ortaya çıkan çevresel ve sosyal problemler hakkındaki bilinç seviyesinin sürdürülebilir tüketim davranışı üstünde anlamlı bir etkiye sahip olduğu sonucu, literatürdeki diğer çalışmalarla paralellik arz etmektedir (Joshi ve Rahman, 2017; Maniatis, 2016; Chen ve Hung, 2016). Sosyal ve çevresel farkındalığı yüksek olan Z kuşağının, yakın gelecekte ürün ve hizmetlerin en büyük müşterisi ve tüketicisi olacağı göz önünde bulundurulduğunda, işletmelerin sürdürülebilirlik uygulamalarının söz konusu neslin ilgisini çeken ürün ve hizmetlerle desteklemesi ve yine bu neslin tercih ettiği mecraları kullanarak pazarlaması, işletmelere önemli bir rekabet avantajı sağlayacaktır (Bathmanathan ve Rajadurai, 2018). Sürdürülebilir tüketimin önemli bir parçası olan atık ayrıştırma konusunda yaşanan olumsuz bir örneği hatırlatmak gerekirse, İngiltere’de ilk öğretim öğrencilerinin plastik atıkları ayrıştırdığı ve bu atıkların geri dönüşüm amacıyla ülkemizdeki bazı işletmelerce ithal edilip, Adana’da yakıldığı ulusal ve uluslararası medya kuruluşlarının basın bültenlerine yansımıştır (Snowdon, 2021). Sürdürülebilirlik uygulamalarının ülke ve işletmeler bazında ciddi bir şekilde takip edilmesi, ülkelerin sürdürülebilirlikle ilgili itibarına olumlu anlamda katkıda bulunmaktadır. Bu doğrultuda çalışmada, sosyal ve çevresel problemlerle mücadelede kullanılan ülke özelindeki sürdürülebilirlik uygulamalarının, ülkenin sürdürülebilirlikle ilgili itibarını etkilediği ve bununda sürdürülebilir tüketimi etkilediği sonucuna varılmıştır. Gerekçeli Eylem, Planlı Davranış, Teknoloji Kabul Modeli gibi davranışı açıklayan temel teori ve modellerde yer alan sürdürülebilir tüketim yönelik tutum ve niyet yapılarının, doğrulayıcı faktör analiziyle teyit edilmesi, bu alanda yapılan birçok çalışmayla paralellik arz etmektedir (Al-Swidi ve Saleh, 2021; Chen ve Hung, 2016; Biswas ve Roy, 2015; Lee, 2008).

## Sonuç

Sonuç olarak bu mevcut çalışma, Z kuşağının temsilcisi üniversite öğrencilerinin, sürdürülebilir tüketim davranışını kişisel ve doğrulayıcı faktör analiziyle açıklamaktadır. Böylece, sürdürülebilir kalkınma hedefi olarak belirlenen, on ikinci amaç olan sorumlu üretim ve tüketim amacının gerçekleştirilmesine katkı sağlamaktadır. Ayrıca çalışma, sürdürülebilir tüketimin gerekliliklerinin formüle edilmesi ve tasarlanmasına da kılavuzluk etmektedir. Ek olarak, çalışmada yer alan değişkenlere sürdürülebilirliğin sosyal boyutu ile ilgili göstergelerin eklenmesi, çalışmayı bu alanda yapılan diğer çalışmalardan ayırmaktadır. Çalışmanın Z kuşağı ve İstanbul’daki üniversite öğrencileri üstünde yapılması araştırmanın kısıtları arasında yer almaktadır. Bu bağlamda, sürdürülebilir tüketim davranışının, Z kuşağının diğer temsilcileri arasında ve diğer kuşaklar özelinde yapılması, literatüre katkı sağlayacaktır.

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Dış bağımsız

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**Yazar Katkıları / Author Contributions:**

Fikir/Kavram/Tasarım - *Idea/Concept/Design*: O.Y., A.K. Veri Toplama ve/veya İşleme - *Data Collection and/or Processing*: O.Y., A.K. Analiz ve/veya Yorum - *Analysis and/or Interpretation*: O.Y., A.K. Kaynak Taraması - *Literature Review*: O.Y., A.K., Makalenin Yazımı - *Writing the Article*: O.Y., A.K. Eleştirel İnceleme - *Critical Review*: O.Y., A.K., Onay - *Approval*: O.Y., A.K.

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## Appendix (Ekler)

## Appendix 1: (Ek 1 Tablo: Sürdürülebilir Tüketim Davranışını Etkileyen Boyutlar)

Değişkenler ve Boyutlar (Açıklanan Varyans Oranı: % 67)	Çevresel ve sosyal problemlere yönelik ciddiyet algısı ( $\alpha$ 0,888)	Çevresel ve sosyal sorumluluk algısı ( $\alpha$ 0,896)	Sürdürülebilir tüketim niyeti ( $\alpha$ 0,860)	Ağızdan ağza iletişimin etkisi ( $\alpha$ 0,839)	Sürdürülebilir tüketime yönelik tutum ( $\alpha$ 0,864)	Çevresel ve sosyal endişeler ( $\alpha$ 0,790)	Sosyal norm ( $\alpha$ 0,732)	Çevresel ve sosyal problemler hakkındaki bilinç Seviyesi ( $\alpha$ 0,777)	Ülke imajı ( $\alpha$ 0,778)
Bence ülkemizdeki çevresel problemler gittikçe kötüleşmektedir.	,833 (.744)								
Bence ülkemizdeki çevresel problemler (hava ve su kirliliği vb.) çok ciddi bir seviyededir.	,745 (-)								
Bence ülkemizdeki toplumsal problemler gittikçe kötüleşmektedir.	,810 (.812)								
Ülkemizdeki çevresel problemler (hava kirliliği vb.) insan sağlığını tehdit etmektedir.	,671 (.752)								
Bence ülkemizdeki toplumsal problemler (çocuk işçi, cinsiyet ayrımcılığı vb.) çok ciddi bir seviyededir.	,624 (.712)								
Bence toplumsal problemlerin çözümü hakkında bir an evvel eyleme geçilmesi gerekmektedir.	,650 (.767)								
Bence çevresel problemlerin çözümü hakkında bir an evvel eyleme geçilmesi gerekmektedir.	,633 (.687)								
Çevrenin korunmasında sorumlu bir davranış sergilediğimi düşünüyorum.		,868 (-)							
Toplumsal kalkınmada sorumlu bir davranış sergilediğimi düşünüyorum.		,848 (-)							
Çevresel problemlerin çözümünde sorumluluk almaya hazırım.		,772 (.647)							
Toplumsal kalkınma konusunda sorumlu bir davranış sergilemem gerekir.		,586 (.912)							
Toplumsal kalkınma problemlerinin çözümünde sorumluluk almaya hazırım.		,791 (.552)							
Toplumsal kalkınmada bireylerin de sorumluluğu vardır.		,525 (.698)							
Çevrenin korunmasında ilk adım kişinin kendisinden başlar.		,531 (.770)							
Çevrenin korunmasında sorumlu bir davranış sergilemem gerekir.		,449 (.868)							
Gelecekte sürdürülebilir tüketim yapabilirim.			,920 (.841)						
Gelecekte çevreye daha az zarar veren ve topluma katkı (çocuk işçi çalıştırmayan şirketlerden vb.) sağlayan ürünler satın almayı planlıyorum.			,859 (.781)						

Gelecekte sürdürülebilir tüketim yapmayı planlıyorum.		,857 (,721)				
Sürdürülebilir tüketim yapmaya / sürdürülebilir ürünler kullanmaya devam edeceğim.		,722 (,782)				
Tavsiyemi soran arkadaşlarıma sürdürülebilir tüketimi/ürünleri öneririm.		,842 (,798)				
Yakın çevremi sürdürülebilir tüketim yapmaları konusunda / sürdürülebilir ürünleri kullanmaları konusunda cesaretlendiririm.		,824 (,827)				
Sürdürülebilir tüketim/ürünler hakkındaki fikirlerimi etrafımdaki insanlarla paylaşıyorum.		,756 (,697)				
Arkadaşlarıma sürdürülebilir tüketim/ürünler hakkında söylediklerini dikkate alırım.		,658 (,704)				
Ülkemizde toplum ve çevre için faydalı eylemlerin artırılması gereklidir.			,946 (,913)			
Ülkemizde sürdürülebilir tüketim/ürünler hakkında farkındalık oluşturmak çok önemlidir.			,861 (,713)			
Ülkemizde toplum ve çevre için fayda yaratan eylemlerin olması gereklidir.			,880 (,861)			
Ülkemizdeki toplumsal problemler temel kaygımdır.				,895 (,624)		
Ülkemizdeki çevresel problemler temel kaygımdır.				,836 (,641)		
Ülkemizdeki toplumsal problemlerin (çocuk işçiler, cinsiyet ayrımcılığı vb.) daha da kötüleşeceği hakkında endişelere sahibim.				,661 (,790)		
Ülkemizdeki çevresel problemlerin (hava ve su kirliliği vb.) daha da kötüleşeceği hakkında endişelere sahibim.				,385 (,638)		
Sürdürülebilir tüketim/ürünler hakkında yakın arkadaşlarımdan yeterince bilgi edinirim.					,793 (,741)	
Fikirlerine değer verdiğim insanlardan sürdürülebilir tüketim/ürünler hakkında yeterince bilgi edinirim.					,715 (,764)	
Sürdürülebilir tüketim/ürünler hakkında üniversitemden yeterince bilgi edinirim.					,743 (-)	
Sürdürülebilir tüketim/ürünler hakkında ebeveynlerimden (anne-baba) yeterince bilgi edinirim.					,675 (-)	
Ülkemizdeki toplumsal problemlerin nasıl düzeltilebileceği hakkında sık sık düşünürüm.						,881 (-)
Ülkemizdeki çevresel problemlerin nasıl düzeltilebileceği hakkında sık sık düşünürüm.						,804 (,573)

Ülkemizdeki toplumsal problemlerin (çocuk işçi, cinsiyet ayrımcılığı vb.) çözümü ile ilgileniyorum.								,480 (,797)	
Ülkemizdeki çevresel problemlerin (hava kirliliği vb.) çözümü ile ilgileniyorum.								,369 (,751)	
Ülkemizdeki çevresel problemler (hava ve su kirliliği vb.) ülkemizin itibarına zarar vermektedir.								,899 (,536)	
Ülkemizdeki toplumsal problemler (çocuk işçi, cinsiyet ayrımcılığı vb.) ülkemizin itibarına zarar vermektedir.								,832 (,730)	
Ülkemizdeki toplumsal problemler (çocuk işçi, cinsiyet ayrımcılığı vb.) toplumsal kalkınmayı tehdit etmektedir.								,492 (,802)	

# İş yaşam kalitesi ve kurumsal sosyal sorumluluk algısının işe adanmışlık üzerindeki etkisinin incelenmesi: Zincir otel işletmeleri üzerine bir araştırma<sup>1</sup>

## The effect of quality work life and corporate social responsibility on work engagement examination: A research on chain hotel businesses

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### Öz

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İnsan kaynağı konaklama işletmelerinde hizmet kalitesini belirleyen önemli bir faktör olmakla birlikte, işletmelerin başarısında kilit role sahip olarak rekabet avantajı elde etmelerini sağlamaktadır. Araştırmacılar tarafından son yıllarda sıklıkla incelenen işe adanmışlık kavramı insan kaynağının üretkenliğini ve verimliliğini artırmada etkili olan bir konudur. İşe adanmış iş görenler işletmelere rekabet ve maliyet avantajı sağlarken hizmet kalitesinin de artmasına katkı sağlamaktadır. Bu kapsamda zincir otel işletmeleri iş görenlerinin işe adanmışlıklarını artırmanın bir yolunun da iş yaşam kalitesi ve kurumsal sosyal sorumluluk algısı ile ilişkili olduğu düşünülmektedir. Bu araştırma, iş yaşam kalitesi ve kurumsal sosyal sorumluluk algısının işe adanmışlık üzerindeki etkisini incelemek amacıyla, Trabzon'daki zincir otel işletmesi iş görenleri üzerine gerçekleştirilmiştir. Trabzon'daki zincir otel işletmesi iş görenlerinden 343 geçerli anket elde edilmiştir. Araştırma modeline uygun olarak iş yaşam kalitesi, kurumsal sosyal sorumluluk algısı ve işe adanmışlık arasındaki ilişkiyi belirlemek için korelasyon analizi ve kavramların neden-sonuç ilişkisini belirlemek için regresyon analizi yapılmıştır. Yapılan korelasyon analizi bulgularına göre iş yaşam kalitesi ve işe adanmışlık arasında istatistiksel olarak anlamlı, pozitif yönde ve orta düzeyde bir ilişki olduğu; kurumsal sosyal sorumluluk algısı ile işe adanmışlık arasında anlamlı, pozitif yönde ve orta düzeyde bir ilişki olduğu tespit edilmiştir. Regresyon analizi sonuçlarına göre iş yaşam kalitesinin ve kurumsal sosyal sorumluluk algısının işe adanmışlık üzerinde istatistiksel olarak anlamlı bir etkisi olduğu sonucuna ulaşılmıştır. Sonuç olarak iş görenlerin iş yaşam kalitesi ve kurumsal sosyal sorumluluk algılarının düzeylerinin yükselmesi işe adanmışlıklarını artırdığı tespit edilmiştir.

**Anahtar Kelimeler:** İş Yaşam Kalitesi, Kurumsal Sosyal Sorumluluk, İşe Adanmışlık, Zincir Otel İşletmeleri

**JeI Kodları:** D23, J24, M14

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### Abstract

In addition to the fact that human resource is an important factor that determines the service quality in hospitality businesses, it has a key role in the success of businesses. It enables them to gain a competitive advantage. Frequently examined by researchers in recent years, the concept of work engagement is an effective issue in increasing the productivity and efficiency of human resources. Engaged employees contribute to the increase in service quality while providing competitive and cost advantages to businesses. In this context, it is thought that one of the ways to increase the work engagement of the employees of the chain hotel businesses is related to the quality of work life and the perception of corporate social responsibility. This research was carried out on the employees of chain hotel businesses in Trabzon to examine the effect of the perception of work life and corporate social responsibility on work engagement. Three hundred forty-three valid questionnaires were obtained from the employees of the chain hotel business in Trabzon. The research model used a correlation analysis to determine the relationship between quality of work life, perception of corporate social responsibility and work engagement. Then regression analysis was to determine the cause-effect relationship between the concepts. According to the results of the correlation analysis, it was found that there is a statistically significant, positive and moderate relationship between the quality of work life and work engagement. Moreover, it has been determined that there is a significant, positive and moderate relationship between the perception of corporate social responsibility and work engagement. According to the results of the regression analysis, it was concluded that the quality of work life and the perception of corporate social responsibility have a statistically significant effect on work engagement. As a result, it has been determined that increasing the perceptions of employees' quality of work life and corporate social responsibility increases their engagement.

**Keywords:** Quality of Work Life, Corporate Social Responsibility, Work Engagement, Chain Hotel Business

**JeI Codes:** D23, J24, M14

## Extended Abstract

### The effect of quality work life and corporate social responsibility on work engagement examination: A research on chain hotel businesses

#### Literature

As a result of the literature review, it is seen that there are separate studies done on the quality of work life, corporate social responsibility and work engagement (Kanten & Sadullah, 2012; Singhapakdi, 2014; Arndt, Singhapakdi & Tam, 2015; Zientara, Kujawski & Bohdanowicz-Godfrey, 2015; Türkay, 2015; Kim, Rhou, Uysal & Kwon, 2017; Wahlberg, Ramalho & Brochado, 2017; Gürlek & Tuna, 2019; Nazir & Islam, 2019; Kim, Kim, Marshall & Afzali, 2018; Adrian & Anggiani, 2020; Kim, Rhou, Topcuoglu & Kim, 2020). Therefore, in the research, empirical and theoretical studies about quality of work life, corporate social responsibility and work engagement were examined, and a literature review was carried out. However, no study has been found that examines the effect of quality of work life and perception of corporate social responsibility on work engagement. Therefore, this situation reveals the importance and originality of the research.

Employees who are devoted to their work, who do their work willingly, with enthusiasm and passion, increase efficiency in the organization and reduce costs. In terms of the employee, it contributes to the improvement of the general quality of life due to satisfaction, success, self-realization, career development, economic benefit, prestige, and the development of social life. It is thought that the benefits of the quality of work life and corporate social responsibility will trigger the social change perceptions of the employees and increase their commitment to work. In this context, the research aims to examine the effect of the quality of work life and corporate social responsibility perceptions of chain hotel employees on their work engagement.

#### Design and method

It is important to understand human resource behaviour, as people produce and consume the service in the tourism industry. Blau (1964) explains the social change as the exchange of material and non-material resources between at least two people in the process of social cohesion. The awards to be provided by the organizations to increase the perceptions of the employees' work-life quality through social change can be listed as follows: employment guarantee, positive working climate, career development opportunities, and fair working environment. Employees make meaningful contributions to the business with the help of corporate social responsibility. As a result, it meets their psychological needs by increasing job satisfaction, self-esteem and sense of belonging. Within the scope of social exchange theory, financial rewards, competitive wages, other material benefits, career training and development opportunities, fair treatment of employees, empowerment, and being included in the decision-making process positively affect work engagement. Therefore, work engagement is a positive outcome of economic and socio-emotional job resources created through social change. In this context, it is thought that the employees' work engagement will increase as a result of increasing the quality of work life and corporate social responsibility perceptions of the employees in chain hotel businesses.

The data were obtained from employees with the questionnaire technique. The questionnaire measures demographics in the first section. In the second section, employees' perceptions of the quality of work life were taken by the "Quality of Work Life Scale" developed by Timossi, Pedroso, Francisco and Pilatti (2008) to measure. In the third section, the "Corporate Social Responsibility Scale" prepared by Park and Levy (2014) was preferred to measure employees' perceptions of corporate social responsibility. Finally, the last "Work Engagement Scale" was employed, updated by Rich, Lepine and Crawford (2010).

The target population of the research is the employees of chain hotel businesses operating in Trabzon with the "Ministry of Culture and Tourism Tourism Operation Certificate". Due to the large number of units that make up the research universe, time and cost constraints, an outdated data, sampling was preferred. In this context, a simple random sampling method was preferred. In addition, quantitative research methods were preferred in the study. Following the research model, the correlation between the quality of work life, perception of corporate social responsibility and work engagement was determined.

Normal distribution analysis was performed to determine which parametric or nonparametric tests would be preferred. The data were analyzed, and normal distribution was observed. Skewness and kurtosis are excellent at  $\pm 1$ , but  $\pm 2$  is generally accepted in most cases (George & Mallery, 2010; Hair, Black, Babin, Anderson, & Tatham, 2013). In this case, a normal distribution is provided according to the data. Normal distribution analysis results in Parametric tests were applied.

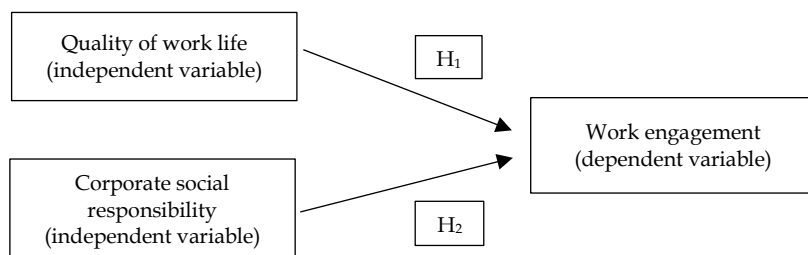


Figure 1: Research Model

They examined the effect of quality work life and corporate social responsibility on work engagement. The research model developed hypotheses.

**H<sub>1</sub>:** Quality of work life has a significant effect on work engagement.

**H<sub>2</sub>:** Corporate social responsibility has a significant effect on work engagement.

#### Findings and discussion

As a result of the correlation analysis that there was a moderate and positive relationship between quality of work life and work engagement (0,632;  $p < 0,001$ ). It is seen that there is a moderate and positive relationship between corporate social responsibility and works engagement (0,550;  $p < 0,001$ ). The model built on the influence of work engagement behaviour is significant ( $p < 0,001$ ). It is seen that the quality of work life makes the most important contribution to the model ( $\beta = 0,434$ ). According to the results of the regression analysis, it was concluded that the perception of work-life quality and corporate social responsibility had a

statistically significant effect on work engagement ( $r=0,663$ ;  $p<0,001$ ). It has been determined that the perception of work-life quality and corporate social responsibility explains 43,7% of work engagement behaviour.

According to the results that 43,4% of work engagement was explained by the quality of work life ( $\beta=0,434$ ). Wahlberg et al. (2017) examined the mediating relationship between work-life quality and work engagement of accommodation business employees in Lisbon and concluded that work-life quality has a mediating effect on work engagement. Thanks to the high quality of work life, the improvement of the physical characteristics of the work environment, and the availability of necessary and sufficient equipment for the work, the use of technology may cause the employees to be less physically tired. A high-quality working environment will make the employee want to spend more time in the work environment and adapt to the workplace socially. Thus they will cause the employee to do his work lovingly and willingly. Therefore it may cause employees to feel emotionally positive. In addition, it can cause the employee to feel mentally positive and comfortable, as a higher quality of work life will provide positive benefits to the employee in and out of work, satisfy the employee with adequate wages, and meet his/her social security needs. Therefore, it can be said that the employee will exhibit high work engagement behaviour.

The results show that 28,2% of work engagement is explained by the perception of corporate social responsibility ( $\beta=0,282$ ). It has been concluded in the study by Lee, Choi, Moon and Babin (2014) that the ethical responsibilities of the accommodation businesses operating in Korea positively and significantly affected the employee's work engagement. It is portrayed in the study by Zientara et al. (2015) that the corporate social responsibility perceptions of the employees of accommodation establishments in Poland have a positive and significant relationship with their perceptions of work engagement. Nazir and Islam (2019) found a significant and positive relationship between the employees' intrinsic motivation and their work engagement through the corporate social responsibility activities implemented by the accommodation businesses in India. Gürlek and Tuna (2019) concluded that the corporate social responsibility perception of the employees of the accommodation business in Antalya has a significant and positive effect on their work engagement. Thanks to corporate social responsibility activities, it can be said that the high perception of corporate social responsibility by employees increases their commitment to work. It can be said that with social responsibility activities towards society, the organization cares about society, strives to reduce the negativities in society, and therefore the employee creates meaningful values. In his work by having a sense of pride. Therefore, it can be thought that the employee has positive feelings physically, emotionally, and mentally. In addition, it can be said that the employee's feeling that they contribute to the reduction of the damage to the cultural heritage and natural environment through social responsibility activities towards the environment causes the employee to feel physical, emotionally, and mentally positive. It can be said that with social responsibility towards customers, employees see that customers are valued. When it is understood that customers behave more kindly and politely towards employees by having positive feelings towards the organization, they feel that they have successfully executed their job. Thus, it can be said that employees feel positive physically, emotionally, and mentally and engage in higher work engagement behaviour.

Hypotheses H<sub>1</sub> and H<sub>2</sub> are accepted.

#### **Conclusion, recommendation and limitations**

As a result of the research findings suggest that it is important for chain hotel business managers to develop the necessary strategies to increase their work-life quality and perceptions of corporate social responsibility to increase employees' work engagement. The quality of work life is an important factor in raising the general quality of life of the employee. In order to maximize the efficiency of human resources in the hospitality industry, it is important to improve the overall quality of life of the employee. Since corporate social responsibility is perceived positively by the employees in accommodation establishments, it is known that the strategies and practices to be adopted have positive effects on the employees. In this context, it is recommended to these managers because they give importance to the quality of work life and corporate social responsibility, playing a key role in the success of the business by adapting to the sustainable competitive environment.

Finally, the research was carried out in chain hotel businesses. Therefore, there are limitations as to whether the answers given by the respondents to the survey study are objective. In addition, future studies may include additional sector research. In order to reach a larger sample size for future studies, it can be applied in larger provinces. Instead of the work-life quality, corporate social responsibility and work engagement scales used in the study, it can be preferred to use different scales in the literature. Quantitative research methods were used in the study. Unlike quantitative research, it is recommended that interview and focus group methods are preferred among qualitative research methods.

## Giriş

Organizasyonların zorlu rekabet ortamına ayak uydurabilmesi insan kaynağına verdiği önemle sağlanmaktadır. Nitekim insan kaynağının, sadakati, iş birikimi, yetenekleri, becerileri ve işe adanmışlığı gibi hususlarda verimliliğin artmasına katkı sağlamaktadır. Turizm endüstrisinde insan kaynağının konaklama sektöründe yoğunlaştığı görülmektedir. Konaklama işletmelerinin ana ürünü olan hizmet faktörü iş görenler tarafından emek-yoğun bir biçimde üretildiğinden dolayı insan kaynağı daha önemli bir hâl almaktadır. Bu kapsamda konaklama işletmelerinde insan kaynağı üretkenliğinin, verimliliğinin ve hizmet kalitesinin temel yapı taşı konuma gelmektedir. İnsan hayatının bir kısmını iş ortamı oluşturduğu için iş yaşamı, sosyal hayat, aile hayatı, finansal konular ve genel yaşam kalitesi üzerinde etkili olmaktadır (Örücü, Yumuşak ve Bozkır, 2006, s. 39; Altay ve Turunç, 2018, s. 84). İş görenlerin iş ortamına karşı olumlu duygular beslemesi ve adanmışlıklarını artırmak için iş yaşam kalitelerinin yükseltilmesi amaçlanmaktadır. Organizasyonlarda sosyal anlayışın paylaşılması iş görenlerin yaşam kaliteleri üzerinde olumlu etkiler oluşturmaktadır (Nimalathasan, 2011, s. 2). Bu kapsamda kurumsal sosyal sorumluluk sosyal anlayışın paylaşılmasına katkı sağlarken iş görenlerin de genel tatmin düzeylerini etkilediği öne sürülebilir.

İşe adanmışlık iş görenin fiziksel, duygusal ve zihinsel kaynaklarını işine adanması durumunda ortaya çıkan olumlu bir sonuçtur. İş görenin fiziksel, duygusal ve zihinsel kaynaklarını işine adanması elde edilecek faydalar sonucunda olmaktadır. Yüksek sosyal değişim algısına sahip iş görenler iş ortamını daha adil algıladıkları için daha yüksek işe adanma davranışında bulunduğu görülmektedir (Witt, Kacmar ve Andrews, 2001, s. 506). İş yaşam kalitesi ve kurumsal sosyal sorumluluğun sağlayacağı faydaların iş görenlerin sosyal değişim algılarını tetikleyip işe adanmışlıklarını artıracakları düşünülmektedir. İşe kendini adayan, işini isteyerek, heyecan ve tutku ile yapan iş görenler organizasyonda verimliliği artırarak maliyetlerin düşmesini sağlamaktadır. İş gören açısından ise tatmin, başarı, kendini gerçekleştirme, kariyer gelişimi, ekonomik fayda, saygınlık, sosyal hayatın gelişmesi dolayısıyla genel yaşam kalitesinin iyileşmesine katkı sağlamaktadır. Bu araştırmanın amacı zincir otel işletmesi iş görenlerinin iş yaşam kalitesi ve kurumsal sosyal sorumluluk algılarının işe adanmışlıkları üzerindeki etkisini incelemektir.

## Literatür

### İş yaşam kalitesi

İş gören rolü insan yaşamının büyük bir kısmını oluşturarak bireyin yaşamını etkilemektedir (Arndt, Singhapakdi ve Tam, 2013, s. 98; Sojka, 2014, s. 288). İnsan hayatının önemli bir parçası olan iş yaşamının ekonomik faydalarına ek olarak toplumla etkileşim, toplumdaki rol, saygınlık, tatmin ve gurur duygularının kazanıldığı bir ortamdır (Erdem ve Kaya, 2013, s. 136; Nelson-Horcher, 1991, s. 42-44; Türkay, 2015, s. 239-240). İş ve yaşam koşulları sürekli etkileşim içinde olduğu için iş yaşamı aile, boş zaman, iş hayatı, sosyal ihtiyaçlar, boş zaman, seyahat şekli, eğitim ve kariyer imkânlarını etkilemektedir (Deery ve Jago, 2009, s. 97; Kanten, 2014, s. 254-255). İş yaşam kalitesi iş görenlere kaliteli iş ortamı sunarak iş görenlerin tutum ve davranışlarını olumlu yönde değiştirmektedir (Huzzard, 2003, s. 21; Kanten, Esirgemez, Hasekioglu ve Keçeli, 2018, s. 560).

İş görenlerin iş yaşam kalitesini etkileyen unsurlar çalışma ortamının fiziksel özellikleri, bireyler arası iletişim, davranışlar, iş sözleşmesinden kaynaklı haklar, ödüllendirme, ücretler, eğitim faktörleri, işte teknoloji kullanımı, istihdam güvencesi, sosyal adalet ve güvenlik ihtiyaçları olarak sıralanmaktadır (Can, 1999; Türkay, 2015, s. 251). Tüm bunlar mükemmel iş ortamının oluşmasına katkı sağlarken üretkenliği ve verimliliği artırarak stratejik amaçlara da katkı sağlamaktadır (Kanten vd., 2018, s. 560). Bu ihtiyaçlar karşılanmadığında iş gören refahı olumsuz etkilenecek iş performansının düşmesine ve iş görenin stres yaşamasına neden olmaktadır (Emadzadeh, Khorasani ve Nematizadeh, 2012, s. 438). İş yaşam kalitesinin hissedilmediği veya düşük algılandığı durumlarda tükenmişlik, devamsızlık, işten ayrılma, tatminsizlik ve düşük örgütsel bağlılık gibi olumsuz sonuçlar ortaya çıkmaktadır (Mosadeghrad, 2013, s. 43-44). Bu kapsamda geliştirilen iş yaşam kalitesi kavramı Walton (1975) tarafından "verimlilik ve ekonomik büyümenin teknolojik ilerlemesi lehine ihmal edilen insani ve çevresel değerleri kurtarmanın bir yoludur" şeklinde tanımlanmıştır. Timossi, Pedrose, Francisco ve Pilatti'ye (2008) göre iş yaşam kalitesi, iş görenler ile organizasyon arasındaki ilişkiyi güçlendirerek ürünlerin kalitesini artırarak verimliliğe katkı sağlamaktadır. Walton'a (1975) göre iş ortamının iyileştirilmesi için; iyi bir ödül sistemi, fiziksel ve psikolojik çalışma ortamının güvenli ve sağlıklı olması, iş görenlerin ve organizasyonun tüm ihtiyaçlarının karşılanması, kariyer gelişimine olanak sağlarken istihdam güvencesi oluşturması, olumlu bir sosyal ortam ile sosyal entegrasyonu kolaylaştırması, bireysel haklar, karar alma sürecine katılım, iş ve hayat arasındaki çizginin belirlenmesiyle iş hayatının sosyal hayata olumsuz müdahalesinin engellenmesi, sosyal hayatın iyileştirilmesi sonucunda iş görenin örgütün iç ve



dış ilişkilerinde sosyal sorumluluklarının farkında olarak dürüstçe hareket etmesine odaklanmıştır (Walton, 1975).

Turizmin ana konusu olan hizmet insan kaynağı tarafından emek-yoğun bir şekilde üretildiğinden dolayı insan kaynağı hizmetin kalitesini belirleyen önemli bir faktördür (Seçkin ve Çoban, 2018, s. 8). Turizm endüstrisinde insan kaynağının konaklama işletmelerinde yoğunlaştığı için insan kaynağı konaklama işletmelerini birbirinden ayıran önemli bir faktördür (Domínguez Albiter, Vargas Martínez, Zizumbo Villarreal ve Velázquez Castro, 2021, s. 2; Işkın, 2021: 1972). İnsan kaynağı faktörüne iş yaşam kalitesiyle verilen önem konaklama işletmelerine rekabet avantajı, sürdürülebilirlik, tehditlerle mücadele, pazar payını koruyabilme ve başarılı olabilmesine katkı sağlamaktadır (Perçin ve Yabancı, 2021, s. 35). Konaklama işletmelerinde düşük ücret uygulamaları, düşük iş güvenliği, uzun çalışma saatleri, vardiya sistemi, yetersiz çalışma koşulları, iş kazaları, yetersiz gelişme ve eğitim fırsatları gibi olumsuz yönleri iş görenlerin iş tatminlerini, örgütsel bağlılıklarını ve işte kalma niyetlerini olumsuz etkilemektedir (Çakır, Doğanatan ve Bayar, 2018, s. 346; Deery ve Jago, 2009, s. 97; Kusluvan ve Kusluvan, 2000, s. 252-253; Sü, 1999; Powell, 2009; Muskat ve Reitmaser, 2020, s. 265). Bu olumsuzlukların iyileştirilmesi noktasında iş yaşam kalitesi kavramı önemli bir konu haline gelmektedir (Erdem ve Kaya, 2013, s. 136; Fatma, Kadir, Sariman ve Yuliana, 2016, s. 807).

İş yaşam kalitesine önem veren konaklama işletmelerinde iş görenlere kaliteli iş ortamı, iş koşullarının iyileştirilmesi, eğitim, bireysel hedeflere ulaşma, iş yükünün dengeli dağıtılması, boş zamana verilen önem, iş-aile yaşamı dengesi, genel yaşam kalitesinin iyileşmesi, sosyal statü, iş kazalarının önüne geçilmesi gibi faydalar sağlamaktadır (Back, Lee ve Abbott, 2011, s. 114-115; Benckendorff, Edwards, Jurowski, Liburd, Miller ve Moscardo, 2009, s. 181-182; Deery, 2008, s. 792-793; Domínguez Albiter, vd., 2021, s. 3; Ma, Ma, Yu ve Hao, 2011, s. 433). Tüm bunlar sonucunda işinden memnun olan iş görenler hizmet kalitesinin artmasına katkı sağlamaktadır (Bulgan, İşler ve Çınar, 2021, s. 115; Dienhart ve Cregoire, 1993, s. 41).

### **Kurumsal sosyal sorumluluk**

Gelişen rekabet ortamında işletmeler ekonomik çıktılar üreten birimlerden kurumsal sosyal sorumluluk faaliyetleriyle beraber sosyal çıktılar üreten birimlere doğru gelişmektedir (Hamarnah, 2013, s. 36-38; Sağır ve Türkeri, 2015, s. 284). İşletmeler ekonomik faydalarına ek olarak, insan hakları, sürdürülebilir ekonomi, sürdürülebilirlik, çevre kirliliği ve toplumun gelişmesi gibi konularda da sorumluluk üstlenerek tüm paydaşların çıkarlarını korumaktadır (Calveras, 2015, s. 399; Valentine ve Fleischman, 2008, s. 160-161). Dünya İş Konseyi'ne (1999) göre kurumsal sosyal sorumluluk kavramının "insan hakları, çalışan hakları, çevre koruma, toplumsal katılım, tedarikçi ilişkileri, paydaş hakları ve izleme" konularıyla ilgili olduğu görülmektedir (WBCSD, 1999, s. 5). Rupp, Ganapathi, Aguilera ve Williams (2006) tarafından kurumsal sosyal sorumluluk sürdürülebilirlik ve olumlu sosyal değişimleri tetiklemek için organizasyonların benimsedikleri strateji ve uygulamalar olarak açıklanmıştır (Rupp vd., 2006, s. 537). Kurumsal sosyal sorumluluğa ait genel kabul görmüş tanımı Carroll (1979) yapmıştır. Carroll (1979) kurumsal sosyal sorumluluk kavramını "belirli bir zamanda toplumun kuruluşlardan sahip olduğu ekonomik, yasal, etik ve gönüllü faaliyetler" şeklinde tanımlamıştır (Carroll, 1979, s. 500). Ekonomik sorumluluk, işletmenin temel sosyal sorumluluğu ihtiyaç duyulan mal ve hizmetleri üretmek olduğu için (Carroll, 1979, s. 500), diğer sorumlulukları buna bağlıdır (Carroll, 1991, s. 40-41). Yasal sorumluluk, işletme mal ve hizmetleri üretirken kanunlara ve yasal düzenlere uymalıdır (Carroll, 1989, s. 283-284). Etik sorumluluk, işletme mal ve hizmetleri üretirken toplum tarafından kabul edilen etik ve ahlaki normları kabul etmelidir (Carroll, 1991, s. 41). Gönüllülük, işletme faaliyetlerini gerçekleştirirken toplum tarafından beklenen isteklere karşılık veren faaliyet ve uygulamaları kapsamaktadır (Carroll, 1991, s. 42).

Kurumsal sosyal sorumluluk işletmenin tüm paydaşlarına yatırım yapmayı kapsamaktadır. Bu yatırımlar, paydaşlara karşı yatırımlar, çalışma koşulları, iş gören-yönetici ilişkileri ve çevreye karşı duyarlı teknolojilere yatırımlar olarak sıralanmaktadır (Ünlübulduk, 2019, s. 7). Bu kapsamda kurumsal sosyal sorumluluk örgütün tüm paydaşlarına gönüllülük esasına göre etik kurallar çerçevesinde misyon ve vizyonuna uygun olarak sosyal, ekonomik, çevresel ve kültürel konulara duyarlı faaliyetler olarak açıklanabilir.

Turizm endüstrisi içinde bulunduğu doğal ve sosyal çevre ile birlikte faaliyet göstermektedir (Sağır ve Türkeri, 2015, s. 284). Turizmden etkilenen paydaşlar yerel toplum, iş görenler, tüketiciler, kültürel ve doğal çevreden oluşmaktadır (Mao, He, Morrison ve Andres Coca-Stefaniak, 2021, s. 2718). Turizmden kaynaklanan çevresel ve biyolojik bozulma, yerel halkın dışlanması, enflasyon, suç, kültürel bozulma, yetersiz çalışma koşulları, düşük ücretler, turizmin mevsimsellik özelliği, yerleşiklerin yerinden edilmesi gibi olumsuzlukların önüne geçilmesinde kurumsal sosyal sorumluluk önemli bir rol oynamaktadır (Camilleri, 2014, s. 49; Cooper, Fletcher, Gilbert ve Wanhill, 2008, s. 119-120; Hall, 2007).

Konaklama işletmeleri için önemli bir yer olan kurumsal sosyal sorumluluk iş yaşam kalitesi, sosyal hayata saygı, aile hayatı, liyakat uygulamaları ve iş tatminini olumlu etkilemektedir (Çalışkan ve Ünüsan, 2011, s. 153-155). Ayrıca konaklama işletmelerinde kurumsal sosyal sorumluluk iş görenlere sağladığı faydalar güven ve iletişimi artırır, takım çalışması ruhunu artırır, örgütsel bağlılığı artırır, sadakat duygusunu artırır, tecrübe, özgüven, yaratıcı düşünme yeteneğini artırır, çalışma ortamının düzenlenmesine ve iyileştirilmesine katkı sağlar, iş hakkında eğitimler verilmesine olanak sağlar, iş güvenliğini artırır, liyakat ilkesinin uygulanmasına katkı sağlar, iş görenlerin aile ve özel hayatına saygılı olunması sağlanır, motivasyonu artırır, sosyal refahı artırır ve işte kalma niyetini artırır (Ateş ve Senal, 2012, s. 74; Çalışkan, 2010, s. 20; Lee, Choi, Moon ve Babin, 2014; Tripahthy ve Rath, 2011, s. 120-122; Wong ve Ko, 2009, s. 195).

### İşe adanmışlık

Organizasyonlar rekabet avantajı elde edebilmek için iş rollerine yatırım yapmaya istekli, yeteneklerini geliştirmek isteyen ve işine adanmış iş görenlere ihtiyaç duymaktadır (Bakker, Albrecht ve Leiter, 2011, s. 5). Çünkü işe olumlu duygular besleyen iş görenler yeteneklerini ve motivasyonlarını işine adayarak organizasyonun verimli olmasını sağlamaktadır (Banihani, Lewis ve Syed, 2013, s. 400-401; Burke, Koyuncu, Jing ve Fiksenbaum, 2009, s. 4). İnsan kaynağının sadakati, bağlılığı, iş birikimi, yetenekleri ve becerileri verimliliği artırarak organizasyonları diğer organizasyonlardan ayırmaktadır (Şahin ve Çankır, 2019, s. 196-197). Tüm bunlar göz önüne alındığında ortaya çıkan işe adanmışlık kavramı iş görenin organizasyon içindeki rollerini fiziksel, duygusal ve zihinsel olarak farklı derecelerde algılaması olarak açıklanmaktadır (Khan, 1990, s. 692-694). Khan'ın (1990) oluşturduğu üç boyutlu model fiziksel, duygusal ve zihinsel adanma boyutlarından oluşmaktadır. Bu boyutlar;

- Fiziksel adanmışlık, iş görenin tüm fiziksel varlığını işine adaması ve buna rağmen tükenmiş hissetmemesini (Çiftci ve Erkanlı, 2020, s. 337; Salanova, Agut ve Peiró, 2005, s. 1217-1220),
- Duygusal adanmışlık, iş görenin tüm kalbini işine adaması işinden gurur ve şevk duymasını,
- Zihinsel adanmışlık, iş gören iş esnasında her şeyi unutarak işine yoğunlaşmasını ifade etmektedir. (Babcock-Roberson ve Stricklan, 2010, s. 315-316).

İşe adanmış iş görenler rekabet avantajı sağlamakta, örgütsel bağlılığı yükseltmekte, yüksek iş performansı sağlamakta, müşteri sadakati oluşturmakta ve işte kalma niyetini yükselterek iş görenleri örgütün vizyon, misyon, amaç ve stratejileri doğrultusunda fazladan çaba göstermesini sağlamaktadır (Bakker ve Demerouti, 2008, s. 209; Çiftci ve Erkanlı, 2020, s. 337; Gruman ve Saks, 2011, s. 123-124; Karatepe, 2013a, s. 82; Özyılmaz ve Süner, 2015; Salanova vd., 2005, s. 1217; Schaufeli, Bakker ve Salanova, 2006, s. 293; Rich, Lepine ve Crawford, 2010, s. 617-620). İşe adanmışlığın organizasyona sağlayacağı diğer faydalar; iş görenlerin organizasyona karşı tutum ve davranışları gelişir, iş görenler ruhsal doyuma ulaşır, iş görenler iş doyumuna ulaşır, iş görenlerin örgütsel bağlılığı artar, iş görenlerin yaratıcılığı artar, iş görenler düşük devamsızlık gösterir, kalifiyeli iş görenler elde tutulur, ürün ve hizmetlerin kalitesi artar, ürün ve hizmetlerde hata oranı düşer, satış oranları artar, karlılık yükseler, verimlilik artar, maliyetler düşer, organizasyonun büyümesi, müşteri memnuniyeti ve sadakati artması olarak sıralanmaktadır (Bakker ve Demerouti, 2008, s. 210-212; Stairs ve Galpin, 2010, s. 155-160).

Turizmde insan kaynağı, hizmetin kalitesini belirleyen önemli bir faktör olarak kabul edilmektedir. İnsan kaynağının fazlalığı, kalifiyeli iş gören azlığı ve yüksek eğitim maliyetleri insan kaynakları sorunlarının başında gelmektedir (Li, Kim ve Zhao, 2017, s. 193-194). Özellikle konaklama işletmelerinde uzun mesai saatleri, iş yükü, eğitimsiz iş görenler, yetersiz örgütsel politikalar, duygusal uyumsuzluk, sürekli kapalı ortamda çalışma, iş-aile arasında çatışma, yüksek personel devir hızı, düşük ücretler, iş güvensizliği, yetersiz finansal ve finansal olmayan ödülleri ve ölçüm kriterlerinin yetersiz olması iş gücü sorunlarının başında gelmektedir (Cleveland, O'Neill, Himelright, Harrison, Crouter ve Drago, 2007, s. 275-277; Putra, Cho ve Liu, 2017, s. 228-230; Bhutto, Farooq, Talwar, Awan ve Dhir, 2021, s. 1717). Tüm bu sorunların çözümünde konaklama işletmeleri yüksek motivasyonlu işe adanmış iş görenlere ihtiyaç duymaktadır (Li, Sanders ve Frenkel 2012, s. 1059).

### Araştırma yöntemi

Bu araştırmanın yaklaşımı nicel araştırma yöntemidir. Nicel araştırma, "nesnelere insanları, olayları ya da her neyi ise, belirli kurallar manzumesine göre, sayılarla ifade etmeyi" içermektedir (Punch, 2005: 85). Araştırmada öncelikle iş yaşam kalitesi, kurumsal sosyal sorumluluk ve işe adanmışlık hakkında ampirik ve teorik çalışmalar incelenerek literatür taraması yapılmıştır. Sonraki aşamada araştırmanın amacı doğrultusunda Trabzon'daki zincir otel işletmeleri iş görenlerinin iş yaşam kalitesi ve kurumsal sosyal sorumluluk algısının işe adanmışlık üzerinde etkisinin olup olmadığını belirlemek için anket

tekniki uygulanmıştır. Değişken arasındaki ilişkiyi belirlemek için korelasyon analizi yapılmıştır. Kavramların neden-sonuç ilişkisini belirlemek için de regresyon analizi uygulanmıştır.

### Araştırmanın amacı ve önemi

Organizasyonların rekabet ortamında başarılı olabilmesi insan kaynağına verdiği önemle sağlanabilmektedir. İnsan kaynağı üretimin, verimliliğin ve kârın temelini oluşturmaktadır. Bu kapsamda sürdürülebilir rekabet için iş görenlerin gelişimini sağlamak, elde tutmak, yaşam kalitelerini yükseltmek, işinden gurur duymasını sağlamak, sosyal hayata entegrasyonunu kolaylaştırmak ve işe adanmışlıklarını sağlamak hedeflenmektedir. İş görenlerin iş ortamından soğumasını engellemek, bağlılıklarını artırmak, iş tatminlerini ve genel yaşam kalitelerini yükseltmek için iş yaşam kalitelerini geliştirmek hedeflenmektedir. Ayrıca organizasyonlar tüm paydaşlarının çıkarlarını kurumsal sosyal sorumluluk uygulamaları ve politikaları ile önem göstermesi tüm paydaşların dolayısıyla iş görenlerin algılarını olumlu etkilemektedir. Tüm bunlar iş görenlerin işe adanmalarını tetikleyerek; istekli, heyecanlı ve tutkulu bir şekilde işlerini yapmalarına neden olacağı düşünülmektedir. Bu durum verimliliği ve performansı artırarak hem maliyetleri düşürmektedir hem de organizasyon ile paydaşlar arasındaki ilişkinin gelişmesine olanak sağlamaktadır. Bu kapsamda zincir otel işletmelerinde iş görenlerin iş yaşam kalitelerini ve kurumsal sosyal sorumluluk algılarını artırmanın bir sonucu olarak iş görenlerin işe adanmışlıklarının yükseleceği düşünülmektedir.

Bu çalışmada Trabzon'daki zincir otel işletmeleri iş görenlerinin iş yaşam kalitesi ve kurumsal sosyal sorumluluk algılarının işe adanmışlıkları üzerindeki etkisinin incelenmesinin amaçlandığı bir araştırmaya yer verilmiştir. İş yaşam kalitesi ve kurumsal sosyal sorumluluk algısının işe adanmışlık üzerindeki etkisinin tespit edilmesinin literatüre katkı sağlayacağı ve işletme yöneticilerine önemli bir veri kaynağı oluşturacağı beklenilmektedir.

### Evren ve örneklem

Araştırmanın hedef kitlesi Trabzon'da faaliyet gösteren "Kültür ve Turizm Bakanlığı Turizm İşletme Belgeli" zincir otel işletmeleri iş görenleridir. Turizm Bakanlığı'nın "Otelcilik ve Turizm Sektöründe İşgücü Araştırması" (1989) verilerine göre, Türkiye'de yıldızlı ve diğer konaklama tesislerini kapsayan oda başına ve yatak başına düşen personel sayısı genel ortalama üzerinden oda başına düşen personel sayısı 0,70 ve yatak başına düşen personel sayısı 0,35 olarak hesaplanmıştır (Turizm Bakanlığı, 1989).

Trabzon İl Kültür ve Turizm Müdürlüğü (2021) verilerine göre Trabzon'daki zincir otel işletmelerinin toplamda 1165 oda ve 2608 yatak olduğu görülmektedir. Trabzon'daki zincir otel işletmelerinin oda sayısına göre gerekli personel sayısı (1165 x 0,70) 815,5 personel; yatak sayısına göre (2608 x 0,35) 912,5 personel olarak hesaplanmıştır. Bu sonuçlara göre araştırma evreni yatak sayısına göre 912,5 personel olarak kabul edilmiştir. Araştırma evrenini oluşturan birimlerin sayısının fazla olması, zaman, maliyet kısıtlılığı ve verilerin güncelliğini kaybetmesinden dolayı örneklem alma yoluna gidilmiştir (Gazeloğlu ve Erkalıç, 2020, s. 16-17). Bilimsel araştırmalar yapılırken araştırmacılar evrenin tamamına ulaşabileceği gibi araştırma kapsamında belirli yöntemlerle seçilen örneklem ile evreni temsil edilebilmektedir (Ural ve Kılıç, 2018, s. 29). Özdamar (2001) ve Ural ve Kılıç (2018) çalışmalarından yola çıkarak sınırlı evrene (n<10000) göre formül hesaplandığında 207,55 örneklem sayısına ulaşılmıştır. Bu kapsamda örneklem hataları için ulaşılması gereken örneklem büyüklüğü desteklenmektedir (Gazeloğlu ve Erkalıç, 2020). Bu kapsamda basit tesadüfi örnekleme yöntemi ile Trabzon'daki zincir otel işletmelerinde 430 anket uygulaması gerçekleştirilmiştir. Eksik, hatalı ve geri dönmeyen 87 anket değerlendirilmeden çıkarılarak 343 anket analize alınmıştır.

### Veri toplama araçları

Anket formunun ilk bölümünde demografik özellikleri (cinsiyet, yaş, medeni durum, aylık gelir düzeyi, eğitim durumu, eğitim durumu, turizm eğitimi durumu, işletme içindeki görev, işletmedeki çalışma süresi) belirlemeye yönelik ifadeler bulunmaktadır.

İkinci bölümde iş görenlerin iş yaşam kalitesi algılarını ölçmek için Walton (1973)'in oluşturduğu Timossi vd.'nin (2008) geliştirdiği "İş Yaşam Kalitesi Ölçeği" tercih edilmiştir. Walton (1975)'in geliştirdiği iş yaşam kalitesi modeli çok fazla kullanılmasına rağmen eğitim düzeyi düşük toplumlarda tam olarak anlaşılmadığı için Timossi vd. (2008) tarafından uyarlanarak geliştirilmiştir. Bu model; yeterli ve adil ücretlendirme, çalışma koşulları, kapasitenin işte kullanımı, işte sahip olunan fırsatlar, iş hayatının sosyal entegrasyonu, örgünün yasalara saygısı, işin hayatta kapladığı yer, yapılan işin önemi ve sosyal ilişkiler olmak üzere 8 boyuttan oluşmaktadır (Timossi vd., 2008).

Üçüncü bölümde kurumsal sosyal sorumluluk algısını ölçmek için Park ve Levy (2014) tarafından hazırlanan güncel "Kurumsal Sosyal Sorumluluk Ölçeği" tercih edilmiştir. Bu model Park ve Levy (2014) önceki araştırmalardan yola çıkarak özellikle Carroll'ın (1979) modelini geliştirerek kurumsal

sosyal sorumluluğu dört boyutta ele almıştır. Bunlar; topluma karşı, çevreye karşı, iş görenlere karşı, müşterilere karşı sosyal sorumluluk olarak sıralanmıştır (Park ve Levy, 2014).

Dördüncü bölümde iş görenlerin işe adanmışlıklarını ölçmek için Kahn'ın (1990) hazırladığı ve Rich vd. (2010) tarafından güncellenen "İşe Adanmışlık Ölçeği" tercih edilmiştir. Bu model Khan (1990)'ın geliştirdiği ölçek daha sonra Rich vd., (2010) tarafından uyarlanarak güncellendiğinden dolayı tercih edilmiştir. Bu ölçek fiziksel adanmışlık, duygusal adanmışlık ve zihinsel adanmışlık olmak üzere 3 boyuttan oluşmaktadır (Rich vd. 2010).

Anketlerde kullanılan ölçekler literatürde kullanılan ölçeklerden uyarlanmıştır. Bu kapsamda araştırma amacı ve kapsamı doğrultusunda daha önce Türkiye'de uygulanan ölçekler tercih edilmiştir. Ölçekler orijinal dilinde İngilizce olduğu için dilsel geçerlilik çalışması yapılmıştır. Bu kapsamda ölçekler ters çeviri yöntemi ile İngilizceden Türkçeye uyarlanmıştır (Brislin, 1976). Seçilen ölçekler hem İngilizce hem de Türkçe bilen bir alanında uzman bir araştırmacı ve dört dil bilimci tarafından ters çeviri yöntemi ile Türkçeye çevrilmiştir. Türkçeye çevrilen ölçekler başka bir dil bilimci tarafından tekrar İngilizceye çevrildiğinde anlam bozulmasına uğramadan çevrildiği ve çevrilen ölçeklerin aynı anlamı ifade ettiği görülmüştür.

Araştırma kapsamında ilk olarak ölçeklerin güvenilirliği test edilmiştir. Cronbach's Alpha, KMO (Kaiser-Mayer Olkin Measure of Sampling Adequacy) ve Bartlett's değerleri Tablo 1'de yer almaktadır.

**Tablo 1:** İş Yaşam Kalitesi, Kurumsal Sosyal Sorumluluk ve İşe Adanmışlığa İlişkin Güvenilirlik Analizi Sonuçları

	Cronbach's Alpha	KMO	Bartlett's
İş yaşam kalitesi	0,957	0,939	$\chi^2=6733,101$ df=436(p<0,000)
Kurumsal sosyal sorumluluk	0,945	0,948	$\chi^2=4896,76$ df=153(p<0,000)
İşe adanmışlık	0,928	0,928	$\chi^2=6733,101$ df=105(p<0,000)

Güvenilirlik analizi sonuçlarına göre ölçeklerin yüksek güvenilirlik düzeyine sahip olduğu ve ölçeklerin açımlayıcı faktör analizi (AFA) için yeterli büyüklükte olduğu görülmektedir.

İş yaşam kalitesi ölçeğine ilişkin AFA sonucunda 35 maddeden oluşan iş yaşam kalitesi ölçeği 8 alt boyutlu (faktörlü) bir yapıda olduğu ve bu 8 faktörün toplam varyansın %73,15 açıkladığı ve bu sonucun geçerli olduğu belirlenmiştir. Bu kapsamda ölçek orijinal ölçeğin teorik özelliklerine uygun dağılım gösterdiği sonucuna ulaşılmıştır.

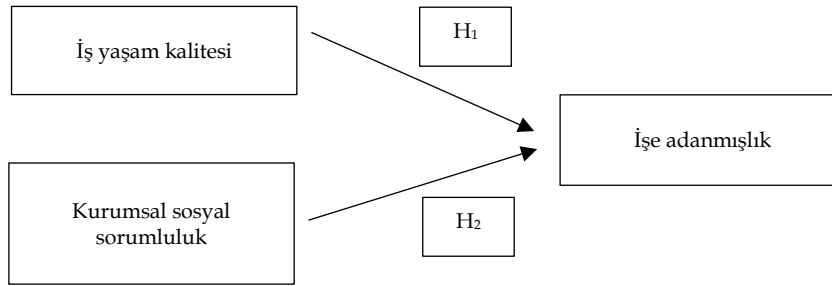
Kurumsal sosyal sorumluluk algısı ölçeğine ilişkin AFA sonucunda 18 maddeden oluşan kurumsal sosyal sorumluluk ölçeğinin 4 alt boyutlu (faktörlü) bir yapıdan olduğu ve bu 4 faktörün toplam varyansın %76,17 açıkladığı ve bu sonucun geçerli olduğu sonucuna ulaşılmıştır.

İşe adanmışlık ölçeğine ilişkin yapılan AFA sonucunda 16 maddeden oluşan işe adanmışlık ölçeğinin 3 alt boyutlu (faktörlü) bir yapıdan oluştuğu görülmüştür. Bu kapsamda 15 maddeden oluşan 3 alt boyutlu ölçeğin toplam varyansın %73,26'sını açıkladığı ve bu sonucun geçerli olduğu sonucuna ulaşılmıştır. Ölçeğin orijinal teorik özelliklerine uygun dağılım gösterdiği tespit edilmiştir.

### Araştırma modeli

Turizm endüstrisinde hizmeti hem üreten hem de tüketen insan olduğu için bu kaynağın davranışını anlayabilmek önem kazanmaktadır. Blau (1964) sosyal değişimi toplumsal birliktelik sürecinde en az iki kişi arasında maddi ve maddi olmayan kaynakların alışverişi olarak açıklamaktadır. Sosyal değişim yoluyla iş görenlerin iş yaşam kalitesi algılarını yükseltmek için organizasyonların sağlayacağı ödüller; istihdam garantisi, olumlu çalışma iklimi, kariyer gelişim olanakları, adil çalışma ortamı olarak sıralanabilir (Mirvis ve Lawler, 1984: 200; McDonald ve Makin, 2000, s. 84; Witt vd., 2001, s. 505; Seçkin ve Çoban, 2018, s. 9-10; Dalgıç, 2020, s. 1922; Kim, Milliman ve Lucas, 2020, s. 1164-1167). Kurumsal sosyal sorumluluk organizasyon ve iş görenler arasında yüksek kaliteli sosyal değişim ilişkisi oluşturmaktadır (Aguilera, Rupp, Williams ve Ganapathi, 2007). Sosyal değişim teorisi iş görenlerin kurumsal sosyal sorumluluk faaliyetlerine katılımına yardımcı olarak organizasyon ile iş gören arasındaki ilişkide kurumsal sosyal sorumluluk faaliyetlerinin sağlayacağı ekonomik faydadan daha çok sosyal etkilerine odaklanmaktadır (Slack, Corlett ve Morris, 2015, s. 537). İş görenler kurumsal sosyal sorumluluk yardımıyla işe anlamlı katkılarda bulunması sonucunda iş tatmininin, benlik saygısının ve aidiyet duygusunun artmasına sebep olarak psikolojik ihtiyaçlarını karşılamaktadır (De

Roeck, Marique, Stinglhamber ve Swaen, 2014). Kurumsal sosyal sorumluluk iş görenlerin refahını etkileyerek oluşturduğu karşılıklı fayda durumu motivasyonu artırarak iş görenleri organizasyon ve toplum için ekstra rol davranışı yapmaya sevk etmektedir (Caldwell, Floyd, Atkins ve Holzgreffe, 2012; De Roeck ve Maon, 2018, s. 615). İş görenlerin organizasyonlarına adanmış olmaları için sosyal değişimi tetikleyecek olan iş gereksinimleri ve iş kaynakları faktörleridir (Bakker, Demerouti, De Boer ve Schaufeli, 2003). Bu kapsamda işe adanmışlık, sosyal değişim yoluyla oluşturulan ekonomik ve sosyoduygusal iş kaynaklarının olumlu bir sonucudur (Saks, 2006; Ancarani, Di Mauro, Giammanco ve Giammanco, 2018, s. 1-2). Sosyal değişim teorisi kapsamında organizasyonların iş görenlere sağladığı maddi ödüller, rekabetçi ücretler, diğer maddi faydalar, kariyer eğitimi ve gelişimi fırsatları, iş görenlere adil davranılması, yetkilendirme, karar alma sürecine dahil edilme işe adanmışlık üzerinde olumlu etkilere neden olmaktadır (Jr, Stumpf ve Doh, 2010; Yin, 2018, s. 874-875; Guan, Yeh, Chiang ve Huan, 2020, s. 261). Literatürde işe adanmışlık kavramı iş yaşam kalitesi ve kurumsal sosyal sorumluluk ile ayrı ayrı ilişkilendirildiği görülmektedir (Kanten ve Sadullah, 2012; Singhapakdi, 2014; Arndt vd., 2015; Zientara, Kujawski ve Bohdanowicz-Godfrey, 2015; Türkay, 2015; Kim, Rhou, Uysal ve Kwon, 2017; Wahlberg, Ramalho ve Brochado, 2017; Gürlek ve Tuna, 2019; Nazir ve Islam, 2019; Kim, Kim, Marshall ve Afzali, 2018; Adrian ve Anggiani, 2020; Kim, Rhou, Topcuoglu ve Kim, 2020). İşe adanmışlık kavramı sosyal değişim teorisi kapsamında bu iki paradigma ile ilişkili olduğu ve karşılıklı fayda takası sağlayacağı beklenilmektedir. Bu kapsamda iş yaşam kalitesi ve kurumsal sosyal sorumluluk iş görenlerin sosyal değişim algılarını tetikleyip işe adanmışlıkları üzerinde etkili olacağı düşünülmektedir. Bu kapsamda aşağıdaki araştırma modeli geliştirilmiştir.



**Şekil 1:** Araştırma Modeli

### İş yaşam kalitesi ve işe adanmışlık

İş yaşam kalitesi, iş gören motivasyonunu etkileyen ve organizasyon performansına etki eden bir faktördür (Gupta ve Sharma, 2011, s. 80). İşe adanmışlık tükenmişlik kavramının olumlu bir yönü olarak anılsa da ortaya çıkabilecek olumsuz yönler iş yaşam kalitesi ile iyileştirilebilmektedir (Taipale, Selander, Anttila ve Nätti, 2011, s. 489). Yüksek iş yaşam kalitesi algısı iş görenlerin işe adanmışlıklarını olumlu etkilemektedir (Kanten ve Sadullah, 2012, s. 360; Wahlberg vd., 2007, s. 16-17). İş yaşam kalitesinin boyutlarından yeterli ve adil ücretlendirme, güvenli ve sağlıklı çalışma koşulları, bireyin kapasitesinin kullanılmasını ve geliştirmesini sağlayan uygun çalışma ortamı bireyin sosyal entegrasyonuna katkı sağlamaktadır (Gupta ve Sharma, 2011; Kanten ve Sadullah, 2012, s. 361). İş görenler aile, iş ve genel yaşamı arasındaki dengeyi sağlayabilmek ve yaşamlarını yönetmek istemektedirler (Coetzee ve De-Villiers, 2010; Kanten ve Sadullah, 2012; Karatepe ve Demir, 2014, s. 307). Bu kapsamda işe adanmışlık motivasyonel ve davranışsal bir kavram olduğu için iş yaşam kalitesi iş görenleri motive ederek iş görenlerin işe adanmışlıkları üzerinde olumlu sonuçlar doğurmaktadır (Herzberg, Mausner ve Snyderman, 1959; Karatepe, 2013a). İş yaşam kalitesi bireyin iş ve genel yaşam kalitesini etkileyerek iş performansı üzerinde olumlu etkisi olduğu için iş görenin iş yaşam kalitesinin yükseltilmesinin işe adanmışlığını artıracığı düşünülmektedir. Bu kapsamda aşağıdaki hipotez geliştirilmiştir.

**H<sub>1</sub>:** İş yaşam kalitesinin işe adanmışlık üzerinde anlamlı bir etkisi vardır.

### Kurumsal sosyal sorumluluk ve işe adanmışlık

İş görenler kurumsal sosyal sorumluluğu algıladıklarında organizasyona karşı olan tutum ve davranışları gelişmektedir (Gond, El-Akreml, Igaes ve Swaen, 2010). Kurumsal sosyal sorumluluk uygulamaları iş gören ve organizasyon arasında sosyal bağ oluşturarak iş görenlerin aidiyet ihtiyaçlarını gidererek içsel motivasyonlarını artırmaktadır (Nazir ve Islam, 2020, s. 3058). Kurumsal sosyal sorumluluk iş görenleri karar alma sürecine dahil eder, organizasyondaki statülerini korur, güven duygusu geliştirir ve yaşamlarını kontrol etme isteklerini gerçekleştirir (May, Gilson ve Harter, 2004). Organizasyonlar insan haklarına olan saygısını kanıtlamak, etik ve ahlaki sorumluluklarını yerine getirmek için benimsediği kurumsal sosyal sorumluluk iş görenlerin gurur duygusunu artırarak

işe adanmışlıklarını olumlu etkilemektedir (Chaudhary ve Akhouri, 2018, s. 820-821). Kurumsal sosyal sorumluluk uygulamaları sosyal olarak organizasyona sağladığı faydalar sayesinde iş görenlere kariyer olanakları sağlar ve iş görenler ekonomik fayda elde edebileceklerini hissettikleri için işe adanmışlıkları olumlu etkilenmektedir (Vlachos, Panagopoulos ve Rapp, 2013). Kurumsal sosyal sorumluluk ile organizasyon tüm paydaşların çıkarlarını gözetirken en önemli paydaş olan iş görenin işe adanmışlığı üzerinde etkili olacağı düşünülmektedir. Bu kapsamda aşağıdaki hipotez geliştirilmiştir.

*H<sub>2</sub>: Kurumsal sosyal sorumluluk algısının işe adanmışlık üzerinde anlamlı bir etkisi vardır.*

### Araştırmada kullanılan istatistiksel analiz yöntemleri

Araştırma kapsamında verileri analiz etmeden önce nasıl bir dağılım gösterdiği belirlenmek istenmiştir. Analiz sonuçlarına göre parametrik veya non-parametrik testlerin hangisinin uygulanacağını belirlemek için normal dağılım analizi yapılmıştır. Verilerin normal dağılımı durumundan parametrik testler uygulanırken; normal dağılmaması durumunda non-parametrik testler uygulanmaktadır (Saruhan ve Özdemirci, 2018, s. 236).

**Tablo 2:** İş Yaşam Kalitesi, Kurumsal Sosyal Sorumluluk ve İşe Adanmışlık Ölçeklerinin Normal Dağılım Analizi

	Skewness		Kurtosis	
	Değer	s.s	Değer	s.s
İş yaşam kalitesi	-0,126	0,132	0,522	0,263
Kurumsal sosyal sorumluluk	-0,817	0,132	1,958	0,263
İşe adanmışlık	-0,187	0,132	0,022	0,263

Verilerin normal dağılıma sahip olup olmadığını belirlemek için çarpıklık (skewness) ve basıklık (kurtosis) değerlerine bakılmaktadır (George ve Mallery, 2010). Skewness ve kurtosis  $\pm 1$  durumunda mükemmel kabul edilir, ancak çoğu durumda  $\pm 2$  genel kabul edilmektedir (George ve Mallery, 2010; Hair, Black, Babin, Anderson ve Tatham, 2013). Tablo 2'ye göre verilerin normal dağılım sağlandığı görülmektedir.

### Bulgular

Araştırma kapsamında 343 katılımcının vermiş oldukları cevaplar değerlendirilerek veri analizi gerçekleştirilmiştir.

Katılımcıların demografik verileri incelendiğinde 343 katılımcının; %54.8'i erkek ve %45.2'si kadın; %53.1'i evli, %46.9'u bekar, %9.3'ü 20 yaş altı, %35.9'u 22-30 yaş arası, %32.9'u 31-40 yaş arası, %11.1'i 41-50 yaş arası ve %10.8'i 51 yaş ve üzeri; %9.6'si 4252 TL ve altı, 53.9'u 4253-5252 TL arası, %21'i 5253-6252 TL arası, %8.7'si 6253-7252 TL arası ve %6.7'si 7253 TL üzeri gelire sahip; %12.8'i ilköğretim ve altı, %37.6'sı ortaöğretim ve %49.6'sı yükseköğretim mezunu; %50.4'ü turizm eğitimi almadı, %20.4'ü turizm ve otelcilik meslek lisesi, % 14.9'u turizm ön lisans, %11.7'si turizm lisans ve %2.6'si turizm lisansüstü eğitimine sahip; %7.9'u üst kademe yönetici, %11.1'i orta kademe yönetici, %21.6'sı alt kademe yönetici ve %59.5'i personel; %26.5'i 1 yıl ve daha az, %36.2'si 2-4 yıl arası, %20.1'i 5-7 yıl arası, %9'u 8-10 yıl arası ve %8.2'si 11 yıl ve üzeri görev süresine olduğu görülmektedir.

**Tablo 3:** Katılımcıların Demografik Özellikleri

Değişkenler	Gruplar	f	%	Değişkenler	Gruplar	f	%
Cinsiyet	Erkek	188	54,8	Eğitim Durumu	İlköğretim ve altı	44	12,8
	Kadın	155	45,2		Ortaöğretim	128	37,3
Yaş	20 ve altı	32	9,3		Yükseköğretim	171	49,9
	22-30 yaş	123	35,9	Turizm Eğitimi Düzeyi	Almadı	151	44,3
	31-40 yaş	113	32,9		Turizm ve otel Meslek Lisesi	69	20,1
	41-50 yaş	38	11,1		Turizm Ön lisans	48	14,0
	51 ve üzeri	37	10,8		Turizm Lisans	43	12,5
Aylık Gelir Düzeyi	4252 TL ve Altı	31	9,0	Turizm Lisansüstü	31	9,0	
	4253-5252 TL	182	53,1	İşletmedeki Görev Süresi	1 yıl ve daha az	90	26,2
	5253-6252 TL	67	19,5		2-4 yıl	123	35,9
	6253-7252 TL	30	8,7		5-7 yıl	67	19,5
	7253 ve üzeri	33	9,6		8-10 yıl	31	9,0
İşletmedeki Görevi	Üst Kademe	36	10,5		11 yıl ve üzeri	32	9,3
	Orta Kademe	40	11,7	Medeni Durum	Evli	182	53,1
	Alt Kademe	69	20,1		Bekar	161	46,9
	Personel	198	57,7				

### Korelasyon analizine ilişkin bulgular

Araştırmanın kapsamında bağımlı ve bağımsız değişkenler arasında istatistiksel olarak anlamlı bir ilişki olup olmadığını belirlemek için korelasyon analizi yapılmıştır. Veriler normal dağılım sağladığı için Pearson katsayısı kullanılmıştır. Korelasyon kat sayısı 0-0,29 arasında olması zayıf veya düşük, 0,30-0,64 arasında olması orta, 0,65-0,84 arasında olması yüksek ve 0,85-1 arasında olması çok yüksek şeklinde yorumlanmaktadır (Ural ve Kılıç, 2018, s. 232).

**Tablo 4:** Korelasyon Analizi

		İş Yaşam Kalitesi	Kurumsal Sosyal Sorumluluk	İşe Adanmışlık
İş Yaşam Kalitesi	Pearson Correlation	1	0,772**	0,632**
	Sig. (2-tailed)		0,000	0,000
	N	343	343	343
Kurumsal Sosyal Sorumluluk	Pearson Correlation	0,772**	1	0,550**
	Sig. (2-tailed)	0,000		0,000
	N	343	343	343
İşe Adanmışlık	Pearson Correlation	0,632**	0,550**	1
	Sig. (2-tailed)	0,000	0,000	
	N	343	343	343

\*\*p<0.01 düzeyinde anlamlıdır.

Tablo 4 incelendiğinde iş yaşam kalitesi ve işe adanmışlık arasında orta düzeyde ve pozitif yönlü bir ilişki olduğu tespit edilmiştir (0,632; p<0,001). Kurumsal sosyal sorumluluk ve işe adanmışlık arasında orta düzeyde ve pozitif yönlü bir ilişki olduğu görülmektedir (0,550; p<0,001).

### Regresyon analizine ilişkin bulgular

İş yaşam kalitesi ve kurumsal sosyal sorumluluk algısının işe adanmışlık üzerindeki etkisini belirlemek için araştırma modeli kapsamında regresyon analizi yapılmıştır. Hataların bağımsızlığı için kabul gören Durbin-watson değeri 1-3 arasında kabul görmektedir (Field, 2009, s. 221). VIF (Variance Inflation Factor) değeri 10'un altında ve T (Tolerance) değeri 0,1'den küçük olmadığı için çoklu doğrusal bağlantı sorunu olmadığını göstermektedir (Field, 2009).

**Tablo 5:** Regresyon Analizi

Değişken	B	Standart Hata	β	t	p	Tolerance	VIF
Sabit	1,510	0,154		9,803	0,000*		
İş yaşam kalitesi	0,461	0,060	0,434	7,621	0,000*	0,508	1,970
Kurumsal sosyal sorumluluk algısı	0,208	0,042	0,282	4,955	0,000*	0,508	1,970
r=0,663	r <sup>2</sup> =0,440	Δr <sup>2</sup> =0,437	Durbin-Watson=1,669				
F=133,608	p<0,001						

Bağımlı değişken: İşe adanmışlık

İşe adanmışlık davranışının etkilenmesi üzerine kurulan model bütün olarak anlamlıdır ( $p<0,001$ ). İş yaşam kalitesi modele en önemli katkıyı sağladığı görülmektedir ( $\beta=0,434$ ). Regresyon analizi sonucuna göre iş yaşam kalitesi ve kurumsal sosyal sorumluluk algısının işe adanmışlık üzerindeki istatistiksel olarak anlamlı bir etkisi olduğu sonucuna ulaşılmıştır ( $r=0,663$ ;  $p<0,001$ ). İşe adanmışlık davranışının %43,7'si iş yaşam kalitesi ve kurumsal sosyal sorumluluk algısı tarafından açıklandığı tespit edilmiştir. Bu kapsamda  $H_1$ : "iş yaşam kalitesinin işe adanmışlık üzerinde anlamlı bir etkisi vardır" ve  $H_2$ : "kurumsal sosyal sorumluluk algısının işe adanmışlık üzerinde anlamlı bir etkisi vardır" hipotezleri kabul edilmiştir

**Tablo 6:** Hipotez sonuçları

Hipotezler		Sonuç
H <sub>1</sub>	İş yaşam kalitesinin işe adanmışlık üzerinde anlamlı bir etkisi vardır	Kabul
H <sub>2</sub>	Kurumsal sosyal sorumluluk algısının işe adanmışlık üzerinde anlamlı bir etkisi vardır	Kabul

## Sonuç

İnsan kaynağı organizasyonların en önemli kaynağını oluşturmaktadır. Konaklama işletmeleri için bu kaynağın iyi yönetilmesi sürdürülebilir rekabet ve hizmet kalitesi açısından önem arz etmektedir. Bu kapsamda konaklama işletmelerinin tüm paydaşlarının çıkarlarını gözetirken en önemli kaynağı olan iş görenleri göz ardı etmemesi gerekmektedir. Bu noktada insan kaynağının ve diğer paydaşlarının çıkarlarını gözetmek için kurumsal sosyal sorumluluk önemli bir rol oynamaktadır. İş yaşam kalitesi insan kaynağına verilen değeri ortaya koymak, sağlıklı çalışma koşullarını sağlamak, sosyal ve ekonomik olarak gelişimine olumlu katkılar sağlamaktadır. Tüm bunlar sayesinde insan kaynağına zarar vermeden sürdürülebilir bir şekilde maksimum verimliliği sağlamak için iş görenlerin işe adanmışlıklarını yükseltmek önemlidir.

Bu araştırma iş yaşam kalitesi ve kurumsal sosyal sorumluluk algısının işe adanmışlık üzerindeki etkisini ortaya koymayı amaçlamaktadır. Öngörüldüğü gibi iş görenlerin sosyal değişimi algılayarak iş yaşam kalitesini ve kurumsal sosyal sorumluluğu olumlu algıladıklarını ve bu sayede işe adanmışlıklarının olumlu yönde etkilendiği bulgularla desteklenmiştir. Daha geniş bir ifade ile işe adanmışlık davranışının %43,7'si iş yaşam kalitesi ve kurumsal sosyal sorumluluk algısı tarafından açıklandığı tespit edilmiştir.

İşe adanmışlığın %43,4'ü iş yaşam kalitesi tarafından açıklandığı tespit edilmiştir ( $\beta=0,434$ ). Wahlberg vd.'nin (2017) çalışmalarında Lizbon'daki konaklama işletmesi iş görenlerinin iş yaşam kalitesinin işe adanmışlık arasındaki aracılık ilişkisi incelediklerinde iş yaşam kalitesinin işe adanmışlığa aracılık etkisi olduğu sonucuna ulaşmışlardır. Yüksek iş yaşam kalitesi sayesinde iş ortamının fiziksel özelliklerinin iyileştirilmesi, iş için gerekli ve yeterli ekipmanların varlığı, teknolojinin kullanımı iş görenlerin fiziksel olarak daha az yorulmasına; yüksek kaliteli çalışma ortamının iş görenin iş ortamında vakit geçirmek istemesine, sosyal olarak uyum sağlamasına, işini severek ve isteyerek yapmasına neden olarak duygusal açıdan olumlu hissetmesine; daha yüksek iş yaşam kalitesinin iş içi ve dışı zamanda iş görene olumlu faydaları olacağı, yeterli ücretlerle tatmin edeceği, sosyal güvenlik ihtiyaçlarını karşılayacağı için zihinsel olarak olumlu ve rahat hissetmesine neden olarak iş görenin yüksek işe adanmışlık davranışında bulunacağı söylenebilir.

İşe adanmışlığın %28,2'sinin kurumsal sosyal sorumluluk algısı tarafından açıklandığı görülmektedir ( $\beta=0,282$ ). Lee vd., (2014) çalışmalarında Kore'de faaliyet gösteren konaklama işletmelerinin etik sorumluluklarının iş görenler üzerindeki etkilerini incelemişlerdir. Çalışmalarında kurumsal sosyal sorumluluğun işe adanmışlık üzerinde pozitif yönde anlamlı ilişkisi olduğu görülmektedir. Özellikle hayırseverlik boyutunun diğer boyutlara göre daha yüksek etkisi olduğu sonucuna ulaşmışlardır.



Zientara vd., (2015) çalışmalarında Polonya'daki konaklama işletmeleri iş görenlerinin kurumsal sosyal sorumluluk algılarının iş tatmini, örgütsel bağlılık, iş tutumu ve işe adanmışlık üzerinde etkisini incelemişlerdir. Çalışmalarında kurumsal sosyal sorumluluk ile işe adanmışlık arasında pozitif yönde anlamlı bir ilişki olduğu görülmektedir. Nazir ve Islam (2019) Hindistan'daki konaklama işletmelerinin uyguladığı kurumsal sosyal sorumluluk faaliyetleri sayesinde iş görenlerin içsel motivasyonları ile işe adanmışlıkları arasında anlamlı ve pozitif bir ilişki olduğu görülmüştür. Gürlek ve Tuna (2019) Antalya'daki konaklama işletmesi iş görenlerinin kurumsal sosyal sorumluluk algılarını işe adanmışlıklarının nasıl etkilediğini araştırmayı amaçlayan çalışmalarında kurumsal sosyal sorumluluğun işe adanmışlığı anlamlı ve olumlu etkilediği sonucuna ulaşmışlardır. Kurumsal sosyal sorumluluk faaliyetleri sayesinde iş görenler tarafından algılanan yüksek kurumsal sosyal sorumluluk algısının iş görenlerin işe adanmışlıkları artırdığı söylenebilir. Toplumla karşı sosyal sorumluluk faaliyetleri ile organizasyon toplumdaki olumsuzlukları azaltmak ve toplumun refah seviyesini yükseltmek için çaba harcadığını gösterebilir. Bu kapsamda topluma fayda sağladığını hisseden iş görenin elde ettiği gurur duygusu iş göreni fiziksel, duygusal ve zihinsel olarak işine adanmasını sağlayabilir. Çevreye karşı sosyal sorumluluk faaliyetleri ile kültürel mirasa ve doğal çevreye verilen hasarın azaltılmasında iş görenin de katkısı olduğunu hissetmesi iş görenin fiziksel, duygusal ve zihinsel olarak işine adanmasına neden olabilir. İş görene karşı sosyal sorumluluk faaliyetleri ile organizasyonun iş görene değer verdiği, haklarını koruduğu, çalışma ortamını iyileştirdiği, kariyer gelişimine ve eğitimine katkı sağladığı için iş görenin fiziksel, duygusal ve zihinsel olarak işine adanmasını sağlanabilir. Müşterilere karşı sosyal sorumluluk ile müşterilere verilen değer, müşterilerin organizasyona olumlu duygular beslemesine ve iş görenlere karşı daha nazik ve kibar davranmasına neden olabilir. Bu kapsamda iş görenler işlerini başarıyla yapmış olmanın gururuyla fiziksel, duygusal ve zihinsel olarak işine adandığı söylenebilir.

Trabzon'daki zincir otel işletmesi iş görenlerinin işe adanmışlıklarını artırmanın bir yolu olarak iş yaşam kalitesi ve kurumsal sosyal sorumluluk algılarının artırılmasıyla sağlanabilir.

Araştırmanın bulguları sonucunda zincir otel işletmesi yöneticilerinin iş görenlerin işe adanmışlıklarının artırmanın bir yolu olarak iş yaşam kalitelerini ve kurumsal sosyal sorumluluk algılarını yükseltmek için gerekli stratejileri geliştirmelerinin önemli olduğu düşünülmektedir. İş yaşam kalitesi iş görenin genel yaşam kalitesinin yükseltmekte önemli bir etkidir. Konaklama sektöründe insan kaynağının verimliliğini maksimize etmek için iş görenin genel yaşam kalitesini yükseltmek önemlidir. Konaklama işletmelerinde kurumsal sosyal sorumluluk iş görenler tarafından olumlu algılandığı için benimsenecek stratejilerin ve uygulamaların iş görenler üzerinde olumlu etkileri olmaktadır. İş görenlerin işe adanmışlığını artırmanın konaklama işletmelerine çeşitli olumlu sonuçları olmaktadır. Bunlar; yüksek örgütsel bağlılık, yüksek iş performansı, düşük işten ayrılma niyeti gibi olumlu faydaları sonucunda maliyetlerin azaltılması, işgücü verimliliği ve müşteri sadakati ile sonuçlanmaktadır (Salanova vd., 2005; Schaufeli vd., 2006; Bakker ve Demerouti, 2008; Gruman ve Saks, 2011; Karatepe, 2013b, s. 82; Özyılmaz ve Süner, 2015). Konaklama işletmesi yöneticilerine elde edilen bulgular neticesinde;

- Kadın iş görenlere daha fazla teşvikler verilerek, kariyer gelişimlerine katkı sağlanması bu sayede konaklama işletmelerinde kadın işgücünün tercih edilmesi için daha cazip hale getirilmesine,
- Turizm, yapısından dolayı genç ve dinamik işgücüne ihtiyaç duymaktadır. Ancak kalifiyeli iş görenler fiziksel, duygusal ve zihinsel olarak yorulduğu için sektörden erken yaşta ayrılmaktadır. Genç işgücünün eğitilmesinde kalifiyeli iş görenlerin tercih edilerek sektörde kalmalarının sağlanmasına,
- Eğitim düzeyi düşük, sektöre yeni başlayan ve kalifiyeli iş görene dahil asgari ücret verilmesi, iş görenleri zihinsel ve duygusal olarak olumsuz etkileyerek fiziksel performansını düşürmektedir. İş görenlere yeterli ve adil ücretlendirmeye fiziksel, duygusal ve zihinsel olarak daha fazla işe adanmalarına,
- İş görenin sahip olduğu nitelikleri sayesinde potansiyelini ortaya çıkaracak kararlara katılımına destek verilmesi, iş görenin fiziksel olarak daha fazla çaba harcamasına neden olarak duygusal ve zihinsel açıdan olumlu hissetmesine,
- İş yaşam kalitesi ve kurumsal sosyal sorumluluk ile organizasyonun sosyal hayata değer verdiğini, yaptıkları işin anlamlı olduğunu ve örgütün yasalara saygısı olduğunu hissetmesine,
- Kurumsal sosyal sorumluluk politikaları ve stratejilerinin benimsenmesi organizasyonun imajını yükselterek iş görenin işinden gurur duymasının sağlanmasına,

- Kurumsal sosyal sorumluluk politika ve stratejileri sayesinde iş görenlerin topluma anlamlı katkılar sağlaması, çevresine saygılı davrandığını hissetmesi, müşterilere gerektiği değerinin verildiğini ve müşterilerinde bunun karşılığını verdiğini hissetmesi, iş görenlerin ise haklarına sahip çıktığını, kariyer gelişimine önem verildiğini, sosyal hayatına saygı duyulduğunu hissetmesi iş görenlerin işe adanmışlıklarını olumlu etkilemesine,
- Kurumsal sosyal sorumluluk faaliyetlerin benimsenip uygulanması, iş görenin iş içinde ve dışında işinden gurur duymasını sağlayarak benlik ve aidiyet hissetmesine bu sayede işe olumlu duygular beslemesine,
- İş ortamının iyileştirilmesi iş görenlerin çalışma ortamında ve dışında fiziksel, duygusal ve zihinsel olarak olumlu hissetmesine neden olacağı söylenebilir.

Bu kapsamda iş yaşam kalitesine ve kurumsal sosyal sorumluluğa önem vermelerinin işletmenin sürdürülebilir rekabet ortamına uyum sağlayarak başarılı olmasında kilit bir rol oynamasından dolayı yöneticilere önerilmektedir.

Son olarak araştırma zincir otel işletmelerinde gerçekleştirilmiştir. Bu nedenle, anket çalışmasına yanıt verenlerin verdikleri cevapların objektif olup olmadığı konusunda sınırlamalar bulunmaktadır. Ayrıca ileride yapılacak çalışmalar için farklı sektör araştırmaları uygulanabilir. Gelecekteki çalışmalar için daha büyük bir örneklem büyüklüğüne ulaşmak için daha büyük iller de uygulama yapılabilir. Çalışmada kullanılan iş yaşam kalitesi, kurumsal sosyal sorumluluk ve işe adanmışlık ölçekleri yerine literatürde yer alan farklı ölçekler ile uygulama tercih edilebilir. Çalışmada nicel araştırma yöntemleri kullanılmıştır. Nicel araştırmadan farklı olarak nitel araştırma yöntemlerinden görüşme ve odak grup yöntemlerinin tercih edilmesi önerilmektedir.

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#### **Yazar Katkıları / Author Contributions:**

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## Main determinants of house prices: Effects of construction cost and house sales to foreigners

### Konut fiyatlarının temel belirleyicileri: İnşaat maliyeti ve yabancıya konut satışının etkileri

Ufuk Alkan<sup>1</sup> 

#### Abstract

Housing prices have increased worldwide with the increase in commodity prices. They have become a primary investment tool most consumers prefer, especially to protect themselves from inflation. One of the main questions is which macroeconomic factors affect the housing price index, especially the increase in the number of houses sold to foreigners and the increase in construction costs. The study will answer whether the increase in housing costs or the increase in sales to foreigners causes an increase in housing prices. The variables in the study consist of macroeconomic variables that were mostly included in previous studies. Data from January 2015 to March 2022 consisted of 87-period data. Time series analysis has been tried to be explained with the help of the ARDL model by performing a boundary test. In the model, all variables were significant, but a long-term relationship was found, not a short-term one. Tests have demonstrated the model's accuracy for deviation from basic assumptions and structural break tests. Taking the logarithms of the variables in the model makes it possible to interpret them flexibly. In this context, contrary to expectations, it was determined that house sales to foreigners decreased the house price index, and the biggest reason for the increase in house prices was the cost increases that took place worldwide. Other variables that increase and decrease the housing price index are interpreted, and suggestions are made to solve the housing problem. It is considered that the model gives an idea to understand the increase in housing prices, but other social factors should also be considered for housing demand.

**Keywords:** Housing Price Index, Construction Cost Index, Foreign Housing Sales, ARDL, Turkey

**Jel Codes:** E31, R22, C22

#### Öz

Tüm dünyada emtia fiyatlarındaki artışla birlikte yükselen konut fiyatları, çoğu tüketicinin özellikle enflasyondan korunmak için tercih ettiği birincil yatırım aracı haline gelmiştir. Konut fiyat endeksini özellikle yabancıya satılan konut sayısındaki artış mı yoksa inşaat maliyetlerinin artması mı, hangi makroekonomik faktörün daha çok etkilediği öne çıkan sorulardan biridir. Çalışmada konut fiyatlarındaki artışın konut maliyetlerinin artmasından mı yoksa yabancıya yapılan satışların artmasından mı kaynaklandığı sorusuna cevap verilecektir. Çalışmadaki değişkenler literatürdeki çalışmalarda yer alan makroekonomik değişkenlerden oluşmaktadır. Çalışmada Ocak 2015-Mart 2022 verileri kullanılmış olup, 87 dönem verisinden oluşmaktadır. ARDL modeli yardımıyla zaman serisi analizi sınır testi yapılarak açıklanmaya çalışılmıştır. Modelde tüm değişkenler anlamlı olmakla birlikte kısa vadeli değil uzun vadeli bir ilişki tespit edilmiştir. Modelin doğruluğu, temel varsayımlardan sapma testleri ve yapısal kırılma testleri ile kanıtlanmıştır. Modeldeki değişkenlerin logaritmaları alınarak esneklik açısından yorumlanması mümkündür. Bu kapsamda, beklentilerin aksine yabancıya yapılan konut satışlarının konut fiyat endeksini düşürdüğü, konut fiyatlarındaki artışın en büyük nedeninin ise tüm dünyada yaşanan maliyet artışları olduğu belirlenmiştir. Konut fiyat endeksini artıran ve azaltan diğer değişkenler yorumlanarak konut sorununun çözümüne yönelik önerilerde bulunulmuştur. Modelin konut fiyatlarındaki artışı anlamak için fikir verdiği ancak konut talebi için diğer sosyal faktörlerin de dikkate alınması gerektiği düşünülmektedir.

**Anahtar Kelimeler:** Konut Fiyat Endeksi, İnşaat Maliyet Endeksi, Yabancı Konut Satışları, ARDL, Türkiye

**Jel Kodları:** E31, R22, C22

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## Introduction

Apart from having an important role in the economic performance of the countries, the housing market is also an indicator of individual welfare. Research shows the housing sector is one of the effective ways to stimulate consumption and production activities in other sectors of the economy. However, owning a home is one of the biggest investments a household can make and one of the biggest items of consumers' wealth. For these reasons, the housing market is integral to the country's economy.

Housing demand is a phenomenon directly related to economic conditions. Especially in countries and regions with high demand and price increases, the demand for investment housing is a common situation with speculative expectations. Turkey is a good example of this situation. When examined about the subject of the study, it is thought that the demand for housing is based on international migration, and housing prices are constantly increasing due to the increase in labour and raw material costs. So the question to be asked here is this question. The reason for house price increases may be due to rising foreign demand or the increase in costs. First of all, let's look at the first question; The increase in the number of foreigners residing in Turkey in recent years is quite remarkable. The COVID-19 epidemic in 2020 caused a slowdown in international human mobility. However, while the number of foreigners residing in Turkey was 593,151 in 2017, with the change in the law regarding the acquisition of citizenship by foreigners from Turkey, especially refugees from Iraq, Turkmenistan, Syria, Iran and Afghanistan, the number of foreigners residing in Turkey has increased. The number of foreign citizens residing in Turkey in 2021 is 1,792,036. The reasons why these countries prefer Turkey in the first place for immigration can be shown as geographical proximity and cultural, social and economic similarities. Puy, Ari, and Shi (2020) stated foreign buyers make their housing requests outside their own country based on the concept of "home abroad bias" in regions where many people from their own countries reside. Beneath this is the psychology of reducing a little of the difficulties of living in a foreign country. Of course, the situation that emerges here reminds us to question a theory in classical economic theory. Does this increase in demand cause an increase in prices? This theory will be investigated in the empirical analysis of the study.

Tai, Hu, Chao, and Wang (2017), the increase in the demand for housing from foreign buyers causes housing prices to rise and increases the value of the houses in the long run. Likewise, exchange rate changes can indirectly and directly affect housing prices. This effect occurs in the direction of the increase in housing prices by directly affecting the cost of imported construction materials with the increase in the exchange rate. Asal (2017) argues that, as in Sweden, the exchange rate plays an important role in the purchase of housing by foreign investors. The reason for this is that the increase in the exchange rate, depending on the decrease in the value of the domestic currency, makes the value of goods and services in that country cheaper for foreign buyers and increases competitiveness by attracting foreign buyers to the country. Therefore, it is argued that only buyers who can pay in foreign currency can purchase housing.

Coming to the second question, what is the effect of costs on the increase in housing prices in Turkey in recent years? Costs in the housing sector consist of materials, labour, technology and land. Anari and Kolari (2002) see housing as both a consumption good and an investment tool. Considering housing as a consumer good, it increases construction costs through material supply and worker salaries. This increases the renovation costs of both newly built and old houses, causing prices to rise. However, it is expected to protect against inflation and provide real returns when considered an investment tool. Building material prices directly affect housing production and housing cost. These prices directly impact people's ability to have solid housing that fits their budget. The increase in the prices of building materials, which are especially difficult to reach, will be directly reflected in housing prices. Ultimately, individuals in need of housing will be the last to be affected.

New construction technologies are an element that reduces construction costs. Many jobs previously done with human power can be done faster and cheaper with machines. Public authorities can also take decisions to reduce or increase construction costs. For example, while they can increase costs by setting minimum construction standards, they can reduce costs by reducing taxes on the purchase and sale of housing or construction materials (Büyükduman, 2014: 82).

Especially in big cities, finding land becomes a problem due to land scarcity and land costs are reflected in construction costs by 50-70%. Another negative aspect of the land problem is the demolition of buildings that have not completed their economic life in the city due to the lack of cheap land and the construction of new ones. It can be said that this situation is a loss of wealth in terms of the country's economy (Biçerli, 1986: 64).

Housing prices have been on the rise in recent years, not only in Turkey but worldwide, with the increase in commodity prices. As a result, it has become a primary investment tool most consumers prefer, especially to protect themselves from inflation. Therefore, one of the leading questions is determining which macroeconomic factors affect the housing price index, especially whether the houses sold to foreigners contribute to this increase. Therefore, this study will answer whether the increase in housing costs or the increase in sales to foreigners causes an increase in housing prices.

### Key factors determining housing price

Housing is an environment that is both demanded and supplied to meet the housing needs of individuals. Every individual, whether they own a house or enjoy the right to use it, has a demand for a house in which they would like to live. Like other goods and services, housing demand is affected by many factors (Durkaya, 2002:10). However, looking at the housing market analysis only from the demand side leaves the analysis incomplete. Housing supply is as important as housing demand in housing market analysis. However, there has not been much study on housing supply in the literature. The sources of housing supply are tried to be explained in an economy with two approaches. The first is the production of new housing, and the second is the renovation works made in the existing housing stock, that is, the additions to the existing stock (Dipasquale, 1999: 9).

Housing demand is determined by factors such as prices, income, internal or external migration, credit conditions, monetary aggregates, social needs, population and urbanization. However, housing supply is based on construction costs, capital costs, land production and incentive mechanisms.

In Table 1 below, the main factors determining housing prices are summarized by the literature:

**Table 1:** Key Determinants of Housing Prices

Factor	Relationship	Conclusion	Studies Revealing This
Migration	The increase in immigration rates creates the need for additional housing to the existing housing volume.	In direct proportion to the increasing demand, there is an increase in housing sales and prices.	Degen and Fischer (2010); Saiz (2007)
Construction Costs	The housing supply is affected by the materials, raw materials, and technology required for housing production.	The rise in input costs in housing production reduces the housing supply and increases housing prices.	Cakir (2014); Öztürk and Fitöz (2009)
Population	The increase in population is a factor that leads to urbanization and the need for additional housing.	Population growth indirectly increases the rate of urbanization, increasing housing sales and prices.	Ermish (1990); Halicioglu (2005),
Income	Housing demand, whether for consumption or investment purposes, is shaped not by the current income level of the household but by the income they expect to obtain throughout their lives.	As the long-run average income increases, the income elasticity of housing increases and housing demand and prices increase.	Kartman (1972); Hausman and Wise (1980)
Loan Terms (Demand Side)	The decrease in long-term housing interest rates leads to an increase in housing loans called mortgages.	Loans that provide low-interest and flexible payment facilities, especially for the middle-income group, increase the demand for housing significantly, and an increase in housing prices occurs.	Gelfand (1966); Durkaya (2002)
Loan Terms (Supply Side)	If the interest burden of the loans used in housing finance increases, production costs will increase, and the housing supply will be affected.	In economies where financing problems are experienced, housing supply elasticity will be lower, and there will be a decrease in housing supply.	Bolat (2020); Gozubuyuk and Bay (2020)
Monetary Aggregates	It is expected that the expanding liquidity in the economy will also affect the housing demand by lowering the interest rates and increasing the loan amount.	With the increase in M2 money supply, the volume of housing loans increases, and housing demand and prices increase.	Öztürk and Fitöz (2009) Uysal and Yigit (2016)
Social Demand	Owning a house is considered a kind of social security tool. It has the feature of being an inheritance, an investment tool and even a property that can be shown as collateral to financial institutions when necessary.	Socially, the demand for housing leads to the purchase of housing more than the needs of individuals, and housing demand and prices increases.	Stale (2001); Bolat (2020)

As can be seen from Table 1, which summarizes the main determinants of housing prices, migration, population, income, monetary aggregates, and social demand, have a demand-side effect on housing

prices. The variable of construction costs is expressed as a supply-side determinant of housing prices in the literature. However, credit conditions impact both demand-side and supply-side housing prices.

### The recent history of the housing market in Turkey in the context of cost and sales to foreigners

In recent years, the housing market in Turkey has displayed a very strong performance. During this period, house sales reached historically high levels while house prices and construction costs continued to increase. The rapid transformation process experienced in the housing sector causes concerns that speculative bubbles that will occur due to rising prices in the housing sector, which pose a systemic risk by its nature, may cause regressions and collapses in the sector from time to time. In addition, of course, this development also necessitates monitoring market indicators more closely.

The development of the indicators regarding the housing sector announced by TURKSTAT between 2015-2022 shows that the sector generally followed a balanced growth performance after a moderate slowdown in some years. As can be seen especially in Table 2, the stagnation observed in the sector in 2018 and 2019 is thought to have caused excess supply. However, the latest data announced for 2020 and beyond point out that the economic activity in the sector has started to increase again in line with the general economic developments. As a matter of fact, in the first half of 2022, house sales increased by 31.4% compared to the same period of the previous year. In this period, the rapid increase in housing sales is believed to have been due to the historically low borrowing costs against inflation and the recent increase in foreign demand for Turkey.

High prices in the housing market always reflect strong demand and limited supply conditions. In case of weak demand in the market, prices do not rise regardless of the supply level. If the supply is not limited, the prices cannot be above the production costs, regardless of the demand level (Gyourko, 2009: 10). As can be seen in Table 2, the Housing Price Index (2017=100), which is calculated to monitor the quality-adjusted price changes of houses in Turkey, has been increasing continuously in recent years. Especially after 2018, an increasing increase is observed in this index. In June 2022, it increased by 89.9 per cent compared to the previous year and was realized as 469.8.

As noted earlier, construction costs were one of the main determinants of housing prices. In Table 2, the construction cost index, which was 100.60 in 2015, reached 593.87 in 2022, increasing approximately six times. Especially after 2021, the excessive increase in the exchange rate in Turkey significantly impacts construction costs. Since Turkey is a country that procures most of its construction materials from abroad, the increase in the exchange rate increases the import costs. As a result, this situation creates an upward effect on the general level of prices. Therefore, whether the increase in the construction cost is mostly due to imported materials or the cost of labour is answered by the fact that it is due to materials.

**Table 2:** Housing Statistics in Turkey (2015-2022)

Year	Housing Sales		Housing Price Index 2017=100		Construction Cost Index		Sales to Foreigners		
	Total	Change	Total	Change	Total	Change	Total	Change	Share in Total Housing Sales
2015	1,289,320	10.6%	84.5	15.6%	100.60	-	22,830	20.4%	1.8%
2016	1,341,453	4.0%	94.8	12.2%	118.90	18.2%	18,189	-20.3%	1.4%
2017	1,409,314	5.1%	103.4	9.1%	138.14	16.2%	22,234	22.2%	1.6%
2018	1,375,398	-2.4%	108.0	4.4%	173.57	25.6%	39,663	78.4%	2.9%
2019	1,348,729	-1.9%	118.8	10.0%	192.25	10.8%	45,483	14.7%	3.4%
2020	1,499,316	11.2%	154.9	30.4%	240.35	25.0%	40,812	-10.3%	2.7%
2021	1,491,856	-0.5%	247.4	59.7%	403.16	67.7%	58,576	43.5%	3.9%
2022/6	726,398	31.4% *	469.9	89.9%	593.87	47.3%	35,383	72.7%*	4.9%

\* Calculated based on the January-June total of the previous year.

Source: TUIK (2022). <https://www.tuik.gov.tr/>, (Access date: 25.06.2022)

In addition to its strong growth potential, Turkey has a young and dynamic population, and the interest of non-residents is increasing. While more than 30 million tourists visit Turkey, which is one of the few holiday centres in the world, it is seen that this development positively affects the demand of non-residents for real estate. In addition, it is known that the transactions carried out for investment purposes and housing acquisition are also effective in the increasing interest of non-residents. In

particular, Istanbul is the European city where the real estate market will develop the most in the upcoming period.

Housing sales to foreigners in Turkey have been increasing rapidly in recent years. While the number of residences sold to foreigners was approximately 22 thousand in 2015, this number reached approximately 58 thousand in 2021. While the share of house sales to foreigners in total house sales in 2015 was 1.8%, this rate reached 3.9% in 2021. In the January-June period, house sales to foreigners increased by 72.7% compared to the same period of the previous year and amounted to 35.383. Likewise, the share of house sales to foreigners reached its highest rate, at 4.9%. According to the data of TURKSTAT covering the period of 2015-2022, Iraqis are among the foreigners who buy the most housing in Turkey. Iran follows Iraqi citizens. Among the citizens of other countries who purchase the most housing from Turkey, those coming from Russia, Saudi Arabia, Kuwait and Afghanistan come to the fore, respectively. Although the preferences of those who buy housing vary according to the country, the right of citizenship comes first. Because for citizenship by investment, at least 400 thousand dollars should be invested in real estate in Turkey, and this property should not be sold for three years. The reason foreigners want to be citizens of the Republic of Turkey is explained by the fact that most of the countries neighbouring Turkey are currently facing the problems of war and political conflict. For this reason, Turkey is seen as a safe harbour by the citizens of this country. In addition to those who own real estate to obtain citizenship in the Republic of Turkey, some foreigners buy real estate for different reasons, such as investment, short-term vacation, or retirement.

### Literature study

There is a comprehensive research on the factors that determine house prices worldwide. For example, Hanushek and Quigley (1980) investigated the response of housing demand to price changes in housing markets in their study focusing on 799 households in Pittsburgh and 586 households in Phoenix in the USA. As a result of the analysis, the estimated price elasticity of housing demand in the long run, according to the simple adjusted model, was calculated as -0.64 in Pittsburgh and -0.45 in Phoenix.

Tsatsaronis and Zhu (2004) analysed housing price determinants in 17 industrialized countries using SVAR, with quarterly data covering the period 1970:1-2002:4. According to the results of the study. Although there are differences in national markets, the main determinant of housing prices is inflation. They also drew attention to the relationship between inflation, interest rate and house prices. They stated that the sharp fall in house prices after a long period of high inflation would cause an imbalance in the relationship between house prices and other variables.

In his study, Saiz (2007) focused on the effect of immigration on house prices in explaining house prices in the USA. What is meant by immigration here is the immigration of foreigners to the USA. The EKK method was used in the analysis, and it determined that migration increased the demand for housing and housing rents in the short term. It was concluded that a migration flow of 1% of a city's population is associated with approximately 1% increases in average rent and housing values.

Goodhart and Hofman (2008) evaluate the links between money, credit, house prices and economic activities in industrialized countries. The analysis was estimated using the VaR (Value at Risk) method using quarterly data for 17 industrialized countries covering 1970-2006. The analysis found a bidirectional causality relationship between house prices, monetary variables and macroeconomics. In particular, the link between house prices and monetary aggregates was stronger in a subsample between 1985-2006.

Gonzalez and Ortega (2013) researched house prices and construction activities in Spain from 2000-2010. They used regression analysis and sensitivity analysis. The findings show that Spain's great wave of immigration in the 2000s had a major impact on the housing market, both on prices and housing quantities. Overall, it was concluded that immigration is responsible for about a quarter of the increase in housing prices and about half of the increase in housing stock.

Lebe and Akbaş (2014) analyzed the short- and long-term effects of housing demand in Turkey using annual data for 1970-2011, using the co-integration and vector error correction model. As a result of the analysis, per capita income, marital status and industrialization positively affect Turkey's housing demand. Still, housing prices, interest rates and employment in the agricultural sector negatively affect the housing demand.

In his study, Aung (2015) investigated the factors affecting the cost of housing rent and housing sales in the USA in the period of 2005-2010 with the help of ordinary least regression analysis. The study analysed the effect of the increase in the ratio of foreign nationals to the total population, which is the main explanatory variable, on the housing rent and sales prices. The study results reveal that an increase

in the number of foreign birth shares by 1 point increases the rental price of housing by 1.103 points and the housing prices by 2.111 points. This result shows that the ratio of the foreign population to the total population is an important factor in the increase in housing demand for the period examined in the USA.

Zandi, Mahadevan, Supramaniam, Aslam, and Theng (2015) are to investigate the economic factors affecting residential property prices in a particular state of Malaysia called "Penang". The study covers 2007-2014, and a bivariate regression analysis model was used. According to the analysis and calculations, it has been determined that the main factor affecting property prices in Penang is the loan interest rate, and the second most influential factor is GDP. However, the multivariate regression model found a positive correlation between house prices and the national income variable. On the other hand, Zandi et al. (2015) found that the rate is not correlated with the housing price inflation rate to the housing prices.

Kashnitsky and Gunko (2016) analyzed the effect of immigrants' housing demands on housing prices in a particular region in Moscow. Poisson regression models, analysis of variance and spatial hierarchical decomposition methods were used in the analysis. The findings show that some areas attract immigrants of certain socio-economic statuses. In addition, the results revealed that internal migration is not a determining factor in housing prices, but foreign immigrants are an important factor affecting housing prices. In other words, foreign immigrants in Moscow are an important determinant of housing demand for the period studied.

Barbu, Vuta, Străchinaru, and Cioaca (2017), in their study of 21 representative countries for the period of 2007-2014, tried to explain the development of the housing price index measured by the housing price index with the relationship between the immigrant flow and other macroeconomic variables. In the model using panel data analysis, it has been determined that there is a positive correlation between the housing price index change and the flow of immigrants, the market capitalization share of the gross domestic product and the economy's growth rate. The study shows that for a one per cent increase in immigration as measured by migrant flow, the house price likewise changes by 0.045%.

Li, Razali, Fereidouni, and Adnan (2018) examined the relationship between China's housing price index and macroeconomic variables. Three big cities were included in the study, in which panel data analysis was used, and the analysis was made with the data of the 2003:1- 2014:3 period. According to the findings, it has been determined that the main determinants of housing prices are GDP, disposable income, money supply and interest rates. It is concluded that GDP and housing prices positively interact in the long run. In contrast, disposable income positively affects housing prices with a 3-month delay, and these two variables act together. In addition, it has been determined that land supply hurts housing prices, while housing loans increase both prices and sales figures.

Bayır, Güvenoğlu, and Şahin-Kutlu (2019) studies on the determinants of housing prices in the Turkish economy, in which ARDL analysis and boundary test are preferred as empirical analysis methods, cover the period of 2011-2018, and quarterly data are used. According to the results of the boundary test, there is a co-integration relationship between the variables. However, in the long run, economic growth, money supply and dollar rate positively affect housing prices; inflation has a negative effect.

İslamoğlu and Nazlıoğlu (2019) aimed to analyze the effect of the inflation rate on housing prices. The empirical model developed in this framework was estimated using the panel data method for Istanbul, Ankara and Izmir from the 1st quarter of 2010–the 4th quarter of 2017. The findings show that housing prices have unit elasticity concerning the inflation rate. In addition, it has been concluded that the elasticity of housing prices according to housing demand and population is 0.06 and 1.97, respectively. These findings show that macroeconomic factors are important elements of house prices in Turkey.

Puy et al. (2020) evaluate the static and dynamic effects of foreign demand shocks on housing prices in the USA between 1996 and 2017 with panel regressions. The study results show that house prices increased disproportionately more in US neighbourhoods with a high population density from the crisis country, indicating a strong and exogenous shift in foreign demand after an extreme political crisis abroad.

Güler and Gökçe (2020) investigated the Relationship between Housing Sales to Foreigners and the Housing Bubble with GSADF Tests in Turkey, Istanbul, and Antalya. As a result of the study, rational housing bubble formation was observed in Turkey between the periods 2014.11-2016.11 and 2018.04-2019.01, in Istanbul between the periods 2013.03-2013.12, 2014.04-2016.12 and 2018.01-2019.08, in Antalya between the periods 2018.08-2018.11. The common point of the bubbles is that they peaked in 2018 after the legal regulations that made it easier for foreigners to acquire housing. The findings show a strong relationship between housing sales to foreigners and the housing bubble.

Çetin (2021) investigated the factors affecting house prices in Turkey and the long-term causality relationship between these factors. The data is monthly and covers the period 2012:12-2020:08. According to ARDL co-integration test results, the consumer price index and industrial production index decrease housing prices. However, housing loan interest rates and construction materials increase the wholesale price index. One-way causality was determined from the wholesale price index of construction materials and the consumer price index to the housing price index. Two-way Granger causality was found between industrial production and housing price indexes.

Yanar and Demir (2022) examined the effect of exchange rates on house sales to foreigners. The study used monthly house sales data for foreigners covering the 2015-2021 period. According to the results of the analysis, it has been determined that there is a long-term co-integration relationship between house sales to foreigners, the real effective exchange rate and the house price index. Therefore, it is concluded that a 1% decrease in the real effective exchange rate (depreciation of TL) increased foreign house sales by 3.43%.

## Empirical analysis

### Variables

**Real interest rate:** One of the most important variables determining housing demand is the loan conditions and interest rates. Loans that provide flexible payment facilities, especially for the middle-income group, affect the housing demand significantly (Gelfand, 1966: 464-467). The interest rate affects the housing market through macroeconomic variables such as savings, investment, production and national income. While the high-interest rate increases the households' savings, it decreases the investment housing demand (Durkaya, 2002: 29). In our study, real interest rate, the difference between the weighted average cost of funding and annual inflation, was used to represent the interest rate. As the real interest rate increases, housing prices are expected to increase through the demand channel, and therefore the housing price index will increase.

**Industrial Production Index:** While the economic and social attractiveness of the cities is the leading factor pushing the rural population out of the countryside, it includes the migration process in terms of workforce, job opportunities due to industrialization, employment status and organized working environment. Employers make choices by evaluating the increasing diversity of jobs in cities. There may be positive interactions between urbanization and development if the population coming to the city is not unemployed or secretly unemployed and can work in the industry or services sector. However, at this point, expected income increases may increase the demand for housing. A demand that may arise in terms of rental or property housing demand may present itself as a slum in a city where the unemployed or those working in temporary jobs are concentrated (Keleş, 1997: 23; Durkaya and Yamak, 2004: 80). For this reason, in our study, the effect of those employed in the industry and service sector was gathered under the title of industrialization, and its effect on housing demand was investigated. In order to examine the effect of the industrialization rate, the industrial production index was used. In addition to that, it is also used as a GDP indicator in many studies (Karamelikli, 2016; Çetin, 2021, Yıldırım and İvrendi 2017; Afşar, 2018).

**House Price Index:** Monthly House Price Index (KPI) data are announced by the Central Bank of Turkey in Turkey. The Housing Price Index uses the stratified median price method to measure changes in the housing market. Data are compiled from valuation reports prepared by real estate appraisal companies. In the Housing Price Index, the location of the house (city, district, neighbourhood, street, etc.), gross and net m<sup>2</sup> area, year of construction, quality, site safety and elevator etc. observable features such as House Price Index are calculated by the chain Laspeyres method (TC Central Bank. 2016). In studies on the housing price index, the above variable is used as an independent variable, in line with our model.

**Number of Flats with a Certificate of Occupancy:** It, also commonly known as "occupation", is the permit obtained for the use of the relevant areas of a completed building when the parts that can be used in whole or in part are completed. If we need to analyse the housing demand from the supply side, it has been added to the model to determine how much supply has occurred during the research period and its possible effect on the housing price. In the literature, this variable has been included in many studies to monitor the supply-side effects (İslamoğlu and Nazhoğlu, 2019; Tekinel and Güvercin, 2000; Yıldırım, 2013).

**Construction Cost Index:** Under the construction cost index, there are two items: materials and workers. The cost increase can be directly or indirectly reflected in the housing prices according to the demand elasticity. Therefore, it is included in the model to determine how sensitive the increase in housing prices is to the increase in construction costs. In many previous studies, it has been included in the models

because it directly affects housing prices (Coşkun, Seven, Ertuğrul, and Alp, 2017; Gomez-Gonzalez, Gamboa, Hirs, and Pinchao, 2018; Baykal, Dikme, and Karacan, 2018).

**Number of Houses Sold to Foreigners:** It is frequently discussed in public opinion that the main reason for the increase in housing prices today is that foreigners buy housing by obtaining citizenship. Sales to foreigners will affect the housing prices on the supply side and cause the prices to change. Therefore, it would be realistic to consider this variable together with the real effective exchange rate. Because in periods when the foreign currency gains value, the value of the houses in a foreign currency will decrease, affecting the demand of foreigners. It was not used in previous studies and was added to our model as an independent variable.

**Real Effective Exchange Rate:** The nominal effective exchange rate is the weighted average value of the Turkish lira according to the currencies of the countries with a significant share in Turkey's foreign trade. Weights are determined using bilateral trade flows. The real effective exchange rate is obtained by adjusting for the relative price effects of the nominal effective exchange rate. In previous studies, it has been seen that volatility in the exchange rate causes fragility in housing prices, but it is important in terms of the recent increase in housing costs and foreigners' demand for housing by changing their foreign currency (Çetin, 2021; Karadaş and Salihoğlu, 2020; Özaktaş, 2019).

**Manufacturing Industry Capacity Utilization Rate:** It is defined as the ratio of the actual product amount to the maximum production that can be physically produced in a certain period, applied by the central bank to the manufacturing companies every month. The capacity utilization rate; this variable is important in explaining how housing prices affect the saturation point of the manufacturing industry in the economy. Many studies have used the capacity utilisation rate to determine the housing price index (Akkaya, 2018; Ay, 2019). This ratio also gives information about the course of industrial production. If there is an increasing trend at this rate, we get the signal of an increase in industrial production, and if the opposite is the case, a decrease in industrial sector production. Since the Capacity Utilization Rate reflects the industry's production level, it also provides information on demand and investment levels. The fact that the demand is above the capacity means that capacity utilization should be increased with new investments. Therefore, it was included in the model to examine the effects of inflation.

#### Data set

The variables in the study consist of macroeconomic variables that were mostly included in previous studies. Data from January 2015 to March 2022 consisted of 87-period data. The data in the study are publicly available data from the CBRT and TSI and do not require ethics committee approval. The variables subject to analysis are shown in Table 3. The logarithm of the real interest rate could not be taken from the variables mentioned above, except that the logarithms of all variables were included in the model.

In econometric analysis, various co-integration tests are used to examine the long-term relationship between the series. Conventional OLS, Engle-Granger (1987), Johansen (1988), and ARDL co-integration tests are the most used examples. The ARDL co-integration test is used from these analyses for series with different degrees of integration. The ARDL (Autoregressive Distributed Lag) test will examine the long-term relationships between the variables.



**Table 3:** Variables Used in the Study

Variable Name	Definition	Source
LNHPI	Housing Price Index	CBRT
LNCOO	Number of Flats with a Certificate of Occupancy	TSI
REALINT	Difference between WACOF and annual inflation	CBRT
LNREER	Real Effective Exchange Rate	CBRT
LNHSF	Number of Houses Sold to Foreigners	TSI
LNMICUR	Manufacturing Industry Capacity Utilization Rate	CBRT
LNCCI	Construction Cost Index	TSI
LNPI	Industrial Production Index	CBRT

In order to carry out the analysis in question, the following model, consisting of one dependent variable and seven independent variables, was established.

$$LNHPI_t = B_0 + B_1LNCOO_t + B_2REALINT_t + B_3LNREER_t + B_4LNHSF_t + B_5LNMICUR_t + B_6LNCCI_t + B_7LNPI_t \tag{1}$$

**Analysis**

**Descriptive statistics**

The descriptive statistics of the data used in the study are given in Table 4. In this analysis, where we worked with 87 data and eight variables, the study was completed using 896 data. It is seen that some of the mentioned data are normally distributed, and some are not. Since logarithmic expressions are used, the differences between the minimum and maximum values have decreased. The highest difference interval was realized in real interest; the highest value was 47.14, and the lowest was -0.83.

**Table 4:** Descriptive Statistics

	LNHPI	LNMICUR	LNCCI	LNREER	LNPI	LNCOO	LNHSF	REALINT
<b>Average</b>	4.75	4.33	5.12	4.36	4.72	10.99	7.88	0.690575
<b>Median</b>	4.68	4.34	5.15	4.34	4.73	10.97	7.73	-0.83
<b>Maximum</b>	5.85	4.38	6.28	4.68	5.10	11.67	8.97	47.14
<b>Minimum</b>	4.30	4.12	4.57	3.86	4.35	10.22	6.67	-8.14
<b>St. Deviation</b>	0.32	0.04	0.41	0.20	0.14	0.25	0.53	8.41
<b>Jarque-Bera</b>	30.37	799.36	6.28	4.58	0.10	3.78	3.27	1353.16
<b>Possibility</b>	0	0	0.04	0.10	0.94	0.15	0.19	0
<b>Total</b>	413.86	377.04	445.86	380.06	411.37	956.18	685.77	60.08
<b>Observation</b>	87	87	87	87	87	87	87	87

**Unit root test**

The unit root test results of the variables are shared in Table 5, and it has been observed that some data become stationary at the level, and some of them become stationary when their differences are taken. In this case, the most appropriate estimator determination method was determined as ARDL.

**Table 5:** Unit Root Tests

Variables	ADF Unit Root Test		KPSS Unit Root Test	
	Fixed	Fixed and Trending	Fixed	Fixed and Trending
LNHPI	2.61	2.64	0.07***	0.06***
DLNHPI	-1.58	-3.21*	0.41**	0.25
LNCOO	-5***	-5.37***	0.57***	0.08***
DLNCOO	-13.14***	-13.14***	0.29***	0.10***
REALINT	-23.9***	-23.97***	0.25***	0.06***
DREALINT	-8.53***	-8.47***	0.03***	0.04***
LNREER	-0.57	-0.47	1.14	0.77
DLNREER	-7.55***	-7.50***	0.06***	0.05***
LNHSF	-2.84*	-3.69***	0.74	0.09***
DLNHSF	-7.35***	-7.32***	0.08***	0.04***
LNMICUR	-2.90**	-4.08***	0.50*	0.12*
DLNMICUR	-7.70***	-7.66***	0.06***	0.05***
LNCCI	1.80	-1.30	1.20	0.10*
DLNCCI	-7.04***	-7.33	0.35*	0.08***
LNIFI	-5.34***	-6.39***	0.79	0.09***
DLNIPI	-12.89***	-12.82***	0.23***	0.16*
Critical values	1%: -3.51 5%: -2.90 %10: -2.58	1%: -4.07 5%: -3.46 %10: -3.16	1%: 0.73 5%: 0.46 %10: 0.34	1%: 0.21 5%: 0.11 %10: 0.11

\*\*\*, \*\* and \* denote significance at 1%, 5% and 10% significance levels, respectively.

**Bound test**

The most common method used to test the concept of co-integration, which states that there is a stationary combination of at least two different series,  $I(0)$ , is the tests developed by Engle-Granger and Johansen. In these co-integration tests, it is known that the series whose co-integration relationship is investigated should be stationary in the same order. This requirement is provided by Pesaran and Smith (1998), and Pesaran, Shin, and Smith (2001) bring a different conception to the co-integration analysis developed by the boundary test approach, allowing the condition in question to be stretched. In cases where the unrestricted error correction model is used in ARDL analysis, it has been observed that it has more specific and desirable statistical properties than the Engle-Granger test. As a result, it gave more reliable results in small samples compared to the Johansen and Engle-Granger tests. (Narayan and Narayan, 2005: 429).

Although the ARDL method is based on the standard least squares regression method, it allows using lagged values of the independent and dependent variables. In the ARDL-Bounds test approach, the equation in question is converted to an error correction model suitable for the ARDL approach to determine whether there is co-integration between the variables. Then, it is estimated with the least squares (Least squares) estimator and based on this model, and it is possible to perform a bounds test based on F or Wald statistics. Starting from equation (1), the ARDL-Boundary test equation created to determine the co-integration relationship between the variables in the model is as follows:

$$\begin{aligned}
 \Delta LNHPI = & \alpha_0 + \sum_{i=1}^m \alpha_{1i} \Delta LNCCI_{t-1} + \sum_{i=1}^n \alpha_{2i} \Delta LNCOO_{t-1} + \sum_{i=1}^p \alpha_{3i} \Delta LNNEGINT_{t-1} + \sum_{i=1}^r \alpha_{4i} \Delta LNREER_{t-1} \\
 & + \sum_{i=1}^s \alpha_{5i} \Delta LNHSF_{t-1} + \sum_{i=1}^t \alpha_{6i} \Delta LNMICUR_{t-1} + \sum_{i=1}^u \alpha_{7i} \Delta LNIFI_{t-1} + B_1 LNCCI_{t-1} \\
 & + B_2 LNCOO_{t-1} + B_3 LNNEGINT_{t-1} + B_4 LNREER_{t-1} + B_5 LNHSF_{t-1} + B_6 LNMICUR_{t-1} \\
 & + B_7 LNIFI_{t-1} + e_t
 \end{aligned}
 \tag{2}$$

the coefficients in equation (2)  $\alpha$  show the short-term effects, and the B coefficients show the long-term dynamics. For the estimation to meet the stability conditions, first of all, the optimal lag lengths (m, n,

p, r, s, t, u) of the variables in equation (2) should be determined with the help of information criteria. Then, starting from the model estimated with the appropriate delay, the bounds test approach can be started. The null hypothesis ( $H_0$ ), which states that there is no long-term relationship between the variables in the boundary test, is tested with the F-test. The null hypothesis is tested by placing a zero constraint on the coefficients of the lagged variables in equation (2). Accordingly, the null hypothesis for the F- test in this study will be ( $H_0: B_1=B_2=B_3=B_4=B_5=B_6=B_7=0$ ). The F-statistic obtained by the bounds test Pesaran et al. (2001) with the critical values found for different confidence intervals by the model's constant and trend inclusion status and the number of independent variables (k) in the model. For some cases, the standard F-test used to test the null hypothesis has a non-standard distribution. In this context, the critical values that should be compared with the test statistics were determined by Pesaran et al. (2001) (Pamuk and Bektaş, 2014). Suppose the calculated F-statistic is greater than the critical upper bound. In that case, the null hypothesis is rejected, indicating a long-term relationship between the level values of the variables. If the calculated F-statistic is less than the critical lower bound, the null hypothesis will not be rejected. Suppose the F-statistic is between the critical lower and upper limit values. In that case, no decision can be made about co-integration, and in this case, other co-integration tests should be looked at (Çağlayan, 2006).

After determining a long-term relationship between the level values of the variables with the bound test, the long-term relationship between the variables is examined with the ARDL method. In this study, the ARDL model to be estimated to examine the long-run relationship between the variables is shown in equation (3):

$$\Delta HPI = \alpha_0 + \sum_{i=1}^m \alpha_{1i} \Delta LNCCI_{t-1} + \sum_{i=1}^n \alpha_{2i} \Delta LNCOO_{t-1} + \sum_{i=1}^p \alpha_{3i} \Delta LNNEGINT_{t-1} + \sum_{i=1}^r \alpha_{4i} \Delta LNREER_{t-1} + \sum_{i=1}^s \alpha_{5i} \Delta LNHSF_{t-1} + \sum_{i=1}^t \alpha_{6i} \Delta LNMICUR_{t-1} + \sum_{i=1}^u \alpha_{7i} \Delta LNIPi_{t-1} + e_t \quad (3)$$

The co-integration status was checked with the ARDL bounds test since the F statistic is greater than I(0) and I(1). The  $H_0$  hypothesis that there is no co-integration was rejected, and it was concluded that there was co-integration.

**Table 6:** Bound Test Result

Test Statistics	Value	K
F-Statistics	4.99	7
<b>Critical value bounds</b>		
<b>Level</b>	I (0)	I (1)
1%	2.73	3.9

**ARDL test and long-term coefficients**

The lag numbers of the series used in the study were determined automatically. The maximum lag length was selected with the Akaike Information Criteria, one of the information criteria. The estimators obtained in the model established with unlimited fixed and unlimited trends were found to be significant. However, when the short-term relationship was examined, it was found to be significant at 0.12. Still, since the coefficient was positive, it could not be interpreted that it would converge to the long-term value. The results for the ARDL (4, 4, 2, 3, 1, 2, 3, 4) model are given below.

**Table 7:** ARDL Test and Long-Term Coefficients

Unbounded Fixed and Unbounded Trends				
Variable	Coefficient	Standard error	t-statistics	Possibility
ECM	0.12	0.01	7.20	0.00
LNHPI = 3.7120- 0.2211*LNCOO + 0.0143*REALINT- 0.7682*LNREER				
-0.1648*LNHSF + 1.0131*LNMICUR + 0.3377*LNCCI + 0.4288*LNPI				
Dependent Variable LNHPI				
Long Run Coefficients				
Variable	Coefficient	Standard error	t-statistics	Possibility
LNCOO	-0.221***	0.05805	-3.808893	0.0004
REALINT	0.0143***	0.003348	4.282909	0.0001
LNREER	-0.768***	0.233567	-3.288918	0.0018
LNHSF	-0.165***	0.032031	-5.143713	0.0000
LNMICUR	1.0131**	0.426954	2.372811	0.0214
LNCCI	0.3377***	0.097957	3.447385	0.0011
LNPI	0.4288*	0.219172	1.956566	0.0558
C	3.712**	1.447969	2.563608	0.0133
R2=0.9676 $\bar{R}^2 = 0.9558$ F=9323 [0.0000]				
Breusch-Godfrey Serial Correlation LM Test				
F-statistic = 0.18 [0.8301]				
Breusch-Pagan-Godfrey Variance Test				
F-statistic =1.36 [0.1625]				
Ramsey Reset Test				
F-statistic =1.69 [0.1994]				
Durbin Watson 1.86				

\*\*\*,\*\* and \* denote significance at 1%, 5% and 10% significance levels, respectively.

When the model results were examined, it was seen that all variables were significant. Deviations from the basic econometric assumptions were examined, and the results are in Table 7. According to the result of the F test, which tests the significance of the whole model, the model is significant. When the signs of the individual variables are examined, they are compatible with economic theory and our expectations. According to the Breusch-Godfrey Serial Correlation LM Test and Durbin Watson coefficient, there is no autocorrelation problem. According to the Breusch-Pagan-Godfrey Variance Test results, there is no variance problem, and there is homoskedasticity. It has been examined whether there is a specification problem with the Ramsey reset test, and it has been seen that there is no problem. Finally, according to the normality test results, it is interpreted that it is normally distributed.

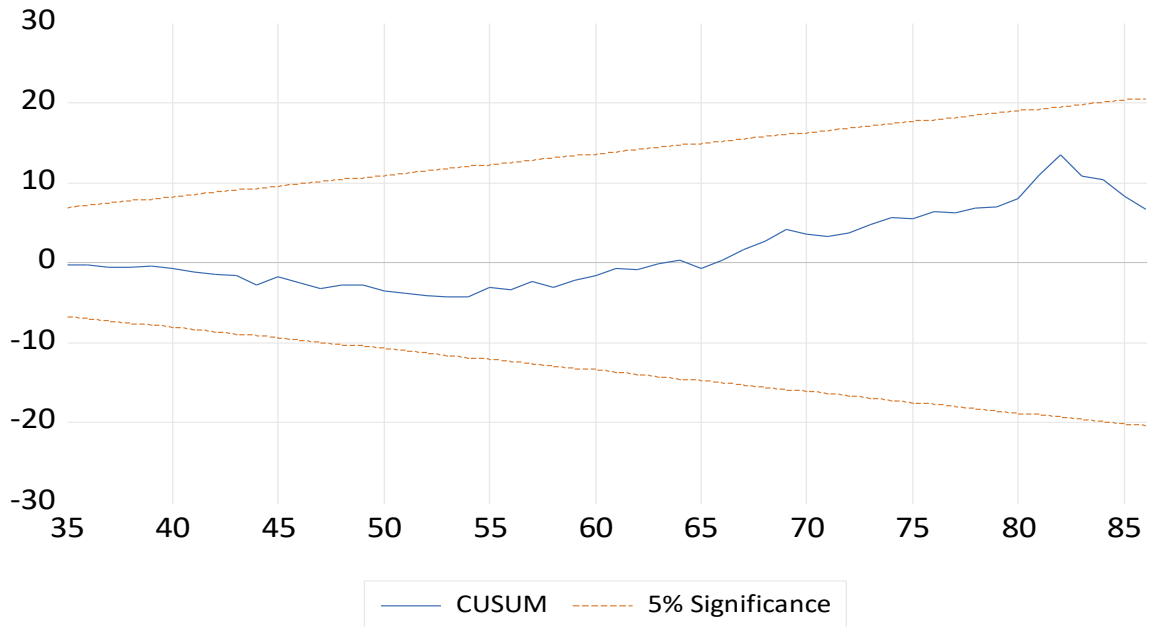


Chart 1: CUSUM Test

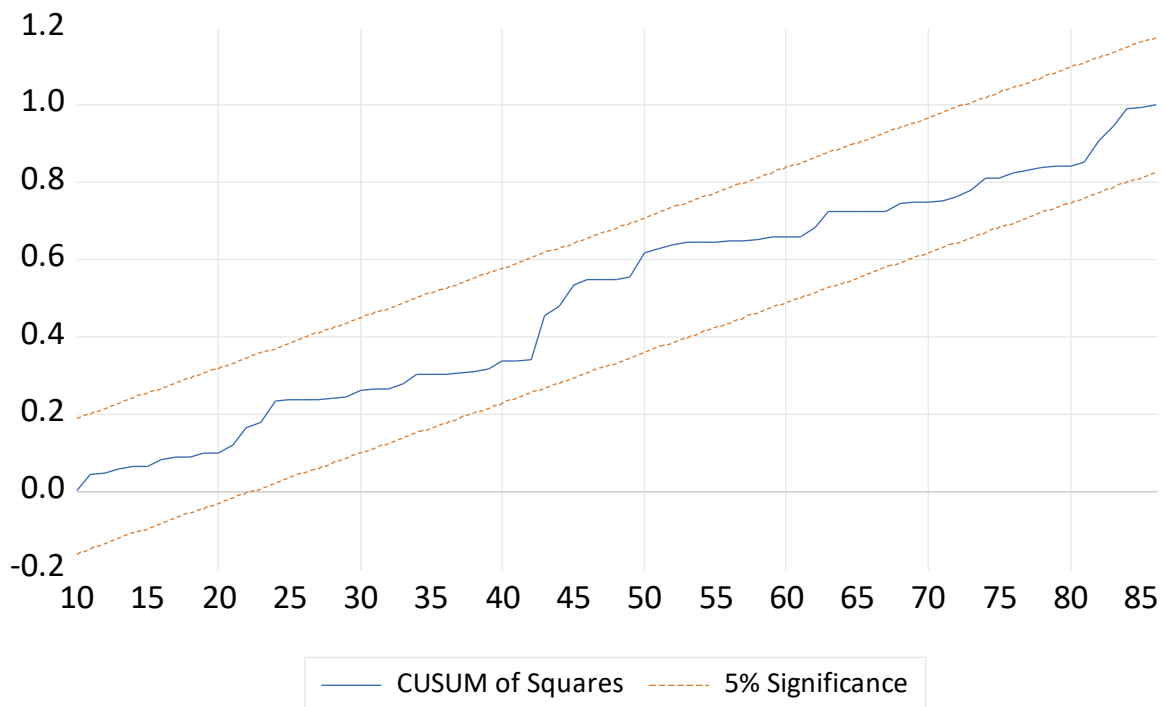


Chart 2: CUSUMQ Test

Cusum and Cusumq test statistics remain within critical limits at the 5% significance level. In this case, it can be interpreted that there is no structural break and the model results are correct.

When the other empirical results are examined, it is seen that the 1% increase in the number of flats with a certificate of occupancy decreases the housing price index by 0.22%. Therefore, the said variable is included in the model to determine the effect of supply-side effects on the housing price index. As the number of flats with a certificate of occupancy increases, more residences will be available for habitation. The availability of more housing, that is, the increase in supply, will reduce prices. Therefore, increasing the number of houses is necessary to reduce the price index.

It is seen that the 1% increase in the real effective exchange rate decreases the housing prices by 0.77%. On the other hand, as the real effective exchange rate increases, that is, as the foreign currency depreciates, the housing price index decreases. Therefore, foreigners, whose currencies are appreciated, will cause an increase in housing prices in terms of demand as the real effective exchange rate decreases. In addition, the value of housing prices will increase in terms of cost. Therefore, this relationship is negative.

It is seen that the 1% increase in the number of residences sold to foreigners decreases the housing price index by 0.17%. In some studies on this subject, it is stated that the prices will increase as the number of houses built for foreigners increases, while it has been determined that it hurts the housing price index in our model. The fact that the residences sold to foreigners are not distributed homogeneously regionally, and the average number of sales in Turkey is very low can be counted among the reasons for these. It should also be noted that the coefficient in our model is very low, which has a common negative effect.

It is seen that the 1% increase in the capacity utilization rate increases the housing price index by 1.01%. Since the Capacity Utilization Rate is a signal of the production level in the manufacturing industry. The fact that the demand is above the capacity means that capacity utilization should be increased with new investments. Therefore, it was included in the model to examine the effects of inflation. Too much increase in the capacity utilization rate causes an increase in inflation through the overexpansion of the economy, so the cost of housing will also increase.

It is seen that the 1% increase in the construction cost index increases the housing price index by 0.34%. The cost increase can be directly or indirectly reflected in the housing prices according to the demand elasticity. It is included in the model to determine how sensitive the increase in housing prices is to the increase in construction costs. We know that the increase in the cost of housing creates a restrictive factor for households whose income is increasing relatively less and suppresses the demand. Therefore, it is possible to say that the decrease in demand has a decreasing effect on the housing price index.

It is seen that the 1% increase in the industrial production index increases the housing price index by 0.43%. In order to examine the effect of the industrialization rate, the industrial production index was used. In addition, it is also used as a GDP indicator in this study. The increase in the industrial production index will increase housing prices with the inflation-based effect. On the other hand, it will cause an increase in the per capita income due to the increase in the national income and will cause the housing price index to increase due to the demand.

## Conclusion and evaluation

Man has three basic needs: food, drink and shelter. In this respect, housing is a vital element that meets the need for shelter. Housing is also important for economic development and welfare. People want to own housing for investment purposes to secure themselves and their future. From the point of view of economic development, housing contributes to the economy from macroeconomic aspects such as production, investment and employment and increases the level of economic welfare.

When the studies in the literature are examined, it has been determined that there is a very high increase in private final consumption expenditures, especially due to the increase in the housing price index. For this reason, it would be appropriate for economic policymakers to prevent the formation of housing price bubbles with various measures in countries where housing prices have increased at a high rate. Otherwise, a large decrease in housing consumption may cause deeper economic contractions.

So what are the reasons for the increase in these housing prices? Although many reasons have been investigated in the studies in the literature, two important questions have been tried to be answered in the said study. Firstly, the question of whether the housing price index will change as the number of houses sold to foreigners increases, that is, is the change in the number of houses sold to foreigners an important factor that changes housing prices, has been trying to be answered. Considering the model results, the number of houses sold to foreigners significantly affects the house price index. The second problem is whether the main dynamic of the housing price increase is the housing sales to foreigners or the increase in construction costs, and it is seen that the construction costs increase the housing prices. Still, the prices decrease as the number of houses sold to foreigners increases. Does the sale of housing to foreigners increase the prices? The residences demanded by foreigners are already very high-value residences. As a result of our observations, it is evaluated that foreign purchases are very small and constitute %3 of the total residences sold. In addition, contractors and homeowners are trying to sell their houses by entering into price competition in the current period. Considering that the costs will increase even more in the next period, especially in high-priced houses, they reduce the prices of the current period and cause the prices to decrease by making sales.

Other empirical results are as follows. It was determined that a 1% increase in the number of flats with a building usage certificate decreased the housing price index by 0.22%. It was observed that housing prices decreased by 0.77% when the real effective exchange rate increased by 1%. A 1 per cent increase in the number of houses sold to foreigners was found to decrease the housing price index by 0.17 per cent. It was determined that a 1% increase in the capacity utilization rate increased the housing price

index by 1.01%. A 1% increase in the construction cost index causes an increase of 0.34% in the housing price index. An increase in the industrial production index by 1% increases the housing price index by 0.43%. Since logarithmic functions are used in the model, the coefficients directly give flexibility. However, it is possible to say that as the real interest rate increases, the housing price index also increases.

It should not be forgotten that the problem of finding housing and settling, that is, housing, has not only an economic dimension but also a social dimension, and social unrest will occur when people do not meet their needs. In this context, while the increase in the housing supply will be effective in terms of supply, the decrease in housing prices and the increase in the people's real income will effectively solve the problem in terms of demand. In the study, in which the reasons for the increase in the housing price index are examined, the increase in the number of flats with a certificate of occupancy and the decrease in the real effective exchange rate will decrease the housing prices and make it easier to reach the housing. Likewise, an absolute increase in the real interest rate and an increase in the construction cost index will increase the housing price index, making it difficult to find a house. It is evaluated that decision-makers can quickly find a solution to the housing problem in terms of supply and demand by influencing these variables.

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## İş stresinin sosyal sanal kaytarma üzerindeki etkisinde bilinçli farkındalığın moderatör rolü

### The moderating role of mindfulness on the effect of work stress on social cyberloafing

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#### Öz

Bu çalışmada, banka çalışanlarının yaşadığı iş stresinin sosyal sanal kaytarma üzerindeki etkisi incelenmiştir. Ek olarak bu etki üzerinde bilinçli farkındalığın moderatör rolü de incelenmiştir. Kocaeli’nde faaliyet gösteren özel bankalarda çalışan 219 banka çalışanı araştırmanın örneklemini oluşturmaktadır. Çalışma nicel bir çalışma olup anket yöntemi kullanılmıştır. Veriler İş Stresi Ölçeği, Sosyal Sanal Kaytarma Ölçeği ve Bilinçli Farkındalık Ölçeği kullanılarak toplanmıştır. Her bir ölçeğin faktör yapısını görebilmek için açıklayıcı faktör analizi uygulanmıştır. Hipotezleri test etmek için ise regresyon analizi ve PROCESS SPSS makrosu kullanılmıştır. Elde edilen sonuçlara göre banka çalışanlarının iş stresinin sosyal sanal kaytarma üzerinde pozitif etkisinin olduğu tespit edilmiştir. Bu sonuçlara ek olarak bilinçli farkındalığın iş stresi ve sosyal sanal kaytarma arasındaki ilişkide moderatör etkisinin olduğu saptanmıştır. Diğer bir deyişle yüksek bilinçli farkındalıktan ziyade düşük bilinçli farkındalık söz konusu olduğunda iş stresinin sosyal sanal kaytarma üzerindeki etkisi daha güçlüdür. Bu bulgular ışığında mevcut çalışma sosyal sanal kaytarma değişkenini stresle başa çıkma yöntemi olarak inceleyerek değişkene yeni bir bakış açısı sağlamıştır. Sosyal sanal kaytarmanın iş stresi ile baş edebilmek için nasıl bir çare olabileceğini anlamak için ise başa çıkma teorisi dikkate alınmıştır. Böylece başa çıkma ve iş stresi literatürü birleştirilmiştir.

**Anahtar Kelimeler:** İş Stresi, Sosyal Sanal Kaytarma, Bilinçli Farkındalık, Banka Çalışanları

**Jel Kodları:** M10, M12, L20

#### Abstract

In this study, the effect of work stress experienced by bank employees on social cyberloafing was investigated. In addition, the moderator role of mindfulness on this effect was also examined. Two hundred nineteen employees working in private banks operating in Kocaeli Province constitute the research sample. The study is quantitative, and a questionnaire method was used. The data were collected using the Work Stress Scale, the Social Cyberloafing Scale and the Mindful Attention Awareness Scale. Explanatory factor analysis was used to determine the factor structure of each scale. In addition, regression analysis and the PROCESS SPSS macro were used to test the hypotheses. The results determined that the work stress of bank employees positively affects social cyberloafing. In addition to these results, it was determined that mindfulness moderates the relationship between work stress and social cyberloafing. In other words, the effect of work stress on social cyberloafing is stronger when mindfulness is low than when mindfulness is high. In light of these findings, the current study examined the social cyberloafing variable as a coping method and provided a new perspective. In order to understand how social cyberloafing can be a solution to cope with work stress, the coping theory has been taken into account. Thus, coping and work stress literature were combined.

**Keywords:** Work Stress, Social Cyberloafing, Mindfulness, Bank Employees

**Jel Codes:** M10, M12, L20

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## Extended Abstract

### The moderating role of mindfulness on the effect of work stress on social cyberloafing

#### Literature

##### Research subject

The widespread use of the internet and the ease of access to the internet in organizations reveals cyberloafing behaviour, which is the use of the Internet in situations non-work-related and for entertainment purposes (Lim, 2002). Cyberloafing behaviours include sending and receiving emails to friends and family, shopping online, visiting entertainment websites, and downloading software such as videos, music, games, etc. Cyberloafing can lead to negative consequences for the organization, such as a decrease in productivity, increased financial losses, potential risks through legal liability and information security violations, decrease in job commitment, performance and job satisfaction (Weatherbee, 2010; O'Neill, Hambley, and Bercovich, 2014; Alharthi, Levy, Wang, and Hur, 2021). Furthermore, the increase in the popularity of online social media sites such as Facebook, Instagram, WhatsApp, and Twitter in recent years has also led to the use of the internet for social activities (Hu, Chen and Ye, 2021; Yıldız and Yıldız, 2021). This situation has brought a new dimension to the concept of cyberloafing. This concept, called social cyberloafing, is defined as the voluntary use of private or corporate information technology (IT) resources in the workplace to participate in non-work-related social media activities (Wu, Mei, Liu, and Ugrin, 2020). In this study, job stress (Efeoğlu and Özgen, 2007), expressed as the pressure and tension of the work environment, is discussed for the first time as a potential antecedent of social cyberloafing behaviour. In addition, the study focused on the moderator effect of mindfulness. It is considered that people with high mindfulness will experience less work stress and therefore show less social cyberloafing behaviour. Therefore, this study aims to determine whether mindfulness moderates the effect of work stress on social cyberloafing among bank employees. In this sense, a field study was conducted on bank employees who experience intense stress in Turkey using the survey method.

##### Contribution of the article to the literature

There are studies about the antecedents of cyberloafing in the literature. (Henle and Blanchard, 2008; Vitak, Crouse and LaRose, 2011; Baturay and Toker, 2015; Aghaz and Sheikh, 2016; Ahmad and Omar, 2017; Ay, Demirel and Erbaş, 2017; Çivilidağ, 2017; Çivilidağ, 2017; Koay, Soh and Chew, 2017; Gökçearslan, Uluyol and Şahin 2018). However, little work has been done on the antecedents of social cyberloafing. These studies generally include antecedents such as workplace loneliness, workplace ostracism (Hu et al. 2021), fear of missing out (Tozkoparan and Kuzu, 2019), demographic and personality characteristics (Andreassen, Torsheim, and Pallesen, 2014). In light of this limitation, this study addresses job stress as a potential antecedent of social cyberloafing behaviour for the first time. In other words, it can be thought that employees exhibit social cyberloafing behaviours to alleviate their work stress. In this respect, this research proposes social cyberloafing as a means of coping and managing stress, using coping theory to support working hypotheses. This way, social cyberloafing can become a tool to relieve stress rather than be seen as deviant workplace behaviour. However, only two studies consider cyberloafing as a coping mechanism for work stress. (Stoddart, 2016; Mishra and Tajeja, 2022). In this sense, it is thought that this study will contribute to the existing literature by combining the literature on work stress and coping.

The relationship between job stress and social cyberloafing is not always simple and linear. Individual and organisational factors may affect the relationship between job stress and social cyberloafing. In this sense, this study also focuses on the moderator effect of mindfulness. Mindfulness is a process that consists of being aware of what is happening in the present moment, paying attention to the moment, and accepting what is realized without judgment. Focusing on the moment and not missing what is happening now significantly impacts one's life (Finger, 2020). People with high levels of mindfulness increase their well-being and decrease anxiety, stress and depression (Brown and Ryan, 2003). Studies on mindfulness also support this (Ülev, 2014; Demir, 2017; Arslan, 2018). In light of this information, it is considered that people with high mindfulness in organizations will experience less work stress and therefore show less social cyberloafing behaviour. Except for Mishra and Tajeja (2022), no study has been found in the literature examining the relationships between these variables. In the related study, the cyberloafing variable was used. In the current study, the social cyberloafing variable was used. Since social cyberloafing has not been studied before, the current study will contribute to the literature.

#### Design and method

##### Research problems

The research problem is to determine the effect of work stress on social cyberloafing and determine whether mindfulness has a moderating role

##### Data collection method

##### Data collection method

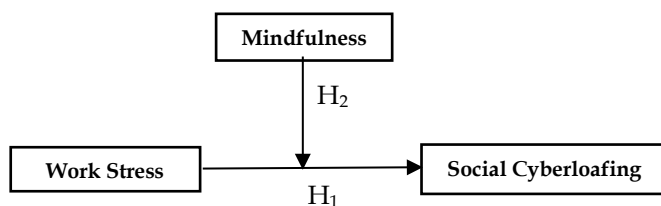
This research was conducted using quantitative research methods and techniques. The survey method has been used as the data collection method. Using a questionnaire, data were collected from 219 conveniently selected bank employees. There are two parts to the questionnaire form. In the first part, there are questions about the demographic characteristics of the participants. In the second part, there are scales to measure the variables of work stress (Work Stress Scale), social cyberloafing (Social Cyberloafing Scale) and mindfulness (Mindful Attention Awareness Scale), which are examined within the scope of the research. All scale items were evaluated by a 5-point Likert scale (1= Strongly Disagree; 5= Strongly Agree).

##### Quantitative/qualitative analysis

Quantitative analysis was used in the study. Explanatory factor analysis was used to determine the factor structure of the Work Stress Scale, the Social Cyberloafing Scale and the Mindful Attention Awareness Scale. Cronbach alpha reliability analysis assessed their reliability. Finally, regression analysis and the PROCESS SPSS macro were used to test the hypotheses

## Research model

The model created to test the research hypotheses is shown below (Figure 1).



**Figure 1:** The Research Model

## Research hypotheses

H<sub>1</sub>: Work stress increases the willingness to engage in social cyberloafing behaviour.

H<sub>2</sub>: Mindfulness has a moderating role on the effect of work stress on social cyberloafing, such that the effect of work stress on social cyberloafing will be stronger when low mindfulness is involved rather than high mindfulness.

## Findings and discussion

### Findings as a result of the analysis

Factor analysis of the Work Stress Scale suggested a single factor, which explained 85.65% of the total variance. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is calculated as 0.927. The scale exhibited a high degree of reliability ( $\alpha = 0.904$ ). Factor analysis about Social Cyberloafing suggested a single factor, which explained 87.91% of the total variance. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is calculated as 0.950. The scale exhibited a high degree of reliability ( $\alpha = 0.886$ ). Factor analysis of the Mindful Attention Awareness Scale suggested a single factor, which explained 86.56% of the total variance. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is calculated as 0.960. The scale exhibited a high degree of reliability ( $\alpha = 0.865$ ). Regression analysis and the PROCESS SPSS macro were used to test the hypotheses. The results determined that work stress positively affects social cyberloafing. Therefore, the H<sub>1</sub> hypothesis is supported. In addition to these results, it was determined that mindfulness moderates the relationship between work stress and social cyberloafing. Therefore, the H<sub>2</sub> hypothesis is supported.

### Conclusion, recommendation and limitations

This study analysed the effects of work stress and mindfulness on social cyberloafing on bank employees. Therefore, the direct effect of work stress on social cyberloafing and the moderator effect of mindfulness were investigated. Employees can use the internet or social media to eliminate the monotony, boredom or stress of work. Hence, employees may exhibit social cyberloafing behaviour to cope with work stress. However, when we look at the literature, no study has been found about the effect of job stress on social cyberloafing. However, there are studies on job stress and cyberloafing (Henle & Blanchard, 2008; Koay et al., 2017; Çivilidağ, 2017; Özkalp & Yıldız, 2018; Özüdoğru & Yıldırım, 2020; Alqahtani et al., 2022). As a result of the current research findings, it was found that the job stress experienced by the bank employees also affected the social cyberloafing behaviour positively. Therefore, the research findings are similar to the results of previous studies.

Mindfulness, the moderator variable in the research, is accepted as a personal resource that helps people manage their stress by encouraging them to concentrate on the moment rather than the problems and consequences beyond their control (Grover, Teo, Pick, & Roche, 2017). People with high mindfulness may experience less work stress and therefore show less social cyberloafing behaviour. Except for the study by Mishra and Tajeja (2022), no study has been found in the literature on these variables. Therefore, the cyberloafing variable was used in Mishra and Tajeja's (2022) study. Since social cyberloafing has not been studied before, this contributes to the literature. As a result of the analyzes made in the current study, the effect of work stress on social cyberloafing decreases as the mindfulness level of bank employees increases. Most of the previous studies that shed light on this study have addressed cyberloafing as an inefficient, deviant work behaviour; however, the current study provided a new perspective on the variable by examining the social cyberloafing variable as a method of coping with stress. In order to understand how social cyberloafing can be a solution to cope with work stress, the coping theory has been taken into account. Thus, coping and work stress literature were combined.

One of the limitations of this research is that research is only applied in private banks in Kocaeli Province. It is recommended to increase the sample and collect data from a wider area for future studies. On the other hand, collecting data from the public sector and comparing bankers working in the private and public sectors is recommended. In addition, mindfulness was used as an interaction variable in this study. It is recommended to add different variables (organizational identification, organizational support, organizational trust, organizational cynicism, etc.) to future studies. It is thought that different results can be obtained in this way. It is also recommended to be supported by qualitative research.

The present study indicates that social cyberloafing has a positive and negative side for organizations. Social media, reading news online, etc., helps employees relax and return to work with a fresh and calm mind. Therefore, managers should also consider that small breaks in the form of social cyberloafing, when used effectively, can be a quick way out of stressful situations for employees. Therefore, it is suggested that managers look at such behaviours with both positive and negative sides of measures or restrictions brought about by social cyberloafing within the organization. Finally, this study revealed that job stress's effect on social cyberloafing was less in employees with high mindfulness levels. Based on this result, it would be beneficial to implement awareness training programs to improve the well-being and effectiveness of employees in organizations. In this way, employees can determine acceptable social cyberloafing levels that do not adversely affect their performance and prevent achieving organizational goals.

## Giriş

Günümüzde hayatın pek çok alanında kullanılan, önemli bir iletişim ağı olan internet, kişilerin bilgiye daha kısa zamanda ulaşmasına ve bu bilgiyi çevresindekiler ile paylaşabilmesine imkân sağlamaktadır. İnternet sayesinde insanlar dünyada olup bitenlerden haberdar olabilmekte, alışveriş yapabilmekte, oyun oynamakta, film-dizi izleyebilmekte, mesafe önemli olmaksızın istedikleri zaman diğer insanlarla iletişim kurabilmektedir. Tüm bu hizmetler düşünüldüğünde internet, kişinin yaşamını kolaylaştırmakta ve refah düzeyini yükseltmektedir. İnternet sunduğu faydalar ve olanaklar sayesinde yaşamın her alanında pek çok kişi tarafından kullanılmaktadır. Örgütler ve çalışanlar için de internet kullanımının birçok yararı bulunmaktadır. İnternet sayesinde örgütler operasyon ve iletişim maliyetlerini düşürürken verimlilik ve performanslarını arttırmaktadır (Zhong, Qiu ve Sun, 2020). Ayrıca; internetin örgütler açısından bilgiye ulaşımı hızlandırma, küresel iletişimi geliştirme, ürün ve hizmetleri hızlı pazarlama gibi katkıları da bulunmaktadır (Lieberman, Seidman, MCKenna ve Buffardi, 2011). Tüm bunlar göz önüne alındığında örgütlerin interneti hemen hemen tüm iş süreçlerine dâhil etmesi bir gereklilik haline gelmiştir. İnternete erişimin bu şekilde çalışanlar arasında gün geçtikçe yaygınlaşması, internetin iş dışı durumlarda ve eğlence amacıyla ile kullanımı olan sanal kaytarma davranışını da karşımıza çıkarmaktadır (Lim, 2002).

Sanal kaytarma ya da çalışanların mesai saatleri içinde interneti kişisel amaçlarla kullanması, internet erişiminin akıllı telefonlar, tabletler gibi diğer elektronik cihazlarla da sağlanmasıyla örgütlerde görünen yaygın bir davranış haline gelmiştir (Hu, Chen ve Ye, 2021). Robinson ve Bennett'in (1995) sapkın iş yeri davranışları sınıflandırmasına dayalı çalışması, örgüt ve çalışanlar üzerinde sapkın davranışların olumsuz etkilerine odaklanmıştır. Bu sınıflandırmaya göre, sanal kaytarma, internet erişimi ile birlikte üretimi saptırma boyutu içine giren bir dizi yeni sapkın davranış türü olarak düşünülebilir (Blanchard ve Henle, 2008). Nitekim üretimi saptırma işin nasıl başarılabacağına ilişkin örgütsel normları ihlal eden, çalışanlar tarafından gönüllü olarak gerçekleştirilen davranışları ifade etmektedir. Sanal kaytarma davranışları arasında arkadaşlara ve aileye e-posta gönderip alma, çevrimiçi alışveriş yapma, eğlence web sitelerini ziyaret etme, video, müzik, oyun gibi yazılım indirme vb. davranışlar sayılabilir. Sanal kaytarma, verimlilikte azalma, artan finansal kayıplar, yasal sorumluluk ve bilgi güvenliği ihlalleri yoluyla potansiyel riskler, işe bağlılıkta, performansta ve iş tatmininde azalma gibi örgüt için olumsuz sonuçlara yol açabilmektedir (Weatherbee, 2010; O'Neill, Hambley ve Bercovich, 2014; Alharthi, Levy, Wang ve Hur, 2021).

Son yıllarda Facebook, Instagram, WhatsApp, Twitter gibi çevrimiçi sosyal ağ siteleri popülerliğini gittikçe arttırmaktadır. Dolayısıyla internetin sosyal faaliyetler için kullanılması da kaçınılmaz bir hal almıştır (Hu vd. 2021; Yıldız ve Yıldız, 2021). Bu durum sanal kaytarma anlayışına yeni bir boyut kazandırmıştır. Sosyal sanal kaytarma denilen bu kavram çalışanların iş ile ilgili olmayan sosyal medya faaliyetlerine katılmak için işyerinde özel veya kurumsal bilgi teknolojisi (BT) kaynaklarını gönüllü olarak kullanması olarak tanımlanmaktadır (Wu, Mei, Liu ve Ugrin, 2020). Çalışanların sosyalleşmesini sağlayan ve bu nedenle bağımlılık yapan bir tür sanal kaytarma olan sosyal sanal kaytarmanın da örgüt üzerinde yaratabileceği olumsuz etkiler göz önüne alındığında öncüllerinin üzerinde durulması gerektiği düşünülmektedir. Literatüre bakıldığında zaman; iş özellikleri (Vitak, Crouse ve LaRose, 2011), demografik özellikler (Baturay ve Toker, 2015; Ahmad ve Omar, 2017), tükenmişlik (Aghaz ve Sheikh, 2016), algılanan adalet (Ay, Demirel ve Erbaş, 2017), iş tatmini (Çivilidağ, 2017), iş stresi (Henle ve Blanchard, 2008; Çivilidağ, 2017; Koay, Soh ve Chew, 2017; Gökçearsan, Uluyol ve Şahin 2018) gibi sanal kaytarmanın öncülleri ile ilgili çalışmalar yapılmıştır. Bununla birlikte, sosyal sanal kaytarma öncülleri hakkında çok az çalışma yapılmıştır. Bu çalışmalar genellikle işyeri yalnızlığı, işyerinde dışlanma (Hu vd. 2021), gelişmeleri kaçırma korkusu (Tozkoparan ve Kuzu, 2019), demografik, kişilik özellikleri (Andreassen, Torsheim ve Pallesen, 2014) gibi öncülleri içermektedir. Bu sınırlamanın ışığında, bu çalışmada kişinin iş çevresinin kendisi üzerinde oluşturduğu baskı, gerilim durumu olarak ifade edilen iş stresi (Efeoğlu ve Özgen, 2007), sosyal sanal kaytarma davranışının potansiyel bir öncülü olarak ilk defa ele alınmıştır. Diğer bir ifade ile çalışanların iş streslerini hafifletmek amacıyla sosyal sanal kaytarma davranışları sergiledikleri düşünülebilir. Bu açıdan, bu araştırma çalışma hipotezlerini desteklemek için başa çıkma teorisini kullanarak stresle başa çıkma ve stresi yönetmenin bir aracı olarak sosyal sanal kaytarmayı öne sürmektedir. Bu sayede sosyal sanal kaytarma sapkın iş yeri davranışı olarak görülmekten ziyade stresi atmak için bir araç haline gelebilir. Literatüre bakıldığında sanal kaytarmayı iş stresi ile başa çıkma mekanizması olarak ele alan sadece iki tane çalışmaya rastlanmıştır. (Stoddart, 2016; Mishra ve Tageja, 2022). Bu anlamda bu çalışmanın iş stresi ve başa çıkma literatürünü birleştirerek mevcut literatüre katkı sağlayacağı düşünülmektedir.

İş stresi ve sosyal sanal kaytarma arasındaki ilişki her zaman basit ve doğrusal olmayabilir. İş stresi ve sosyal sanal kaytarma arasındaki ilişkiyi etkileyen bireysel ve örgütsel faktörler söz konusu olabilir. Bu

anlamda bu çalışmada ek olarak bilinçli farkındalığın moderatör etkisi üzerinde durulmuştur. Bilinçli farkındalık; şimdiki anda gerçekleşen olayların farkında olmaktan, dikkatini ana vermektan ve farkına varılanları yargılamaksızın kabul etmektan oluşan bir süreçtir. Ana yoğunlaşp şimdi zamanı kaçırmamak kişinin hayatında önemli bir etkiye yol açmaktadır (Parmaksız, 2020). Bilinçli farkındalık sayesinde kişinin iyi oluşu artmakta, kaygı, stresi ve depresyonu azalmaktadır (Brown ve Ryan, 2003). Bilinçli farkındalık üzerine yapılan çalışmalar da bunu desteklemektedir (Ülev, 2014; Demir, 2017; Arslan, 2018). Bu bilgiler ışığında örgütlerde de benzer bir şekilde bilinçli farkındalığı yüksek olan kişilerin daha az iş stresi yaşayacakları ve bu sebepten daha az sosyal sanal kaytarma davranışı gösterecekleri düşünülmektedir. Mishra ve Tajeja (2022) hariç, literatürde söz konusu değişkenler arası ilişkileri inceleyen bir çalışmaya rastlanmamıştır. İlgili çalışmada sanal kaytarma değişkeni kullanılmıştır. Mevcut çalışmada ise sosyal sanal kaytarma değişkeni kullanılmıştır. Sosyal sanal kaytarma daha önce çalışılmadığı için mevcut çalışma literatüre katkı sağlayacaktır. Bu anlamda Türkiye’de yoğun stres yaşayan banka çalışanları üzerinde anket yöntemi kullanılarak bir saha çalışması yapılmıştır. Çalışmanın bundan sonraki bölümünde ilgili literatür gözden geçirilmekte ve araştırma hipotezleri geliştirilmektedir. Ardından araştırma yöntemleri ve veri analizleri yapılmaktadır. Son olarak çalışmanın bulguları, sonuçları, sınırlılıkları tartışılmakta ve gelecekteki araştırmalar için öneriler verilmektedir.

## Literatür taraması

### Sosyal sanal kaytarma

İnternet günümüzde insanlar için oldukça önemli ve vazgeçilmez bir ihtiyaç haline gelmiştir. Bu anlamda çalışma hayatında da teknolojik araçlar ve internet kullanımı genişledikçe ve bu araçları kullanan çalışan sayısı arttıkça işler daha hızlı ve kolay şekilde yapılmaya başlamıştır. Ancak teknolojik gelişmelerle beraber internet erişiminin iyice yaygınlaşması, iş hayatında kaytarma kavramı üzerinde dönüştürücü bir etkiye sahip olmuştur. Örgütlerde insanlar bir şekilde işin verdiği stresi azaltmak ve biraz rahatlamak için pek çok işten kaytarma yöntemi denemişlerdir. (Özkalp, Aydın ve Tekeli, 2012). Bilgi ve iletişim teknolojilerinin bu şekilde gelişmesi ve internete erişimin kolaylaşması sayesinde, yeni bir işten kaytarma yöntemi olan sanal kaytarma olarak adlandırılan bir kavram ortaya çıkmıştır (Yağcı ve Yüceler, 2016). Literatürde İngilizce olarak “cyberloafing”, “cyberslacking”, “cyber deviance”, “cyberdeviancy”, “personal web usage”, “cyberbludging” gibi terimlerle ifade edilen sanal kaytarma kavramı, Türkçede, “sanal kaytarma”, yanı sıra “sanal aylaklık”, “sanal tembellik”, “siber kaytarma” ve “siber aylaklık” olarak da kullanılmaktadır (Özüdoğru ve Yıldırım, 2020).

Sanal kaytarma kavramı ile ilgili literatürde farklı yazarların benzer tanımları yer almaktadır. Ugrin, Pearson ve Odom (2007)’a göre sanal kaytarma internette geçirilen verimsiz zaman olarak tanımlanırken Blanchard ve Henle (2008)’e göre kişinin çalışma saatleri içinde iş dışı amaçlarla e-posta, internet kullanımı olarak ifade edilmektedir. Lim ve Chen (2012) sanal kaytarmayı, çalışanların örgütlerinin kendilerine sunduğu internet imkânlarından yararlanarak bireysel amaçları için iş dışı internet sitelerinde zaman geçirerek gerçekleştirdikleri davranışlar olarak tanımlamaktadır. Özüdoğru ve Yıldız (2014)’ın tanımına göre sanal kaytarma, kişilerin örgütlerde çalışmak için verilen bilgisayar ve internet sistemlerini özel amaçları için kullanmaları olarak ifade edilmektedir. Ünal ve Tekdemir (2015) ise sanal kaytarmayı, çalışanların iş saatleri içinde bilerek ve gönüllü olarak teknolojik araçları örgütün amaçları doğrultusunda kullanmamaları olarak tanımlamaktadır. Tanımlara bakıldığı zaman; bir davranışa sanal kaytarma denilebilmesi için, internet gibi sanal ortamların kullanılmış olması, örgüt içinde ve çalışma saatleri içinde yapılması ve davranışın bireysel amaçlar doğrultusunda gerçekleşmesi gerekmektedir. Sanal kaytarma davranışları iş ile alakası olmayan e-posta alma ve gönderme, çevrimiçi alışveriş yapma, haber ve finans sitelerini takip etme gibi önemsiz davranışları içerebileceği gibi, yetişkin içerikli siteleri ziyaret etme, sohbet odalarına katılma, çevrimiçi oyun oynama, müzik indirme, kumar oynama, bahis sitelerini ziyaret etme gibi örgüte zarar verebilecek önemli davranışları da içermektedir (Blanchard ve Henle 2008).

Literatürde yer alan tanımlara göre sanal kaytarmanın genellikle örgütün sağladığı internet aracılığıyla yapıldığı ifade edilse de günümüzde bu durumu çok daha geniş bir açıdan ele almak gerekmektedir. Artık çalışanlar internete ulaşabilmek için örgütteki bilgisayara ve internet bağlantısına ihtiyaç duymamaktadır. Hemen hemen herkesin akıllı telefon, akıllı tablet, akıllı saat gibi cihazlara sahip olması mobil internet kullanımını artırmıştır. Dolayısıyla çalışanlar örgütlerinde rahatça internete erişim sağlayabilmektedir. Bunlara ek olarak Facebook, Instagram, WhatsApp, Twitter gibi çevrimiçi sosyal ağ sitelerinin popülerliğinin artması insanların çevrimiçi sosyalleşmesi için internet kullanımını daha da arttırmıştır. Diğer bir deyişle, çevrimiçi sosyal etkinliklere katılmak, internet kullanımının en yaygın nedenlerinden biri haline almıştır. Ayrıca bu durum örgütlerde görünen sanal kaytarma davranışlarına yeni bir boyut kazandırmıştır. Sosyal sanal kaytarma olarak ifade edilen bu kavram

kişinin işyerinde iş dışı sosyal medya faaliyetlerine dâhil olmak amacıyla interneti gönüllü olarak kullanmasıdır. Örgütlerde giderek yaygınlaşan sosyal sanal kaytarma, zaman ve kaynakların kötüye kullanımı üzerinde önemli bir etkiye sahiptir (Wu vd., 2020). Ek olarak çalışma saatleri içinde çalışanların sosyalleşmesine imkân sağlayan ve bu sayede bağımlılık yapan sosyal sanal kaytarmanın da örgütlerde yaratabileceği olumsuz etkisi düşünüldüğünde öncüllerinin üzerinde durulması önemlilik arz etmektedir. Sanal kaytarmanın öncülleri ile ilgili literatürde çeşitli bireysel ve örgütsel faktörler incelenmiştir (Henle ve Blanchard, 2008; Vitak vd., 2011; Baturay ve Toker, 2015; Aghaz ve Sheikh, 2016; Ahmad ve Omar, 2017; Ay vd., 2017; Çivilidağ, 2017; Çivilidağ, 2017; Koay vd., 2017; Gökçearslan vd., 2018). Ancak, sosyal sanal kaytarma öncülleri hakkında çok az çalışma yapılmıştır (Andreassen vd., 2014; Tozkoparan ve Kuzu, 2019; Hu vd. 2021) Bu çalışmada sosyal sanal kaytarma davranışının potansiyel bir öncülü olarak iş stresi değişkeni ele alınmıştır.

### **İş stresi ve sosyal sanal kaytarma**

Rekabetin hızla arttığı küreselleşen dünyada; teknolojinin hızla gelişmesi, çalışma şartlarının zorlaşması ve farklılaşması ile birlikte örgütlerin çalışanlardan beklentileri de artmaktadır (Şen, Tozlu, Ateşoğlu ve Özdemir, 2016). Böyle bir ortamda gerek fiziksel gerekse mental kapasitesini kullanarak çalışan kişilerin, örgütlerinde gösterdikleri davranışlar önemli olmaya başlamıştır. Çalışanlardan kaynaklanan sorunlar örgüt için en zor baş edilebilen sorunlar arasındadır. Bu sebeple yöneticileri çalışanlarından en yüksek seviyede verimi elde edebilmesi için güzel bir örgüt ortamı oluşturması gereklidir. Tam tersi bir durumda, örgütsel etkinlik ve verimlilik azalacak sorunlar ortaya çıkmaya başlayacaktır. Bu duruma zemin hazırlayan faktörlerden birisi de iş yerinde yaşanan strestir (Kendiroğlu Özen, 2022). İş stresini; çeşitli sebeplerle çalışanın bedeninde ilk başta yapıcı etkiler bırakan ancak belli bir seviyeden sonra yıkıcı etkilere yol açan ve böylece kişide oluşan fiziksel, psikolojik ve davranışsal olumsuzluklar olarak ifade etmek mümkündür (Özkalp ve Yıldız, 2018).

Stres dediğimiz olgu her mesleğin ya da işin doğasında bulunmaktadır. Belirli bir düzeye kadar çalışan performansını pozitif olarak etkileyen stresin, aşırı seviyelerde olması ise çalışanların performanslarını olumsuz yönde etkilemektedir (Kyriacou, 2001). Bu noktada yoğun iş temposu, örgütlerinin artan beklentileri vb. durumlar sebebiyle çalışanların, yaşadıkları şiddetli iş stresinden bir miktar uzaklaşabilmek veya bir süre yaşadıkları iş stresinin şiddetini bir miktar azaltabilmek adına gösterdikleri davranışlardan bir tanesi sanal kaytarma davranışıdır. Bu anlamda literatüre bakıldığında, çalışma saatleri içinde çalışanların iş ile ilgili olmayan internet faaliyetlerinde bulunması olarak tanımlanan sanal kaytarma davranışı göstermeleri neticesinde iş streslerinin azalabileceği ifade edilmektedir (Henle ve Blanchard, 2008; Koay vd., 2017; Çivilidağ, 2017; Özkalp ve Yıldız, 2018; Özüdoğru ve Yıldırım, 2020; Alqahtani, Innab, Alammar, Alkhateeb, Kerari ve Alharbi, 2022). Diğer bir deyişle çalışanlar yaşadıkları aşırı iş stresinden bir süre uzaklaşabilmek ya da bu stresi bir miktar azaltabilmek amacıyla sanal kaytarma davranışı göstermektedir. Dolayısıyla sanal kaytarma stresle başa çıkma yöntemlerinden biri olarak düşünülebilir. Başa çıkma teorisine göre, bir kişi çevreden stresli bir girdi aldığı anda, stresin yarattığı tehdidi ve onu yönetmesine yardımcı olacak kaynakları değerlendirmektedir (Lazarus ve Folkman, 1984). İnternetin insanların hayatında yaygınlaşması ve internete girmenin akıllı telefon, tablet gibi cihazlarla kolaylaşmasıyla birlikte kişiler stresli durumlarla başa çıkmak için çalışma saatlerinde kişisel internet kullanımına daha fazla zaman harcamaya başlamışlardır. Bu sayede bir çalışanın dikkatini işle ilgili sorumluluklardan sosyal veya boş zaman faaliyetlerine yönlendirme uygulaması, çalışanın kendisini stresli çalışma ortamından ayırmasına ve stresini azaltmasına yardımcı olabilmektedir (Stoddart, 2016). Bu aynı zamanda sanal kaytarmaya yönelik olumsuz olan bakış açısının değişmesine de sebep olabilecektir. Teorik temeller ve literatüre bakarak benzer sonuçların sosyal sanal kaytarma içinde olabileceği düşünülmektedir.

### **Bilinçli farkındalığın moderatör etkisi**

Kişinin dikkatini şimdiki zamanda olup bitenlere vermesi, şimdiki zamanda gerçekleşen olayların farkında olması olarak ifade edilen bilinçli farkındalık; kişinin bunu yaparken yargılayıcı bir tutum sergilemeden kabul edici bir tavır göstermesidir (Brown ve Ryan, 2003). Diğer bir deyişle, bilinçli farkındalık, insanın geçmişte yaşadığı olaylar ve duygulardan çok fazla etkilenmeden anı kabullenmesi ve onaylaması olarak tanımlanmaktadır (Bishop, Lau, Shapiro, Carlson, Anderson, Carmody ve Devins, 2004). Ek olarak bilinçli farkındalık, kişinin duygularının farkında olmasını ve duygularını doğru algılamasını sağlamakta ve bu duyguları daha iyi düzenleme ve yönetme fırsatı sunmaktadır (Deniz, Erus ve Büyükcibeci 2017).

Uzun süredir klinik psikoloji alanında depresyon ve anksiyete gibi hastalıkların tedavi edilmesinde kullanılan bilinçli farkındalığın pozitif etkileri çalışma hayatında da keşfedilmeye başlamıştır. Pek çok örgüt çalışanların iyi oluşlarını ve etkinliklerini geliştirmek için farkındalık eğitim programları gerçekleştirilmektedir (Hyland, Lee ve Mills, 2015). Bilinçli farkındalık düzeyi yüksek olan bireyler, karar

verirken daha dikkatli, daha dengeli ve daha sakin hareket ederler, bu da onların stres seviyelerini düşürmeyi sağlayabilir. Kişilerin stres seviyelerinin düşük olmasından dolayı bu kişiler daha az stresle başa çıkma teknikleri kullanmaktadırlar (Weinstein, Brown ve Ryan, 2009). Aynı zamanda bilinçli farkındalıkları yüksek olan bireyler hayatlarının herhangi bir evresinde bir problem ile karşı karşıya kaldıklarında bu sıkıntı yaratan durumdan kaçmadan veya bu sıkıntıyı bastırmaya çalışmadan olduğu haliyle kabul edebilme, içinde buldukları anı yargılamadan yaşayabilme, dikkatlerini ve farkındalıklarını bedenlerine ve zihinlerine verebilme ve böylece duygu ve düşünceleri ile ilgili farkındalık sahibi olabilme gibi becerilere sahiptirler (Özyeşil, Arslan, Kesici ve Deniz, 2011). Buradan yola çıkarak bilinçli farkındalık, şimdiki zamana yönelebilmeye, stresle başa çıkmada ve duyguları düzenleyebilmede aktif rol almaktadır. Bu durum göz önünde bulundurulursa, sosyal sanal kaytarma davranışını azaltacağı düşünülebilir. Bu bağlamda aşağıdaki hipotez geliştirilmiştir.

## Yöntem

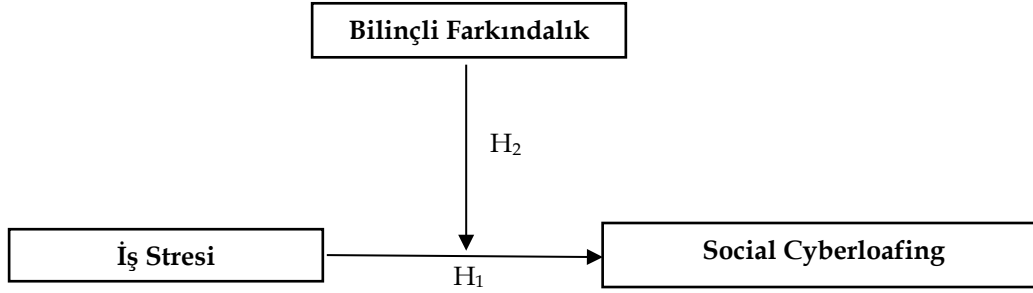
### Araştırmanın amacı, hipotezleri ve modeli

Bu çalışmanın amacı, iş stresinin sosyal sanal kaytarma üzerindeki etkisinde bilinçli farkındalığın moderatör rolünün banka çalışanları üzerinde araştırılmasıdır. Bu amaç doğrultusunda aşağıdaki hipotezler geliştirilmiştir.

*H<sub>1</sub>: İş stresi sosyal sanal kaytarma davranışı gösterme eğilimini arttırmaktadır.*

*H<sub>2</sub>: İş stresinin sosyal sanal kaytarma üzerindeki etkisinde bilinçli farkındalığın moderatör rolü bulunmaktadır.*

Araştırma hipotezlerini test etmeye yönelik oluşturulan model de aşağıda görülmektedir (Şekil 1).



**Şekil 1:** Araştırmanın Modeli

**Kaynak:** Yazar tarafından üretilmiştir

### Araştırmanın örnekleme ve veri toplama süreci

Günümüzde çok yoğun olarak yaşanan rekabet, teknoloji başta olmak üzere her şeyin hızlı bir şekilde değişimi ve bunların sonucunda örgütlerin çalışanlarından beklentilerinin artması çalışanların büyük oranda iş stresi yaşamalarına neden olmaktadır. Türkiye’de bankacılık sektörü, çalışanların davranışlarına yansıyan yıkıcı bir rekabete sahiptir. Yaşanan son dijital dönüşüm, iş modellerini ve istihdam politikalarını hızla değiştirmiştir (Yıldırım, 2020). Dijital bankacılık gibi çevrimiçi teknolojilerin yaygınlaşması sonucunda bankalar operasyonel maliyetlerini en aza indirebilmek için fiziksel olarak küçülmüşlerdir (Özer ve Çolak, 2022). Bu kapsamda şube sayılarının azalması ve çalışanların işten çıkarılması bankaların kendi bünyesindeki şubeler arasında bile yoğun rekabete neden olmuştur. Şube performansı ve karlılığı, şubeler arasında kimlerin ayakta kalacağını belirlemektedir. Genel Müdürlük tarafından belirlenen hedeflere ulaşmak, şube yöneticilerinin ve çalışanlarının hayatta kalması için kritik öneme sahiptir. Bu durumda çalışanlardan beklentilerin daha da artmasına neden olmaktadır. Bu vb. sebeplerden ötürü Türkiye’de bankacılık iş stresinin en çok yaşandığı sektörlerden birisidir. Bu çalışmanın örnekleme de Kocaeli’nde bulunan özel bankalarda çalışan 219 kişiden oluşmaktadır. Banka çalışanlarının tamamı ile iletişime geçmek mümkün olmadığından kolayda örnekleme yöntemi kullanılmıştır. Çalışanlara internet aracılığıyla ya da yüz yüze ulaşılmış ve anket aracılığıyla veriler toplanmıştır.

### Veri toplama aracı

Çalışmada verilerin toplanmasında kullanılan anket formu internet aracılığıyla ya da yüz yüze katılımcılara uygulanmıştır. Veri girişleri dijital ortamda yapılmıştır. Anket formunun ilk bölümü katılımcıların demografik bilgileri hakkındaki sorulardan oluşmaktadır. İkinci bölümünde ise araştırma kapsamında incelenen iş stresi, sosyal sanal kaytarma ve bilinçli farkındalık değişkenlerini ölçmeye



yönelik ölçekler yer almaktadır. Tüm ölçek maddeleri 5'li Likert derecelendirilmesine göre değerlendirilmiştir (1= Hiç Katılmıyorum; 5= Tamamen Katılıyorum).

**İş Stresi:** Katılımcıların iş stresi düzeylerinin ölçülmesi amacıyla House ve Rizzo (1972)'un geliştirdiği ve Efeoğlu (2006)'nun Türkçeye uyarladığı 7 maddelik tek boyutlu iş stresi ölçeği kullanılmıştır.

**Sosyal Sanal Kaytarma:** Katılımcıların sosyal sanal kaytarma davranışı gösterme eğilimlerinin ölçülmesi için Andreassen vd. (2014)'nin 13 madde olarak geliştirdiği, Wu vd. (2020)'nin 7 madde olarak değiştirdiği ve Yıldız ve Yıldız (2021)'in Türkçeye uyarladığı 7 maddelik tek boyutlu sosyal sanal kaytarma ölçeği kullanılmıştır.

**Bilinçli farkındalık:** Katılımcıların bilinçli farkındalık düzeylerinin ölçülmesi amacıyla Brown ve Ryan (2003)'nin geliştirdiği ve Özyeşil vd. (2011)'nin Türkçeye uyarladığı, 15 maddelik tek boyutlu bilinçli farkındalık ölçeği kullanılmıştır.

### Verilerin analiz yöntemi

Bu araştırmada anket çalışması ile elde edilen veriler SPSS paket programı ile analiz edilmiştir. Bu kapsamda katılımcıların demografik özelliklerine ait tanımlayıcı analizler, araştırma değişkenleri ile ilgili olarak yapılan faktör analizi, güvenilirlik analizi, SPSS aracılığı gerçekleştirilmiştir. Araştırma kapsamında geliştirilen hipotezlerden, iş stresinin sosyal sanal kaytarma üzerindeki etkisi ile ilgili hipotez SPSS paket programı ile regresyon analizi yapılarak test edilmiştir. İş stresinin sosyal sanal kaytarma üzerindeki etkisinde bilinçli farkındalığın moderatör rolü ile ilgili hipotez ise SPSS paket programı için Andrew Hayes'in geliştirmiş olduğu PROCESS makrosu Model 1 kullanılarak test edilmiştir.

## Bulgular

### Araştırmaya katılan bankacıların demografik bilgileri

Araştırmaya katılan 284 öğretmene ait demografik bilgiler Tablo 1'de sunulmuştur.

**Tablo 1:** Katılımcıların Demografik Özellikleri

Özellikler		Sayı (N)	Yüzde (%)	Özellikler		Sayı (N)	Yüzde (%)
Cinsiyet	Kadın	123	56,3	Toplam Hizmet Süresi	1 yıldan az	10	4,7
	Erkek	96	43,7		1 ile 5 yıl arası	53	24,3
Yaş	20 ile 30 yaş arası	78	35,7		6 ile 15 yıl arası	115	52,6
	31 ile 40 yaş arası	112	51,2		16 ile 25 yıl arası	27	12,5
	41 ile 50 yaş arası	29	13,1		25 yıldan fazla	13	5,9
Eğitim	Önlisans/Lisans	180	82,1		Görev Yaptıkları Bankadaki Hizmet Süresi	1 yıldan az	6
	Lisansüstü	39	17,9	1 ile 5 yıl arası		117	53,6
Medeni Durum	Evli	157	71,6	6 ile 10 yıl arası		57	26,2
	Bekâr	60	27,3	11 ile 15 yıl arası		31	14,3
	Boşanmış	2	1,1	15 yıldan fazla		7	3,1

**Kaynak:** Yazar tarafından üretilmiştir.

Araştırmaya katılan bankacıların, %56,3'ü kadın (n=123), %43,7'si erkektir (n=96) ayrıca, %35,7'si 20 ile 30 yaş (n=78), %51,2'si 31 ile 40 yaş (n=112), %13,1'i 41 ile 50 yaş aralığındadır (n=29). Tablo 1 incelendiğinde bankacıların büyük bir kısmının ön lisans/lisans mezunu (%82,1; n=180) olduğu görülmektedir. Medeni durumlarına bakıldığında %71,6'sının evli (n=157), %60'ının bekâr (n= 60) olduğu anlaşılmaktadır. Sektördeki toplam hizmet süreleri incelendiğinde bankacıların %29'unun 5 yıl ve daha az (n=63), %52,6'sının 6 ile 15 yıl (n=115), %12,5'inin 16 ile 25 yıl arası (n=27), %5,9'unun 25 yıldan fazla (n=13) kıdemi bulunmaktadır. Hâlihazırda çalışmakta oldukları bankadaki hizmet süreleri incelendiğinde ise bankacıların %56,4'ünün 5 yıl ve daha az (n=123), %26,2'sinin 6 ile 10 yıl (n=57), %14,3'ünün 11 ile 15 yıl arası (n=31) ve %3,1'inin 15 yıl üzeri (n=7) hizmet süresi bulunmaktadır.

### Faktör analizleri

Araştırmada, faktör analizi her bir ölçeğin faktör yapısını görebilmek için kullanılmıştır. Bu anlamda temel bileşenler analizi ve dikey döndürme yöntemlerinden varimax yöntemi uygulanmıştır. Ardından verilerin faktör analizine uygunluğunun tespit edilmesi maksadı ile Kaiser-Meyer-Olkin (KMO) (Örneklem Yeterliliği Ölçütü) ve değişkenlerin birbirleriyle olan ilişkilerinin anlamlı olup olmadığını belirlemek amacıyla Bartlett Küresellik Testi uygulanmıştır. KMO katsayısı 0 ile 1 arasında değişen bir katsayı olup 0,60'ın üzerinde olması gerekmektedir. Bartlett Küresellik Testi neticesinin ise  $p < 0,05$  çıkması istenmektedir (İslamoğlu ve Alnaçık, 2019).

Bu anlamda öncelikle ölçeklerin güvenilirlik analizi yapılmıştır. Ölçeğin güvenilirliği, iç tutarlılık katsayısı olan Cronbach  $\alpha$  (Cronbach's Alpha) katsayısı kullanılarak değerlendirilmiştir (İslamoğlu ve

Alnaçık, 2019). Ardından örneklemin faktör analizi için uygun ve yeterli olup olmadığını tespit etmek maksadı ile Kaiser-Meyer-Olkin (KMO) testi uygulanmış ve son olarak da boyutlar elde edilmiştir.

**Tablo 2:** İş Stresi Ölçeğine Ait Faktör Analizi ve Güvenilirlik Testi

İş Stresi Ölçeği İfadeleri	Faktör Yükleri
İşimle ilgili sorunlar uyku sorunu yaşamama neden oluyor	0,946
Evde olduğum zamanlar başka işler yapıyor olsam da sıklıkla işimle ilgili konuları düşünüyorum.	0,943
İşim sağlığıma doğrudan etkilemektedir.	0,929
Oldukça büyük bir gerilim altında çalışıyorum.	0,921
İşimden dolayı kendimi sınırlı hissediyorum.	0,919
Kurumumda düzenlenen toplantılar öncesi kendimi gergin hissediyorum.	0,916
Farklı bir işte çalışıyor olsam sağlığım muhtemelen daha iyi olur.	0,905
	KMO 0,927
	Bartlett Küresellik Testi Ki-Kare 2.102,292
	df 21
	p değeri 0,000
Toplam Açıklanan Varyans / Cronbach Alpha Katsayısı	%85,65 / 0,904

İş stresi ölçeği ile ilgili olarak güvenilirlik testi neticesinde Cronbach  $\alpha$  katsayısı 0,904 çıkmış olup bu durum ölçeğin güvenilir olduğu anlamına gelmektedir. KMO değeri 0,927 olarak hesaplanmıştır. Bartlett Küresellik Testi neticesi ise istatistiksel olarak anlamlıdır ( $p=0,000<0,05$ ). Böylece, örneklem faktör analizi için uygun ve yeterlidir. Faktör analizine devam edilerek elde edilen Tablo 2'deki verilere göre faktör yükleri 0,946 ile 0,905 arasında değişmektedir. Faktör analizi neticesinde orijinali tek boyut olan ölçek, özel banka çalışanlarına uygulanmış halinde de tek boyut altında toplanmış olup toplam varyansın % 85,65'ini açıklamaktadır.

**Tablo 3:** Sosyal Sanal Kaytarma Ölçeğine Ait Faktör Analizi ve Güvenilirlik Testi

Sosyal Sanal Kaytarma Ölçeği İfadeleri	Faktör Yükleri
Fırsat olduğunda, mesai saatlerinde sosyal medyayı kullanırım.	0,956
Mesai saatlerinde fırsatım olduğunda aile üyelerim veya arkadaşlarımla sosyal medyada paylaştığı içeriklere beğeni gönderir veya yorum yaparım	0,949
Mesai saatlerinde resim, video paylaşmak ve yorum yazmak için sosyal medyayı kullanırım	0,939
Mesai saatlerinde gündemi takip etmek ve aile üyelerim veya arkadaşlarımdan haberdar olmak için sosyal medyayı kullanırım.	0,938
Mesai saatlerinde aile üyelerim veya arkadaşlarımla sohbet etmek için sosyal medyayı kullanırım.	0,931
İşime ara verme ihtiyacı duyduğumda, mesai saatleri içinde sosyal medyayı (ör. Facebook, Instagram, Twitter, WhatsApp gibi) kullanırım	0,926
Mesai saatleri içinde güncel olayları takip etmek için sosyal medyayı kullanmaktan kendimi alamam.	0,925
	KMO 0,950
	Bartlett Küresellik Testi Ki-Kare 2.212,643
	df 21
	p değeri 0,000
Toplam Açıklanan Varyans / Cronbach Alpha Katsayısı	%87,91 / 0,886

Sosyal sanal kaytarma ölçeği ile ilgili olarak güvenilirlik testi neticesinde Cronbach  $\alpha$  katsayısı 0,886 çıkmış olup bu durum ölçeğin güvenilir olduğu anlamına gelmektedir. KMO değeri 0,950 olarak hesaplanmıştır. Bartlett Küresellik Testi neticesi ise istatistiksel olarak anlamlıdır ( $p=0,000<0,05$ ). Böylece, örneklem faktör analizi için uygun ve yeterlidir. Faktör analizine devam edilerek elde edilen Tablo 3'deki verilere göre faktör yükleri 0,956 ile 0,925 arasında değişmektedir. Faktör analizi neticesinde orijinali tek boyut olan ölçek, özel banka çalışanlarına uygulanmış halinde de tek boyut altında toplanmış olup toplam varyansın % 87,91'ini açıklamaktadır.

**Tablo 4:** Bilinçli Farkındalık Ölçeğine Ait Faktör Analizi ve Güvenilirlik Testi

Bilinçli Farkındalık Ölçeği İfadeleri	Faktör Yükleri
Eşyaları özensizlik, dikkat etmeme veya başka bir şeyleri düşündüğüm için kırırım veya dökerim.	0,939
Şu anda olana odaklanmakta zorlanırım.	0,938
Gideceğim yere, yolda olup bitenlere dikkat etmeksizin hızlıca yürüyerek gitmeyi tercih ederim.	0,938
Yaptığım şeyin farkında olmaksızın otomatiğe bağlanmış gibi yapıyorum.	0,938
Kendimi yaptığım işlere dikkatimi vermemiş bulurum.	0,938
Aktiviteleri gerçekte ne olduklarına dikkat etmeden acele ile yerine getiririm	0,933
Belli bir süre farkında olmadan bazı duyguları yaşayabilirim.	0,931
Kendimi bir kulağımla birini dinlerken aynı zamanda başka bir şeyi de yaparken bulurum.	0,931
Başarmak istediğim hedeflere öyle çok odaklanırım ki o hedeflere ulaşmak için şu an ne yapıyor olduğumun farkında olmam.	0,930
Ne yediğimin farkında olmaksızın atıştırıyorum.	0,930
Gideceğim yerlere farkında olmadan gidiyor, sonra da oraya neden gittiğime şaşırıyorum.	0,926
İşleri veya görevleri ne yaptığının farkında olmaksızın otomatik olarak yaparım.	0,925
Fiziksel gerginlik ya da rahatsızlık içeren duyguları, gerçekten dikkatimi çekene kadar fark etmeme eğilimim vardır.	0,923
Kendimi gelecek veya geçmişle meşgul bulurum.	0,920
Bir kişinin ismini, bana söylendikten hemen sonra unuturum.	0,916
	KMO 0,960
	Bartlett Küresellik Testi Ki-Kare 5.942,505
	df 105
	p değeri 0,000
Toplam Açıklanan Varyans / Cronbach Alpha Katsayısı	%86,56 / 0,865

Bilinçli Farkındalık ölçeği ile ilgili olarak güvenilirlik testi neticesinde Cronbach  $\alpha$  katsayısı 0,865 çıkmış olup bu durum ölçeğin güvenilir olduğu anlamına gelmektedir. KMO değeri 0,960 olarak hesaplanmıştır. Bartlett Küresellik Testi neticesi ise istatistiksel olarak anlamlıdır ( $p=0,000<0,05$ ). Böylece, örneklemin faktör analizi için uygun ve yeterlidir. Faktör analizine devam edilerek elde edilen Tablo 4'deki verilere göre faktör yükleri 0,939 ile 0,916 arasında değişmektedir. Faktör analizi neticesinde orijinali tek boyut olan ölçek, özel banka çalışanlarına halinde de tek boyut altında toplanmış olup toplam varyansın % 86,56'sını açıklamaktadır.

### Hipotez testleri

İş stresinin sosyal sanal kaytarma üzerindeki etkisi ile ilgili regresyon analizi sonucu Tablo 5'te sunulmuştur.

**Tablo 5:** İş Stresinin Sosyal Sanal Kaytarma Üzerindeki Etkisi ile İlgili Regresyon Analizi Sonucu

Bağımlı değişken: Sosyal Sanal Kaytarma			
Bağımsız Değişken-İş stresi	$\beta$	t	p
	0,621	11,684	0,000
$R^2= 0,386$	$F=136,521$		$p=0,000$

Tablo 5'e göre iş stresinin sosyal sanal kaytarma üzerindeki etkisini tespit etmek için kurulan regresyon modeli bir bütün olarak anlamlı olup ( $F=35,365$ ;  $p=0,000$ ) modeldeki bağımsız değişken, bağımlı değişkendeki varyansın yaklaşık %39'unu ( $R^2=0,386$ ) açıklamaktadır. Yapılan regresyon analizi sonucunda iş stresinin sosyal sanal kaytarmayı istatistiksel açıdan anlamlı ve pozitif yönde etkilediği bulunmuştur ( $\beta=0,621$ ;  $p=0,000$ ). Dolayısı ile  $H_1$  hipotezi desteklenmiştir.

İş stresinin sosyal sanal kaytarma üzerindeki etkisinde bilinçli farkındalığın moderatör rolü ile ilgili sonuçlar Tablo 6'da sunulmuştur.

**Tablo 6:** İş Stresinin Sosyal Sanal Kaytarma Üzerindeki Etkisinde Bilinçli Farkındalığın Moderatör Rolü

Bilinçli Farkındalığın Moderatör Etkisi				
Sosyal Sanal Kaytarma Sabit	$\beta$	Std. Hata	t	p
Bilinçli Farkındalık	-0,297	0,135	-2,203	0,028
İş stresi	0,646	0,150	4,971	0,000
İş Stresi x Bilinçli Farkındalık	-0,147	0,041	-3,574	0,000
Mesleki Özdeşleşme	Moderatör Etki $\beta$	Std. Hata	t	p
Bilinçli Farkındalığın Durumsal Etkisi =1SD-M+1SD				
M-İSS () Düşük	0,449	0,081	5,532	0,000
M () Orta	0,268	0,060	4,445	0,000
M+İSS () Yüksek	0,088	0,076	1,162	0,000
Model Özeti	R	R <sup>2</sup>	F	p
	0,747	0,558	633,672	0,000

Tablo 6'ye göre kurulan regresyon modeli istatistiksel açıdan anlamlıdır ( $R=0,747$ ;  $R^2=0,558$ ;  $F=633,672$ ;  $p<0,000$ ). Analiz sonuçları, iş stresinin sosyal sanal kaytarmayı istatistiksel açıdan anlamlı ve pozitif bir yönde etkilediğini göstermektedir ( $\beta=0,646$ ;  $p<0,00$ ).

Moderatör etki, iki değişken arasındaki ilişkinin üçüncü bir değişkenin farklı düzeylerinde değişmesidir (Baron ve Kenny, 1986). Moderatör değişken ise, bir bağımsız değişken ile bir bağımlı değişken arasındaki ilişkinin yönünü ve/veya gücünü etkileyen nitel ya da nicel üçüncü bir değişken olarak tanımlanmaktadır. Moderatör etkiyi analiz etmek için düzenleyici değişken ile bağımsız değişkenin çarpılması ile yeni bir değişkenin (etkileşim değişkeni) elde edilmesi gerekmektedir. Eğer etkileşim değişkeni anlamlı ise, moderatör etkinin varlığından söz edilebilir (Baron ve Kenny, 1986).

Bu çalışmada da moderatör etkinin analizi için Baron ve Kenny'nin (1986) önerdiği etkileşim değişkenini (İş stresi x Bilinçli farkındalık) modele dâhil etmek gereklidir. Tablo 6 incelendiğinde, iş stresinin sosyal sanal kaytarma üzerindeki etkisinde bilinçli farkındalığın moderatör rolünün istatistiksel açıdan anlamlı ve negatif yönde olduğu görülmektedir ( $\beta=-0,147$ ;  $p<0,000$ ). Buna göre bilinçli farkındalık düzeyleri düşük ( $\beta=0,449$ ;  $p<0,000$ ), orta ( $\beta=0,268$ ;  $p<0,000$ ) ve yüksek ( $\beta =0,088$ ;  $p<0,246$ ) olan banka çalışanları için iş stresinin sosyal sanal kaytarma davranış üzerindeki etkisi istatistiksel açıdan anlamlıdır. Diğer bir deyişle banka çalışanlarının bilinçli farkındalık düzeyleri arttıkça iş stresinin sosyal sanal kaytarma üzerindeki etkisi azalmaktadır. Dolayısıyla  $H_2$  hipotezi desteklenmiştir.

## Tartışma ve sonuç

Bu çalışmada banka çalışanları üzerinde, iş stresinin ve bilinçli farkındalığın sosyal sanal kaytarma üzerindeki etkileri analiz edilmiştir. Bu nedenle, iş stresinin sosyal sanal kaytarma üzerindeki direkt etkisi ve bilinçli farkındalığın moderatör etkisi incelenmiştir. Çalışanlar işin monotonluğundan, can sıkıcığundan ya da stresinden kurtulmak için interneti ya da sosyal medyayı kullanabilirler. Dolayısıyla çalışanlar iş stresi ile baş etme yöntemlerinden biri olarak sosyal sanal kaytarma davranışı sergileyebilirler. Literatüre bakıldığında iş stresinin sosyal sanal kaytarmayı etkilediği ile ilgili bir çalışmaya rastlanmamıştır. Ancak iş stresi ile sanal kaytarma kavramlarına yönelik çalışmalar mevcuttur (Henle ve Blanchard, 2008; Koay vd., 2017; Çivilidağ, 2017; Özkalp ve Yıldız, 2018; Özüdoğru ve Yıldırım, 2020; Alqahtani vd., 2022). Mevcut araştırma bulguları sonucunda, banka çalışanlarının yaşadıkları iş stresinin sosyal sanal kaytarma davranışını da istatistiksel açıdan anlamlı ve pozitif yönde etkilediği bulunmuştur. Dolayısıyla araştırma bulguları önceki çalışmaların sonuçları benzerlik göstermektedir.

Araştırmadaki moderatör değişken olan bilinçli farkındalık, kişinin dikkatini ve farkındalığını şu ana odaklaması, bu durumu kabul etmesidir (Shapiro ve Carlson, 2009). Diğer bir deyişle bilinçli farkındalık kişinin sevmediği ya da doğru olmasını istemediği gerçeklerden ya da duygulardan kaçınmadan kendisinde ve çevresinde neler olup bittiğinin farkında olmasını gerektirmektedir (Ericson, Kjønstad ve Barstad, 2014). Kişileri kontrollerinin ötesindeki sorunlar ve sonuçlar yerine ana konsantre olmaya teşvik ederek kişilerin streslerini yönetmelerine yardımcı olan kişisel bir kaynak olarak kabul edilmektedir (Grover, Teo, Pick, ve Roche, 2017). Örgütlerde de benzer bir şekilde bilinçli farkındalığı yüksek olan kişilerin daha az iş stresi yaşayacakları ve bu sebepten daha az sosyal sanal kaytarma davranışı gösterecekleri olası bir durumdur. Literatürde Mishra ve Tajeja'nın (2022) yaptıkları çalışma dışında söz konusu değişkenlerle ilgili bir çalışmaya rastlanmamıştır. İlgili çalışmada sanal kaytarma değişkeni kullanılmıştır. Sosyal sanal kaytarma daha önce çalışılmadığı için bu durum literatüre katkı sağlamaktadır. Bu çalışmada yapılan analizler sonucunda iş stresinin sosyal sanal kaytarma üzerindeki etkisinde bilinçli farkındalığın moderatör rolünün istatistiksel açıdan anlamlı ve negatif yönde olduğu görülmektedir. Diğer bir deyişle banka çalışanlarının bilinçli farkındalık düzeyleri arttıkça iş stresinin sosyal sanal kaytarma üzerindeki etkisi azalmaktadır.

Sosyal sanal kaytarma, yavaş ve özellikle bağımlılık yapan bir sanal kaytarma türüdür (Wu, Mei, Ugrin, Liu ve Wang, 2021). Sosyal medya ve internetin aşırı kullanımı çalışanların zamanını tüketerek ve yorgunluğa neden olarak yüksek kaygı ve depresyonu tetiklemektedir (Dhir, Yossatorn, Kaur ve Chen, 2018). Sürekli internet kullanımı enerji ve zaman alıcı bir davranış olmakla birlikte işyeri güvenliğini de azaltmaktadır (Abubakar ve Al-zyoud, 2021). Sosyal medya ağlarından gelen çevrimiçi mesajlar, çalışanların yanıt verme ihtiyacı hissetmelerine neden olarak planladıkları işleri aksatabilmektedir. İşlerine bu tarz ara vermeler çalışanlarda zaman baskısı yaratmakta ve çalışanların ruh sağlığını olumsuz etkilemektedir (Sonnentag, Reinecke, Mata ve Vorderer, 2018). Sosyal sanal kaytarmasının evrenselliği ve örgütler üzerinde yaratabileceği olumsuz etkisi göz önüne alındığında, bu durum örgütler açısından üzerinde durulması gereken bir konudur. Bu çalışmaya ışık tutan önceki çalışmaların çoğu sanal kaytarmayı verimsiz, sapkın bir iş davranışı olarak ele almıştır; ancak mevcut çalışma sosyal

sanal kaytarma değişkenini stresle başa çıkma yöntemi olarak inceleyerek değişkene yeni bir bakış açısı sağlamıştır. Sosyal sanal kaytarmanın iş stresi ile baş edebilmek için nasıl bir çare olabileceğini anlamak için ise başa çıkma teorisi dikkate alınmıştır. Böylece başa çıkma ve iş stresi literatürü birleştirilmiştir.

### **Araştırmanın sınırlılıkları ve öneriler**

Bu araştırmanın sınırlılıklarından biri araştırmanın sadece Kocaeli'ndeki özel bankalarda uygulanmasıdır. İleriki çalışmalar için örneklemin artırılması ve verilerin daha geniş bir alandan toplanması önerilmektedir. Diğer bir açıdan kamu sektöründen de verilerin toplanıp kamu ve özel sektör arasında karşılaştırmalar yapılmalıdır. Ayrıca, bu araştırmada bilinçli farkındalık etkileşim değişkeni olarak kullanılmıştır. Bundan sonraki çalışmalarda farklı değişkenlerin (örgütsel destek, örgütsel adalet, örgütsek özdeşleşme, örgütsel güven vb.) kullanılması önerilmektedir. Böylece değişik sonuçlara ulaşılabileceği düşünülmektedir. Sonuç olarak ilgili değişkenlerle ilgili Türkiye ve yurtdışında çalışmaların mevcut olması ile birlikte farklı etkileşim değişkenleri ve daha geniş örnekleme başka araştırmaların yapılması hatta, nitel araştırmalarla da desteklenmesi önerilmektedir.

Mevcut çalışma sosyal sanal kaytarmanın örgütler açısından olumsuz taraflarının yanı sıra olumlu bir tarafının da olduğunu göstermektedir. Başka bir deyişle, sosyal sanal kaytarma çalışanların streslerini yönetmeleri için bir kaynak görevi görmektedir. Sosyal medyayı kullanmak, çevrimiçi haberleri okumak vb çalışanların rahatlamasına, taze ve sakin bir zihinle işe dönmelerine yardımcı olmaktadır. Dolayısıyla yöneticiler etkili bir şekilde kullanıldığında sosyal sanal kaytarma şeklindeki küçük araların çalışanlar için stresli durumlardan geçici olarak uzaklaşma şekli olabileceğini de düşünmelidirler. Örgüt içerisinde sosyal sanal kaytarma ile ilgili önlemler ya da kısıtlamalar getirilecekse yöneticilerin bu tarz davranışlara bütüncül olarak bakmaları gerektiği önerilmektedir. Son olarak bu çalışmada bilinçli farkındalık düzeyi yüksek olan çalışanlarda iş stresinin sosyal sanal kaytarma üzerindeki etkisi daha az olduğu ortaya çıkmıştır. Bu sonuçtan yola çıkılarak örgütlerde çalışanların iyi oluşlarını ve etkinliklerini geliştirmek için farkındalık eğitim programlarının uygulanması faydalı olacaktır. Bu sayede çalışanlar performanslarını olumsuz yönde etkilemeyen ve örgüt hedeflerinin gerçekleşmesini engellemeyen kabul edilebilir sosyal sanal kaytarma seviyelerini belirleyebileceklerdir.

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## Data mining application with machine learning algorithms to manage interest rate risk

### Faiz oranı riskini yönetmek için makine öğrenimi algoritmaları ile veri madenciliği uygulaması

Enes Koçoğlu<sup>1</sup> 

Filiz Ersöz<sup>2</sup> 

#### Abstract

In trade, the risks taken may increase the expected income; however, they may also cause large amounts of losses as well. Banks transfer the capital and the deposits they collect from their clients to the individuals or institutions in need of profit, taking certain risks into account. One of the important risks taken in this process of capital transfer is the market's change in interest or profit share rates. If the bank transfers the deposit collected with a certain commitment to the market at a lower rate, it will make a loss. Models for predicting future interest or profit share rates gain importance for preventing this situation. The aim of this study is to determine which variables will be taken into account for the loan interest rate that banks will offer to their customers during the lending process, and to create a machine learning model that can predict the loan interest rate that the bank will offer to its customers by using these variables. Multiple Linear Regression analysis was performed to demonstrate the relationship between the variables selected based on the literature review, expert opinions, and the interest rate. In order to facilitate decision-makers in practice, Random Forests, Decision Trees, K-Nearest Neighbours (KNN), Artificial Neural Networks (ANN), and Support Vector Machine (SVM) algorithms from machine learning algorithms were compared by using the prediction model. Accuracy Rate, Cohen's Kappa, Precision, Sensitivity, and F-Measure measurements were used to compare the algorithms used in the study. According to the analysis results, it was observed that the Random Forest algorithm was more successful on the first model consisting of weekly data. The Decision Tree algorithm succeeded more on the second model consisting of monthly data prediction performance. In the model consisting of weekly data, USD Selling Price, Stock Index (BIST100), and Central Bank Gold Reserve from the Multiple Linear Regression variables were found significant in affecting the interest rate.

**Keywords:** Data Mining, Decision Tree, Machine Learning, KNN, ANN, Random Forest, SVM

**Jel Codes:** C45, C51, C53

#### Öz

Ticarette alınan riskler beklenen getiriye artırabilir; ancak büyük miktarlarda kayıplara da neden olabilirler. Bankacılıkta alınan önemli risklerden biri de piyasadaki faiz veya kâr payı oranlarının değişmesidir. Banka belli bir taahhülle topladığı mevduatı piyasaya daha düşük bir oranda kredi olarak kullandırsa zarar etmiş olur. Bu çalışmada, bankaların kredi verme sürecinde müşterilerine teklif edeceği kredi faiz oranı için hangi değişkenlerin dikkate alınacağını belirlemek ve bu değişkenleri kullanarak bankanın müşterisine teklif edeceği kredi faiz oranını tahmin edebilecek bir makine öğrenimi modeli oluşturulması amaçlanmıştır. Karar vericilere uygulamada kolaylık sağlamak amacıyla makine öğrenimi algoritmalarından Random Forest, Decision Tree, K-En yakın Komşular (KNN), Yapay Sinir Ağları (YSA) ve Destek Vektör Makinesi (SVM) algoritmaları tahmin modeli kullanılarak karşılaştırılmıştır. Analiz sonuçlarına göre, tahmin performansı açısından Random Forest algoritmasının haftalık verilerden oluşan birinci modelde, Karar Ağacı algoritmasının aylık verilerden oluşan ikinci modelde daha başarılı olduğu görülmüştür. Haftalık verilerden oluşan modelde Çoklu Doğrusal Regresyon'dan ABD Doları Satış Fiyatı, Hisse Senedi Endeksi (BİST100) ve Merkez Bankası Altın Rezervi değişkenlerinin faiz oranını etkilemede anlamlı olduğu görüldü. Aylık verilerin Çoklu Doğrusal Regresyon analizi sonuçlarına göre, faiz oranını etkileyen en önemli değişken sırasıyla Enflasyon Oranı ve İşsizlik Oranı olmuştur. Tüketici Fiyat Endeksi, Sanayi Üretim Endeksi ve İstihdam Oranı değişkenlerinin faiz oranını etkileme açısından anlamsız olduğu görülmüştür.

**Anahtar Kelimeler:** Veri Madenciliği, Karar Ağaçları, Makine Öğrenimi, KNN, YSA, SVM

**JEL Kodları:** C45, C51, C53

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## Introduction

The success of decisions depends on external environmental factors (Tekin, 2016). Knowing the conditions and constraints of the environment in which the decision is made is necessary. In case the environment in which the decision is made cannot be defined correctly, the decisions taken cannot be classified systematically and made into data to be used when needed. Classification of the environments in which the decision is made reduces the cost of accessing information when a decision output is needed in a similar environment in the future by focusing on the decision outputs regarding the appropriate environment. Experiences gained, and scientific studies constitute the basis to be contributed by future generations.

When making decisions in uncertain environments, there is a possibility that the decision will be affected in the future. Therefore, the decision-maker should make the right choice by considering different possibilities. The "Behavioral Approach" developed by Kahneman and Tversky investigated the decisions taken in uncertain environments and observed that the fear of losing is more dominant than the desire to win in individuals. The results of this research showed that; numbers are not always important in decision making. As a result of the experiments, they revealed that the pain experienced by individuals in the event of losing was twice the satisfaction they experienced in the event of winning (Şentürk & Fındık, 2014). In determining banks' interest rates, decision-makers may adopt a behavioural approach due to the fear of losing when many variables must be considered, probabilities must be calculated, and there is intensive uncertainty.

Developing countries aimed to target interest rates rather than monetary aggregates due to the instability in money demand after the 1970s. Instead of increasing the monetary resource, countries attempted to create the required resource by managing the interest rate correctly. Some of the countries adopted inflation-oriented policies for managing the interest rate. The common objective of the two goals was to ensure price stability of monetary policy, which was achieved (Mishkin, 2000). As a result of historical economic processes, central banks have had to make the right decisions regarding the interest rate to ensure market stability in the country. Except for the central bank, all banks that provide services must manage the interest risk.

Data mining applications allow the decision maker to assess the risk of a process better so that they can determine optimal operational decisions with the overall risk condition and react promptly to economic and environmental changes (Chen, Wang, Yang, Ng & Cheng, 2022; Ersöz, 2019; Koçoğlu & Ersöz, 2021).

In times of financial crisis, uncertainties affect the accuracy of decisions made by professional analysts or decision-makers of banks regarding the prediction of interest rates. The continuity of the relationships between financial instruments in the long term should be considered along with their directions if they are to continue. The high level of uncertainty may make it difficult for decision-makers to take similar decisions. Measurement of uncertainty may be important in terms of the early signals from the market that decision-makers should perceive (Kunze, Wegener, Bizer & Spiwoks, 2017). When introducing a loan product to the market, incorrect prediction of the future interest rate risks causing major losses for banks.

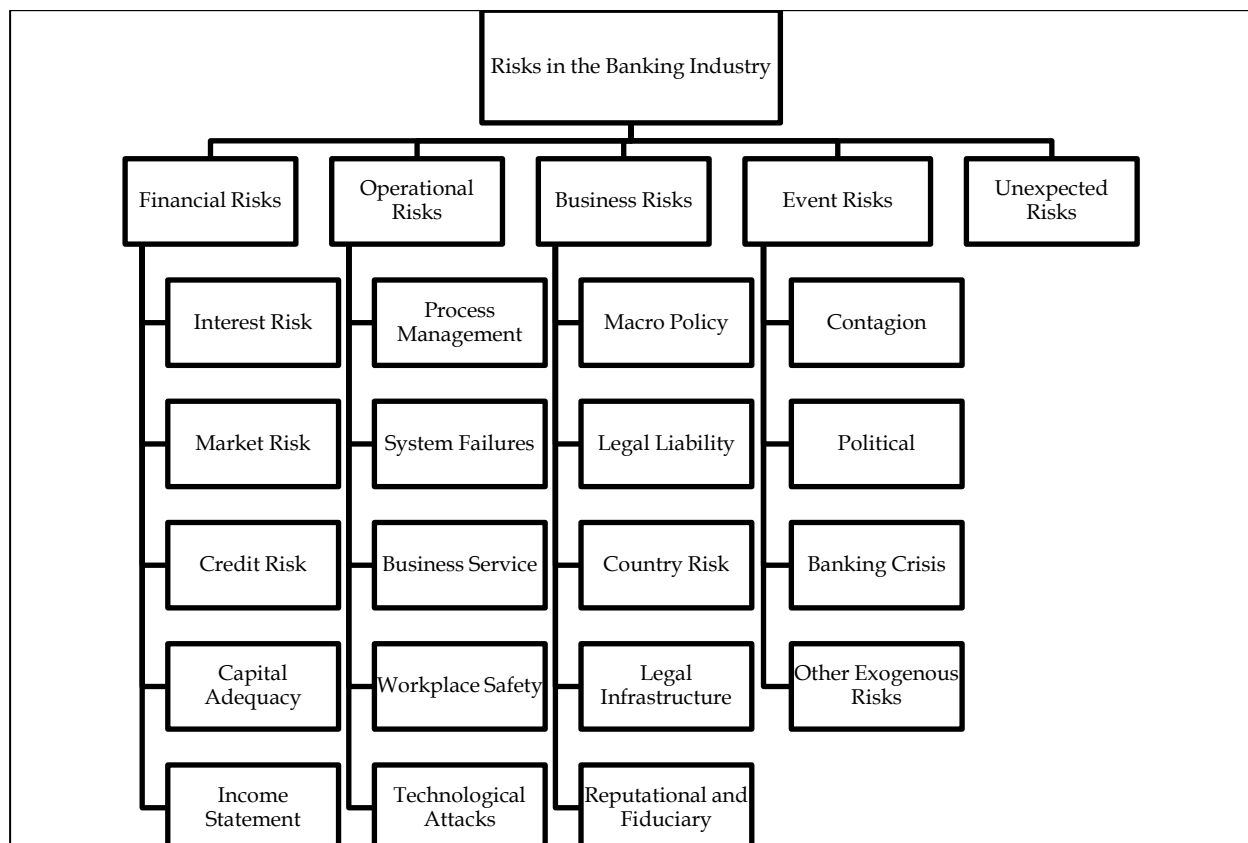
The problem of predicting the future direction of the interest rate is one of the most important problems in the field of finance. The correlation of interest rates with many other economic variables creates non-linear cycles. As a result, it is difficult to predict the price, exchange rate, time, direction, etc., in financial markets, which have a dynamic nature. The reason for this difficulty is the presence of mixed, complex and non-linear time series. The reason why linear time series cannot be formed is that financial markets are affected by politics, investors, and the overall economy (Bezerra & Albuquerque, 2017; Diaz, Theodoulidis & Dupouy, 2016; Göçken, Özçalıcı & Boru, 2016; Henrique, Sobreiro & Kimura, 2019; Tay & Cao, 2001; Zhang, Lin & Shang, 2017; Zhong & Enke, 2017).

Thanks to their market power, banks have a 1.3% lower cost advantage when they receive deposits with interest or dividend payments at the end of a certain maturity. Increasing the market power is observed to affect the cost of deposits collected. In case the collected deposits are distributed as loans, the banks' profit margin decreases by an average of 40 basis points as a result of the 1% decrease in the interest rates. Banks' profits constantly fall in markets with permanently low-interest rates (Whited, Wu & Xiao, 2021). Therefore, the ability of the banks to predict the interest rates for granting loans is important in managing profitability.

Xiao-Lin Li et al. (2021) studied how interest rates affected the bill market, bond market, and banks, considering the variability caused by the non-linear movement of interest rates within the monetary policy in China. According to the results, changes in monetary policy were observed to negatively affect

the market interest rates applied in other banks and the positive interbank interest rates. These findings proved that lowering interest rates in China would not have the desired effects on the real economy (Li, Si & Ge, 2021). This finding indicates that it is necessary to focus on effectively managing interest rates for the market rather than reducing or increasing them. In addition, possible predictions at certain maturity ranges are required for effective interest management.

According to the studies in the literature, ANN and SVM techniques have been considered common and useful tools for modelling the complex relationships between interest rates and relevant variables (Diaz et al., 2016). Henrique et al. (2019) reviewed 57 studies on machine learning techniques used to predict financial markets. According to the results, they observed that SVM, ANN, and Random Forest techniques were the most frequently used algorithms for prediction (Henrique et al., 2019).



**Figure 1:** Banking Risk Exposure

Source: (Greuning & Iqbal, 2008).

The banking sector risks seen in Figure 1 are significant enough to endanger the bank's operations when realized. Risks must be managed to prevent these risks that may occur. Generally, the first thing that comes to mind is the credit dilemma when considering risk in the banking sector. Risk management is more important than credit swamps in the banking sector. For example, incorrect calculation of interest rates at the stage of granting a loan may cause operating losses that will damage the long-term balance sheets of banks. Therefore, interest rate risk is important in banking.

In this study, the variables affecting the interest rate risk, one of the financial risks, will be examined. Although the risks in the banking sector are high, the importance of interest risk is very high among the risks. It may be a problem for the bank to continue its activities without correctly managing the interest rate. For this reason, banks that can predict the interest rate risk correctly can earn more profit from their activities. On the other hand, banks that cannot manage interest rates correctly may suffer operating losses.

This study aimed to present a model that can produce predictions for the loan interest rate or profit share rate to be offered to the client regarding the granting of loans, which is one of the main duties of banks, by determining which variables to consider and which machine learning methods to use. Multiple Linear Regression analysis was performed to demonstrate the relationship between the variables selected based on the literature review, expert opinions, and the interest rate. In addition, random Forest, SVM, Decision Tree, KNN and ANN algorithms from machine learning algorithms were

compared over the prediction model to increase its applicability in practice and facilitate decision makers work. Accuracy Rate, Cohen's Kappa, Precision, Sensitivity, and F-Measure measurements were used for performances used in the study.

## Literature

The studies in the literature about the variables affecting interest rates and the algorithms used for prediction in the world are presented in the following paragraphs. The variables of this study were selected after the literature review.

Oh & Han (2000) made predictions for interest rates using the neural network models by determining the points of change formed by the government's interventions, obtaining significant intervals divided from the points of change, and predicting the interest rates by taking these intervals into account. A backpropagation neural network algorithm was used to detect the points of change and make predictions after detection. According to the results of the analysis, it was observed that determining the point of change was an important tool for improving performance. Furthermore, this model has been proven to significantly increase the predictability of interest rates (Oh & Han, 2000).

Created a prediction model for predicting inflation in India by using the data of the central bank between 2000 and 2012 in the ANN model. The model's accuracy was found to be satisfactory compared to the current predictions (Thakur, Bhattacharya & Mondal, 2016).

Gupta & Kotze (2017) used the Bayes Vector Autoregression model to investigate the effect of oil prices on the prediction of interest rates in South Africa based on the data, including CPI, exchange rates, oil prices, and interest rates between the years 1979 and 1997. According to the results, the model was observed to provide successful predictions when making long-term decisions and tend to outperform traditional approaches (Gupta & Kotzé, 2015). Çolak & Karahan (2017) examined the causality relationship between the exchange rate and interest rate from 2002 to 2016 using the ARDL model. The results showed a negative relationship between exchange rate and interest rates in the long run (Çolak & Karahan, 2017).

Karahan & Gürbüz (2017) analysed the relationship between consumer loans and inflation for 2002 and 2016 using the Johansen Cointegration test. According to the results, inflation was observed to have a stronger effect on individual bank loans. This reveals the necessity of reducing inflation to reduce the pricing of bank loans (Karahan & Gürbüz, 2016).

Assefa et al. (2017) investigated the relationship between interest rates and stock returns between 1999 and 2013 in 40 countries. The results demonstrated the significant effects of interest rates on stock returns in developed economies. According to the results, only the global market affected stock returns in developing countries (Assefa, Esqueda & Varella, 2017).

The relationship between interest rates and inflation was brought to the literature by Irving Fisher in 1930. According to Fisher, the nominal interest rate refers to the sum of the expected real interest rate and the expected inflation rate. According to the hypothesis of Fisher, inflation was the main determinant of interest rates; when the inflation rate increased by one per cent, the interest rate increased at the same rate (Bal, Erdoğan & Palandökenlier, 2019).

Güler & Özçalık (2018) performed a statistical analysis, the Granger causality test, and Vector Auto Regression analysis to reveal the relationships between BIST 100 index, USD index, mean CBRT interest rates, and dollar/TL exchange rate between 2016 and 2018. According to the results, all variables were observed to be related to each other (Güler & Özçalık, 2018). Erkişi (2018) analysed the data consisting of 38 observations between 1980 and 2017 with the VECM prediction algorithm to reveal the long-term effects of interest rates, money supply, and exchange rates on each other in Turkey. According to the prediction results, there was a positive and significant relationship between the exchange and interest rates. In addition, a significant and positive relationship was observed between the exchange rate and the money supply (Erkişi, 2018).

Kim & Shi (2018) used an ordinal profit model with quarterly frequency data from 1987-2013 to predict the two main interest rates in China: the benchmark interest rate and the lending rate. The linear Taylor rule was used as the algorithm for prediction. According to the results, it was observed that the exchange rate change was insignificant, and inflation was important in the central bank's decisions regarding the interest rate (Kim & Shi, 2018).

Güriş & İcen (2019) analysed the weekly data between 2009 and 2018 using the Harvey - Leybourne tests to determine the relationship between exchange rate, risk premium, and deposit interest rates. As a result, it was observed that the exchange rate affected the interest rates with a one-way non-linear

relationship, and the CDS premiums affected the exchange rate with a one-way non-linear relationship (Güriş & İçen, 2019).

İşcan & Kaygısız (2019) analysed the data between 2009 and 2017 using the Vector Autoregression (VAR) model to determine the relationship between inflation, exchange rate and interest rate. In addition, the causality relationship between the variables was investigated. According to the results, the exchange rate was identified as the cause of inflation and interest, and inflation was identified as the cause of interest. Furthermore, according to variance decomposition tests, the exchange rate was considered the most important factor in the interest rate and inflation (İşcan & Kaygısız, 2019).

Telçeken & Değirmen (2019) evaluated the relationship between loan rates and inflation within the framework of the Fisher Hypothesis. During the evaluation, the data from the 2002-2018 periods were used in the Granger Causality analysis. According to the results, there was a one-way causality relationship between the producer price index to the commercial loan interest rates and the consumer price index to the individual loan rates. In addition, according to the ARDL test performed, there was a long-term relationship between PPI and Commercial loan rates; however, there was no causality relationship between CPI and Personal loan rates (Telçeken & Değirmen, 2019).

Aksu & Emsen (2019) analysed nominal interest rates, logarithms of nominal exchange rates, and CPI rates between 2003 and 2017 using ARDL analysis. The results demonstrated that while inflation was affected by short-term nominal exchange rate changes, it was not affected by interest rates. In addition, interest rates were significantly affected by exchange rate changes, and exchange rate changes were strongly affected by interest rates (Aksu & Emsen, 2019).

Yenice & Yenisu (2019) used the data between 2003 and 2018 in the cointegration analysis with the ARDL bounds testing approach to examine the effect of exchange rates on inflation and interest rates. The Toda-Yamamoto test was performed to determine the causality relationship between the variables. According to the results, the exchange rate was seen as the cause of inflation and interest rate in one direction. In addition, there was a cointegration relationship between the interest and inflation rates. This finding confirmed the presence of the Fisher Hypothesis in Turkey (Yenice & Yenisu, 2019). Tursoy (2019) examined the relationship between interest rates and stock prices in Turkey using cointegration analysis, vector autoregression analysis and ARDL test. According to the results, interest rates and stock prices were observed to be significantly correlated with each other (Tursoy, 2019).

Apergis et al. (2019) used Bayesian Markov-Switching VECM models to investigate the effect of changes in interest rates on gold prices. According to the analysis results, a significant positive relationship was observed between gold prices and real interest rates. Furthermore, the actual output of the study was consistent across all G7 countries (Apergis et al., 2019). Yong & Dingming (2019) used the Bayesian vector autoregression model to investigate the effect of the news on the spending decisions of the US Government on interest rates. According to the results, it was observed that the increase in government expenditures led to a significant increase in interest rates both in the short and long term (Yong & Dingming, 2019).

Maehashi & Shintani (2020) analysed data from 219 variables formed between 1973 and 2018 with machine learning and factor models to predict the macroeconomic future in Japan. It was observed that factor models and machine learning algorithms outperformed traditional time series (AR) models in many cases; particularly, machine learning algorithms made better predictions in the long run. The success of machine learning stemmed from the generalization approach based on regression trees. As a result, factor models and the machine learning approach were suitable for macroeconomic forecasts such as the interest rate (Maehashi & Shintani, 2020).

Yıldırım & Sarı (2020) used ARDL and NARDL models to examine the effect of the inflation rate and exchange rate change on the interest rate of the Turkish economy for the period from January 2004 to April 2020. According to the results of the ARDL test, the integration effect of the inflation rate and the exchange rate was not observed in the determination of the interest rate. On the other hand, there was a relationship between the series in the NARDL model. According to the results, there was a relationship between the inflation rate and the interest rate in the long term. It was observed that the exchange rate was not effective in determining the interest rate in the long term (Yıldırım & Sarı, 2020).

Akın & Dağlıođlu (2021) examined the consumption phenomenon under consumption, uncertainty, and debt constraint. They analyzed the data between 2004-2019 to determine the relationship between the USD exchange rate, the share of household consumption expenditures in income, and the consumer confidence index. According to the results, there was a negative relationship between household loans, the USD exchange rate, and consumption expenditures. On the other hand, a positive relationship was found between the consumer confidence index, per capita income, and USD exchange rates. According

to the causality analysis, consumption expenditures were causally affected by the USD exchange rate, per capita income, household loans, and consumer confidence index both in the short and long term (Akin & Dağlıoğlu, 2021).

Garg & Prabheesh (2021) used daily interest rates and exchange rates data from January 31, 2020, to June 30, 2020, to reveal how the difference in interest rates would cause the exchange rate to change during the COVID-19 period. The ARLD algorithm was used for prediction and accuracy checks to observe the causality between the interest and exchange rates. According to the results, it was revealed that changes in exchange rates could be predicted by considering the differences in interest rates (Garg & Prabheesh, 2021). This finding raised the question of whether interest rates could be predicted using exchange rates. Salisu & Vo (2021) examined the behaviour of exchange rates and stock returns in low and high-interest rate environments. The study used inflation, stock, exchange rate, CPI, and oil prices as variables. The data used in the research were mostly obtained as weekly data from the website of the Federal Reserve (FRED). The Panel Autoregressive Distributed Latency (PARDL) model was used in the analysis. According to the results, the effects of low and high-interest rates were different in the short and long term. It was observed that the negative effect on stocks was higher in the short term in high-interest environments, and the negative effect on stocks was higher in the short term in low-interest environments (Salisu & Vinh, 2021).

Stolyarov & Tesar (2021) investigated how global factors affected the prediction of interest rates in the USA. Labour productivity, changing demographics, stock prices, inflation rate, annual economic growth, and bond prices were the variables used in the analysis. According to the results, the predictions derived from the data in which global factors were considered were more successful than those from the data consisting of local factors. In addition, the results indicated that the factors in the European and Asian markets strongly affected the USA's long-term interest rates (Stolyarov & Tesar, 2019).

## Methodology

First, the data and variables used in the research were defined in this part. Secondly, the algorithms used in the research were examined according to the literature.

In this article, detailed information about the methods is given, and information about how the methods are used in practice (For example, how do the authors configure the ANN method? What is the number of hidden layers? What is the learning rate?) is not given. In this article, the purpose of working in this way in the application part is to conclude by using the machine learning package program for those who will apply it faster and in practice using the Knime machine learning package program.

### Data and variables of the study

In this study, weekly and monthly data of the variables, which were thought to affect the interest rates in Turkey between the dates of 2014 - 2021, were used for analysis. The study consisted of open-source data published on tcmb.gov.tr and investing.com websites.

Variables; Loan Interest Rate, Gold Selling Price, Government Domestic Debt Securities, Foreign Debt Principal and Interest, USD Selling Price, Euro Selling Price, Central Bank Gold Reserve, Industrial Production Index, Unemployment Rate (%), Consumer price index (%), Stock Index (BIST100), Total Credit Volume, Employment Rate (%), Central Bank Gross Currency Reserve, Inflation Rate (%).

### Machine learning algorithms used in the study

Multiple Linear Regression analysis was performed to show the relationship between the variables selected based on the literature review, expert opinions, and the interest rate. In addition, random Forest, SVM, Decision Tree, KNN and ANN algorithms were compared over the prediction model to increase its applicability in practice and facilitate decision makers work. Accuracy Rate, Cohen's Kappa, Precision, Sensitivity, and F-Measure measurements were used for performances used in the study.

It was observed that six different parameters were used in the literature to evaluate the performances of different prediction algorithms. These parameters were as follows (Imran, Badrudduza & Rifat, 2019):

$$\bullet \text{ Precision} = \frac{TP}{TP+FP} \quad (1)$$

$$\bullet \text{ Specificity} = \frac{TN}{TN+FP} \quad (2)$$

$$\bullet \text{ Sensitivity (recall)} = \frac{TP}{TP+FN} \quad (3)$$

$$\bullet F \text{ measure} = 2 \times \frac{(\text{recall} \times \text{precision})}{(\text{recall} + \text{precision})} \quad (4)$$

$$\bullet \text{Cohen's Kappa} = \frac{P_0 - P_e}{1 - P_e} \quad (5)$$

$P_0$  = Relative observed agreement among accuracy.

$P_e$  = Hypothetical probability of chance agreement

$$\bullet \text{Accuracy} = \frac{TP + TN}{TP + FP + TN + FN} \quad (6)$$

$TP$  : True Positives (Positive tuples correctly labelled by the classifier.)

$FP$ : False Positives (Negative tuples incorrectly labelled as positive by classifier)

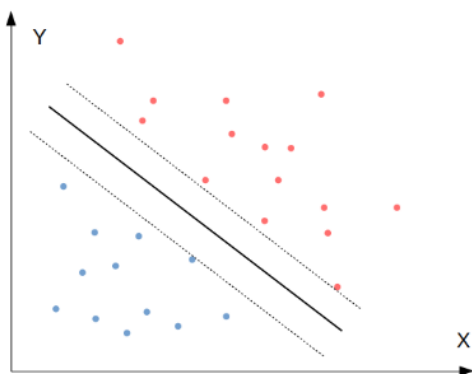
$TN$  : True Negatives (Negative tuples correctly labelled by the classifier.)

$FN$ : False Negatives (Positive tuples incorrectly labelled as negative by the classifier.)

The F measure value is the harmonic mean of the Precision and Sensitivity values. The factors used to reveal the advantages or weaknesses of the algorithms over each other are important. In this study, valuation factors frequently seen in the literature were preferred. The effects of factors on prediction abilities constitute the distinguishing features of algorithms.

### Support vector machine algorithm

Following the study of Lerner & Vapnik in 1963 and the study of Chervonenkis & Vapnik in 1964, it was used in a text, speech, and time series prediction of Vapnik & Cortes in 1995 (Cortes & Vapnik, 1995). As displayed in Figure 1, SVM finds a plane by dividing it into two areas with the maximum distance between the data over the hyperplane with the dispersed form of the data. The distance between the hyperplane and any data is called the margin. The data closest to the hyperplane on the two sides separated by the hyperplane are called support vectors (Nakagawa, Hochin, Nomiya, Nakanishi & Shoji, 2021). The structure of the SVM is displayed in Figure 2.



**Figure 2:** Support Vector Machine (SVM)

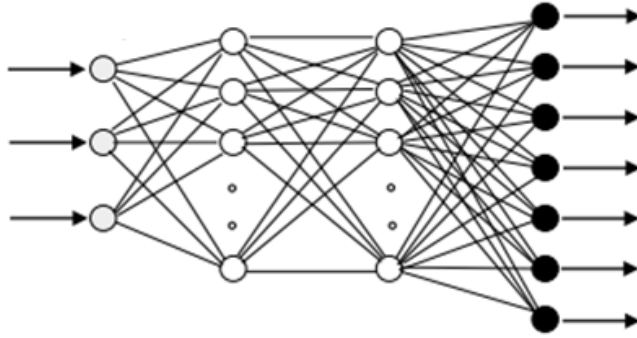
Each of the variables considered to affect the dependent variable in a data set does not equally affect the dependent variable. Therefore, the relationship effect of some variables may be more or less than those of other variables. Both high computational cost and performance decrease can be observed in the analysis made with the assumption that all variables are equally effective. For this reason, performance can be increased by feature selection or feature extraction algorithms. The feature extraction approach provides the optimal transformation with a lower dimension, which can represent the master data most effectively. The feature selection approach provides a transition from the original set containing the full features to the most representative subset (Guo, Zhang & Tang, 2021).

### Artificial neural network algorithm

ANN is a classifying data mining algorithm that can analyse and make sense of algorithms developed to make sense of the mixed data that are considered meaningless. ANN learns by exemplifying, similar to human beings. It makes inferences according to the old learning when new data is entered as a result



of learning. ANNs operate the process of information transfer and learning using connection tools such as neurons in human brains (Elmas, 2021). The structure of the ANN is presented in Figure 3.



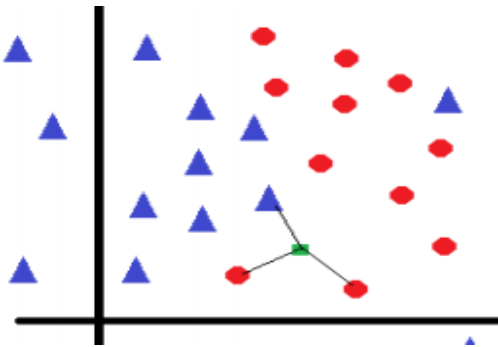
**Figure 3:** General Structure of ANN (Atalay & Çelik, 2017).

ANN is a data mining algorithm that is widely used in the literature in stock price determination, stock return determination, index return determination, credit scoring, and predictions about the economy, economics, finance and exchange rates (Aksoy, 2021; Altaş & Gülpınar, 2012; Çınaroğlu & Avcı, 2020; Ersöz, 2019b; Fıllız, Karaboğa & Akogul, 2017; Karakul, 2020; Kavcıoğlu, 2019; Taş, Gülüm & Tulum, 2021; Yiğiter, Sari & Başakin, 2017).

ANN is a single-layer, easy-to-apply model used in the solution of models with only linear variables (Çavdar & Aydın, 2018). As a result of comparing the ANN and SVM algorithms in solving problems such as credit rating prediction and stock market index prediction, the two algorithms were equally successful (Huang, Chen, Hsu, Chen & Wu, 2004; Kara, Acar Boyacıoğlu & Baykan, 2011). The results were observed to be very close to the real values in the stock pricing prediction made using the ANN algorithm (Çınaroğlu & Avcı, 2020). Models were created to predict the variables affecting the Borsa İstanbul (abbreviated as BIST-100) index. According to the results, it was demonstrated that the ANN algorithm could be used in finance (Karakul, 2020).

### K-Nearest Neighbours algorithm

The K-Nearest Neighbours (KNN) algorithm was first introduced in the early 1950s and started to be widely used in the 1960s. The KNN algorithm, widely used in machine learning, can be used for *Multiple Linear Regression* and classification as one of the supervised learning algorithms. The structure of the KNN is presented in Figure 4.



**Figure 4:** KNN Algorithm image (Çavuşoğlu & Kaçar, 2019)

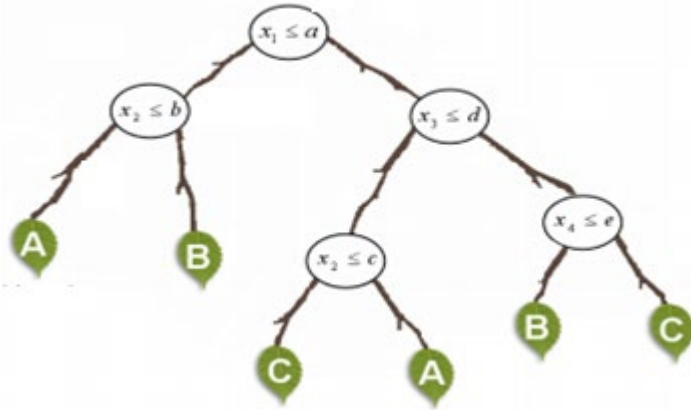
The unclassified data, whose properties are not defined in the KNN algorithm, are compared with the trained data and classified depending on their distance. The data are classified when the calculated distances are classified. In the KNN algorithm, the distance of the new data to the existing data is calculated one by one for each new data included in the data set and assigned to the class with the most appropriate distance. There is a long classification process in the KNN algorithm, which repeats the search for each new data (Dilki & Başar, 2020; Hu, Huang, Ke & Tsai, 2016; Khan, Ding & Perrizo, 2015). The formula used to measure the distances between the data in the KNN algorithm is as follows (Dolgun, Özdemir & Oğuz, 2009; Kılınc, Borandağ, Yücalar, Tunalı, Şimşek & Özçift, 2016):

$$d_{(i,j)} = \sqrt{\sum_{k=1}^p (X_{ik} - X_{jk})^2} \quad (7)$$

In the KNN algorithm, the  $k$  value represents the number of other close-range data to be considered. Optimization is required to determine the  $K$  value. An increase in the  $K$  value increases the fit to the test data. In *Multiple Linear Regression* problems based on prediction, the dependent variable is calculated by taking the arithmetic mean of the independent variables as much as the optimum  $k$  value of the independent variables (Altunkaynak, Başakın & Kartal, 2020).

### Decision tree algorithm

Decision trees are frequently used in classification problems due to their ease of use. The main reason for its widespread use is that the rules that make up the decision tree can be defined in simple terms. Furthermore, decision trees are more advantageous for decision-makers when evaluating the results than other data mining algorithms in terms of their ability to interpret (Chien & Chen, 2008; Koçak, 2020).



**Figure 5:** Decision Tree (Kavzoğlu & Çölkesen, 2010)

The Decision Tree structure consists of leaves, branches and nodes, as shown in Figure 5. Nodes define the attributes of the related problem. Flow elements between roots and leaves are defined as branches. The data enters through the root node. Internal nodes (branches) and leaves (end nodes) are the main tools for creating the structure of the decision. The Decision Tree algorithm starts working with the data transferred to the tree via the root node. It ends with asking questions about the problem through branches and leaves and making a decision based on the results obtained (Pal & Mather, 2003).

### Random forest algorithm

The Random Forest Algorithm is a decision tree approach created based on the random preference of supervised learning-based variables within machine learning algorithms. It was proposed as an alternative to the "Boosting" algorithm, which was introduced by Breiman (2001), and Amit & Geman (1997) (Breiman, 2001; Cutler, Cutler & Stevens, 2012). The Random Forest algorithm is a regression analysis approach based on the decision tree. As the sub-algorithm of the decision trees, the node is divided into branches by choosing the best of the randomly selected variables in the selected node, unlike the decision trees of the Random Forest algorithm. Decision trees are created by choosing a random variable (Akar & Güngör, 2012; Breiman, 2001; Nuray, Gençal & Arama, 2021).

### The proposed model

Figure 5 below shows the model proposed in this study. Model consists of "Business Understanding", "Data Understanding", "Data Preparation", "Modelling", "Evaluation" and "Deployment" stages.

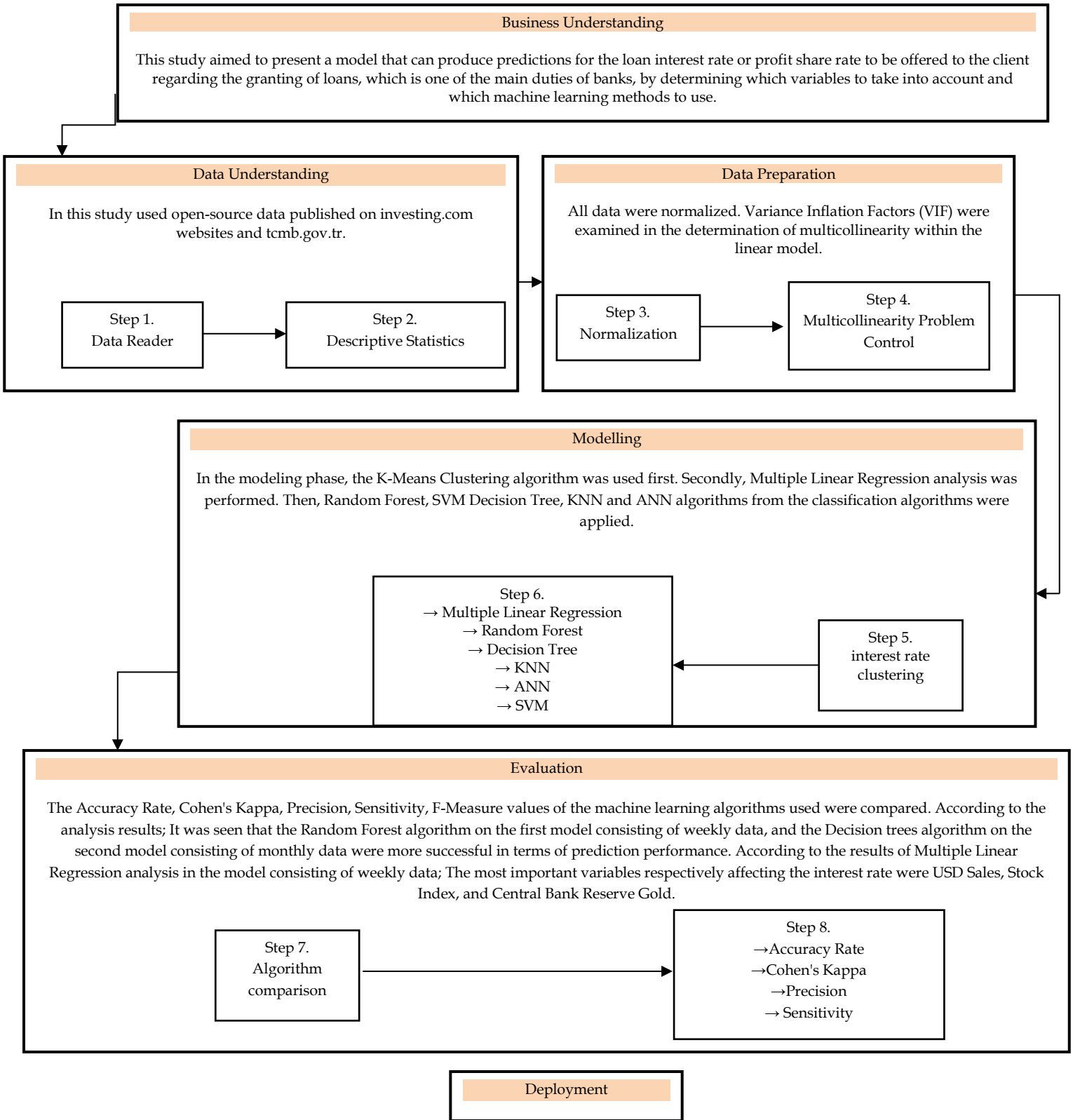


Figure 5: Proposed Model and Methodology

## Results

### Descriptive statistics

The aim of this study is to determine which variables will be taken into account for the loan interest rate that banks will offer to their customers during the lending process, and to create a machine learning model that can predict the loan interest rate that the bank will offer to its customers by using these variables. All analyses in this article were made with the KNIME Analytics Platform. The results of the descriptive statistics regarding the weekly data used in the study are presented in Table 4.

**Table 4:** Descriptive Statistics of Weekly Data

	Interest Rate (%)	Government Domestic Debt Securities (TL)	Foreign Debt Principal and Interest (USD)	Total Credit Volume (TL)	USD Selling Price (TL)	Euro Selling Price (TL)	Central Bank Gross Currency (USD)	Central Bank Gold Reserve (USD)	Stock Index	Gold Selling Price (TL)
Minimum	9.17	408 544.40	10.02	1 108 641 251	2.16	2.67	14 051	40 373	548.10	83.35
Maximum	35.85	1 117 300.60	3158.8	3 568 207 079	8.42	9.85	45 229	114 030	1207.02	534.98
Mean	17.04	602 579.80	264.7	2 081 835 514	4.44	5.07	23 562	84 340	830.97	204.97
S.Deviation	5.32	204 667.00	415.2	672 340 423	1.69	1.98	7 644	18 864	139.08	113.21

The descriptive statistics of weekly data are presented in Table 4. It was observed value was  $17.04 \pm 5.32$  for the Interest rate. It was  $602579.8 \pm 204667.0$  for GDDS,  $264.06 \pm 415.22$  for foreign debt,  $2.081.835.514 \pm 672.340.423$  for Total credit volume,  $4.44 \pm 1.69$  for USD selling price;  $5.07 \pm 1.98$  for Euro selling price,  $23562 \pm 7644$  for gold reserve,  $84340 \pm 18864$  for foreign currency reserve,  $830.97 \pm 139.08$  for BIST 100, and  $204.97 \pm 113.21$  for gold selling price.

**Table 5:** Descriptive Statistics of Monthly Data

	Interest Rate (%)	CPI	IPI	Employment Rate (%)	Unemployment Rate (%)	Inflation Rate (%)
Minimum	9.74	233.54	78.22	40.30	8.40	6.57
Maximum	34.48	498.58	134.95	48.50	15.10	25.24
Mean	17.19	333.18	107.20	45.70	11.40	11.30
S. Deviation	5.23	78.75	12.79	1.70	1.60	4.25

The descriptive statistics of monthly data are presented in Table 5. It was observed that the value for the Interest rate was  $17.19 \pm 5.23$ , it was  $333.18 \pm 78.75$  for CPI,  $107.20 \pm 12.79$  for Industrial production index,  $45.7 \pm 1.7$  for the Employment rate,  $11.4 \pm 1.6$  for the Unemployment rate,  $11.30 \pm 4.25$  for the Inflation rate.

In the research, Multiple Linear Regression, Random Forest, Decision Tree, KNN, ANN and SVM and algorithms were used to determine the variables affecting the interest rate. Random Forest, Decision Tree, KNN, ANN and SVM classifier algorithm results are given only in the model comparison Table 16. In the study, Multiple Linear Regression analysis was performed to determine the variables affecting the interest rate. In addition, Variance Inflation Factors (VIF) were examined to determine multicollinearity within the linear model. The diagonal elements of the inverse of the correlation matrix for the independent variables are called the VIFs. VIF is calculated to determine the degree of relationship of an independent variable with other independent variables. If VIF is greater than or equal to 10, there is a multicollinearity problem. When the VIF values were examined during the analysis, there was a multicollinearity problem in the central bank gross currency rate, gold selling price, total credit value, and government domestic debt securities variables; therefore, these variables were excluded from the model with weekly data. VIF values of the USD selling price, foreign debt principal and interest, central bank gold reserve, and stock index (BIST100) variables included in the model are presented in Table 6 below.

**Table 6:** VIF values of the Weekly Dataset

Variable	VIF Value
Foreign Debt Principal and Interest	1.04
Stock Index (BIST100)	1.90
Central Bank Gold Reserve	2.77
USD Selling Price	3.99

According to the outputs of the model summarized in Table 7, the rate of the explanation of the adjusted model by the weekly data was found as ( $R^2$ ) 0.399. Therefore, based on the  $R^2$  value obtained, it can be argued that the model's explanation rate by the variables used in the study was not high.

**Table 7:** Summary of Model 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. Change	F Durbin-Watson
1	.637	.406	.399	.6346	.406	58.007	4	339	.000	.427*

p<0.05

According to the results of the *Multiple Linear Regression* analysis belonging to the model formed with the weekly data displayed in Table 8, *the total foreign debt principal and interest variable were insignificant. On the other hand, USD selling price, stock index, and central bank gold reserve variables were found to be significant in affecting the interest rate.*

**Table 8:** Results of the Multiple Linear Regression Analysis for Weekly Data

Variable	Coeff.	Std. Err.	t-value	p
USD Selling Price	1.243	0.084	14.721	0.00*
Stock Index (BIST100)	-1.030	0.078	-13.281	0.00*
Central Bank Gold Reserve	0.496	0.075	6.647	0.00*
Foreign Debt Principal and Interest	-0.014	0.088	-0.162	0.87

\*p<0.05

In the second model consisting of monthly data, Multiple Linear Regression analysis was performed to determine the variables affecting the interest rate. When the VIF values were examined during the analysis, it was observed that there was no multicollinearity problem between any of the variables. *The VIF values of the industrial production index, inflation rate, employment rate, unemployment rate, and CPI variables included in the model are presented in Table 9 below.*

**Table 9:** VIF Values of the Monthly Dataset

Variable	VIF Value
Industrial Production Index	2.14
Inflation Rate (%)	2.25
Employment rate (%)	2.34
Unemployment rate (%)	3.54
CPI	4.47

According to the outputs of the model summarized in Table 10, the rate of the explanation of the adjusted model by the monthly data was found as ( $R^2$ ) 0.301. The Durbin-Watson and significance values indicated that the model was acceptable. The  $R^2$  value obtained indicated that the monthly data had a lower representation ability than the weekly data.

**Table 10:** Summary of Model 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. Change	F Durbin-Watson
2	0.586	0.344	0.301	4.3726026	0.344	8.063	5	77	0.000	0.319*

p<0.05

According to the results of the Multiple Linear Regression analysis presented in Table 11, the *Inflation rate and Employment Rate (%)* variables were found to be effective in terms of affecting the interest rate ( $p=0.00<0.05$ ). The most important variables affecting the interest rate were "Inflation rate" and "Unemployment rate". On the other hand, the *Consumer price index, Industrial production index, and Employment rate variables* were found to be insignificant in terms of affecting the interest rate.

**Table 11:** Results of the Multiple Linear Regression Analysis for Monthly Data

Variable	Coeff.	Std. Err.	t-value	p
Inflation Rate (%)	0.385	0.121	3.179	0.00*
Unemployment Rate (%)	-0.523	0.138	-3.796	0.00*
CPI	0.235	0.136	1.721	0.08
Industrial Production Index	0.169	0.125	1.349	0,18
Employment Rate (%)	-0.059	0.141	-0.420	0.67

\*p&lt;0.05

### K-Means clustering algorithm results

An unsupervised learning approach was used since all of the data used in this study consisted of numerical values. When preparing the data, the interest rates were first classified as the dependent variable using the K-Means module in the Knime software, and the interest rates were labelled. Since the variables are defined with different measurement units, the normalization process was performed in the Knime software in the second stage. After the normalization process, the training and test data were created by dividing the data set as 80% and 20%.

Since the dependent variable is not defined and labelled in the data set used in this study, it was necessary to label the interest situation at a certain time. Therefore, at this stage of the study, weekly and monthly data sets were clustered with the K-Means algorithm to be able to analyse the data. They were clustered into three (High, low and normal interest) and four (low, normal, high, and very high interest) clusters, as presented in Tables 12 and 14 below.

The data in Table 12 were obtained using the KNIME Analytics Platform.

**Table 12:** Classification Table of Weekly Data

Name of the Class	Interest Rate (%)	Foreign Debt Principal and Interest (USD)	USD Selling Price (TL)	Central Bank Gross Currency (USD)	Stock Index
High Interest	20.822	252 392	5.205	78 550.188	777.806
Low Interest	14.636	210 136	2.963	99 563.374	914.763
Normal Interest	14.753	479 571	7.335	48 684.979	693.759

The clusters were determined by applying hierarchical clustering on IBM SPSS Statistics software, and the weekly data were classified into three clusters: high interest, low interest, and normal interest, as presented above in Table 12. The reason why the classification was made with three clusters was due to the success of clustering. As presented in Table 13, the clustering success was 98%. The high clustering success is important in increasing the data's ability to be analysed and the commentators' ability to predict. Furthermore, the high classification success observed in this study confirms the robustness of the data and its ability to represent reality.

**Table 13:** Clustering Success Rate of Weekly Data

Cluster Number of Case	1	2	3	Total
%	97.9	0.0	2.1	100.0
	0.0	100.0	0.0	100.0
	0.0	3.5	96.5	100.0

98,0% of original grouped cases were correctly classified.

The high number of classifications in monthly data indicates market variability. Excessive changes in a small amount of data reduce the predictability of the markets as they increase the differentiation of the data. For these reasons, the clustering success was observed high in four classes in the model in which monthly data were examined.

**Table 14:** Classification Table of Monthly Data

Name of the Class	Interest Rate (%)	CPI	IPI	Employment Rate (%)	Unemployment Rate (%)	Inflation Rate (%)
Low Interest	14.07	248.83	95.13	45.49	10.04	8.27
Normal Interest	15.25	281.04	103.96	45.91	11.11	8.07
High Interest	17.13	434.46	113.80	44.62	13.25	15.17
Very High Interest	22.77	328.88	114.44	47.42	10.38	12.06

As presented in Table 14, the monthly data were classified into four cluster sets: very high interest, high interest, normal interest, and low interest. The reason why the classification was made with four clusters was due to the success of clustering. As presented in Table 15, the clustering success was 99%.

**Table 15:** Clustering Success Rate of Monthly Data

Cluster Number of Case		1	2	3	4	Total
%	1	100.0	0.0	0.0	0.0	100.0
	2	0.0	100.0	0.0	0.0	100.0
	3	0.0	0.0	100.0	0.0	100.0
	4	0.0	0.0	7.1	92.9	100.0

a. 98, 8% of original grouped cases were correctly classified.

### Comparison of model achievements of classification algorithms

The Random Forest, SVM, Decision Tree, KNN and ANN algorithms from the machine learning classification algorithms were applied to measure the relationship between the variables that were thought to be related to the bank interest rate. Precision, sensitivity, specificity, f-measure, accuracy statistics, and cohen's kappa values were used for the prediction results of the classification models.

**Table 16:** Comparison of Weekly Data and the Method

Method	Class	Precision	Sensitivity	Specificity	F-measure	Accuracy Statistics	Cohen's Kappa
Random Forest	Low Interest	1.000	1.000	1.000	1.000	0.997	0.995
	Normal Interest	1.000	0.987	1.000	0.994		
	High Interest	0.98	1.000	0.997	0.99		
ANN	Low Interest	1.000	0.979	1.000	0.989	0.986	0.970
	Normal Interest	0.933	1.000	0.982	0.966		
	High Interest	1.000	1.000	1.000	1.000		
KNN	Low Interest	0.997	0.982	0.961	0.979	0.971	0.945
	Normal Interest	0.948	0.924	0.985	0.936		
	High Interest	0.98	1.000	0.997	0.99		
Decision Tree	Low Interest	0.995	1.000	0.992	0.998	0.858	0.724
	Normal Interest	0.619	0.987	0.819	0.761		
	High Interest	0.961	0.724	1.000	0.667		
SVM	Low Interest	0.847	1.000	0.526	0.917	0.841	0.561
	Normal Interest	1.000	0.267	1.000	0.421		
	High Interest	0.667	1.000	0.969	0.800		

Table 16 above shows that the accuracy rate and cohen's kappa values were ranked similarly. The Random Forest method's high value according to the accuracy rate and cohen's kappa indicated its superiority over other methods. Since cohen's kappa value is an important reference showing the reliability of the result, it indicated that the reliability of the prediction success of the Random Forest algorithm was superior to other algorithms.

All algorithms used were found to have a high success rate regarding classification accuracy, as presented in Table 16. When the algorithms were listed from high to low according to the Accuracy rate, the sequence of the classification algorithms was Random Forest, ANN, KNN, Decision Tree, and SVM algorithms. When the algorithms were listed according to cohen's kappa values, the sequence was Random Forest, ANN, KNN, Decision Tree, and SVM algorithms. The accuracy rate and cohen's kappa values were ranked with similar results. The Random Forest method's high value according to the accuracy rate and cohen's kappa indicated its superiority over other methods. Since cohen's kappa value is an important reference showing the reliability of the result, it indicated that the reliability of the prediction success of the Random Forest algorithm was superior to other algorithms.

Table 16 was compared; this finding demonstrated that the Random Forest algorithm was superior to other algorithms in terms of precision in difficult environments. According to F-Measure values, the Random Forest algorithm was found to be more successful compared to other algorithms in a low-interest environment, and the ANN algorithm was found to be more successful compared to other algorithms in a high-interest environment. This finding showed that the sensitivity and accuracy of algorithms differed in high-interest or low-interest environments.

**Table 17:** Comparison of Monthly Data and the Method

Method	Class	Precision	Sensitivity	Specificity	F-measure	Accuracy Statistics	Cohen's Kappa
Decision Tree	Low Interest	1.000	1.000	1.000	1.000	0.988	0.982
	Normal Interest	1.000	1.000	1.000	1.000		
	High Interest	0.970	1.000	0.970	1.000		
	Very High Interest	1.000	0.970	1.000	0.980		
Random Forest	Low Interest	1.000	0.833	1.000	0.909	0.976	0.964
	Normal Interest	0.923	1.000	0.986	0.960		
	High Interest	1.000	0.970	1.000	0.985		
	Very High Interest	0.970	1.000	0.980	0.985		
SVM	Low Interest	1.000	1.000	1.000	1.000	0.882	0.823
	Normal Interest	1.000	0.667	1.000	0.800		
	High Interest	0.750	1.000	0.818	0.857		
	Very High Interest	1.000	0.857	1.000	0.923		
KNN	Low Interest	0.500	0.500	0.961	0.500	0.807	0.707
	Normal Interest	0.667	0.500	0.958	0.571		
	High Interest	0.848	0.848	0.900	0.848		
	Very High Interest	0.857	0.938	0.902	0.896		
ANN	Low Interest	0.400	1.000	0.800	0.571	0.765	0.671
	Normal Interest	1.000	0.833	1.000	0.909		
	High Interest	0.857	1.000	0.909	0.923		
	Very High Interest	0.400	0.648	1.000	0.521		

According to the monthly data analysis, all algorithms used were found to have a high success rate regarding classification accuracy, as presented in Table 17. The accuracy rate and Cohen's kappa values differed within the algorithms in parallel with each other. The high value of the Decision Tree algorithm, according to both the accuracy rate and Cohen's kappa, indicated its superiority over other methods.

According to the decision tree analysis results, if the inflation rate is less than 19%, the interest rate is likely to be below 50% and normal for 44%. On the other hand, when the inflation rate is higher than 7%, there is an 87% normal interest probability; when it is lower than 7%, there is a 40% lower and 60% normal interest rate.

According to F-Measure values, the Decision Tree algorithm was more successful than other algorithms in all low-interest, normal-interest, high-interest, and very-high-interest environments. This finding showed that the sensitivity and accuracy of algorithms differed in high-interest or low-interest environments. This revealed the necessity of classifying the interest rates in the market according to the past periods and choosing the prediction algorithm according to the high or low-interest conditions.

## Conclusion

The aim of this study is to determine which variables will be taken into account for the loan interest rate that banks will offer to their customers during the lending process, and to create a machine learning model that can predict the loan interest rate that the bank will offer to its customers by using these variables. Since the weekly and monthly data variables were different, interest rate prediction proposal



models were created by establishing two models. The models were compared to the predictive classification models of Random Forest, SVM, Decision Tree, KNN and ANN algorithms from the machine learning algorithms. Classification algorithms used in the study were compared using the accuracy rate, Cohen's kappa, precision, sensitivity, and F-measure measurements.

The algorithms applied to the first data set that consisted of the variables with weekly data were ranked from high to low according to their accuracy rates as the Random Forest, ANN, KNN, Decision Tree, and SVM. The success of the Random Forest algorithm was also observed to be higher in Cohen's alpha values than other algorithms. This indicated that the Random Forest algorithm was more successful than other algorithms in producing correct predictions and in the reliability of the predictions it produced in the model where weekly data were taken into account.

The success of the Decision Tree algorithm was observed to be higher than other algorithms in Cohen's Kappa values. In the data set consisting of monthly data, the accuracy success rate of the models (0.98) was lower than that of the first model consisting of weekly data (0.99). While the Random Forest algorithm was successful in the analysis performed on a greater amount of data, the accuracy success rate of the Decision Tree algorithm was higher in the analysis performed on a smaller amount of data. This finding contributes to the literature as important information for the analysts to select the algorithms.

The fact that the Decision Tree algorithm achieved 100% success in terms of F-measure values in the model with monthly data in low, normal, and very high-interest environments indicates that it can successfully prevent the fragility of the market.

According to the decision analysis results in the second model consisting of monthly data, in cases where the inflation rate is higher than 19%, the interest rate is 60% likely to be very high and 40% likely to be high. If the inflation rate is lower than 19%, the interest rate is 50%, likely low, and 44% to normal. When the inflation rate is higher than 7%, there is an 87% probability of normal interest; when it is lower than 7%, there is a low 40% probability and a 60% probability of a normal interest rate. When the inflation rate is higher than 5%, there is an 82% probability of low interest. When the inflation rate is lower than 5%, there is a 33% probability of a low-interest rate and a 66% probability of a normal interest rate.

According to the results of the Multiple Linear Regression analysis of the weekly data, the  $R^2$  value was found as 0.399. This indicates that the model does not have a high representation ability; however, the  $R^2$  value was interpreted as acceptable based on expert opinions since it involved a wide area related to the country's economy. The "Foreign Debt Principal and Interest Sum" variable was found to be insignificant in terms of affecting the interest rate, which was the dependent variable. Among the variables, the "USD Selling Price", "Stock Index (BIST100)", and "Central Bank Gold Reserve" were significant in affecting the interest rate. These findings indicate that decision-makers must consider the variables found to be significant when pricing a loan.

According to the results of the Multiple Linear Regression analysis of the monthly data, the Inflation and Unemployment Rate variables significantly affected the interest rate. The most important variables affecting the interest rate were "Inflation rate" and "Unemployment rate". On the other hand, the CPI, Industrial Production Index, and Employment Rate variables were insignificant regarding the interest rate. Analysis results consisting of monthly data also show that variables will be effective in determining the interest rate at the stage of granting a loan. Therefore, the outputs of the Multiple Linear Regression analysis performed in the study would contribute to the literature highly in terms of involving very important outputs for the senior management of the banks.

Credit pricing is very important for banks in developing countries. The reason why pricing is so important is that the maturity structure of short-term deposits collected, which is the source of the loan to be extended, is not compatible with the maturity structure of the loans extended. Therefore, expected future interest rates must be predictable to manage long-term loans and short-term deposits effectively. If the bank can foresee the change in the cost within 24 months while extending a 24-month loan, it can prevent major losses. Actual results in the literature have been presented in this study to demonstrate the use of machine learning algorithms in increasing the prediction capabilities of banks. This study consists of the analysis of variables and algorithms for the solution to this problem. In order to contribute to the literature and the banking sector, there is a need for studies in which macroeconomics methods are used with machine learning methods. Therefore, it is recommended to conduct further studies with machine learning algorithms to predict and manage interest costs.

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## Perakendecilikte akıllı uygulamalar: Sistemik literatür taraması<sup>1</sup>

### Smart practices in retail: A systematic literature review

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#### Öz

Tüketicilerin alışveriş deneyim kalitelerini arttırmaya odaklanan akıllı perakendecilik, perakendecilik alanında fiziksel ve dijital boyutları birleştiren bir sistemdir. Bilgi ve iletişim teknolojilerindeki sürekli gelişmelerle birlikte ortaya çıkan akıllı teknolojiler, son dönemlerde perakendecilik alanını da etkilemiştir. Bu makalede akıllı perakendecilik alanında sistemik literatür incelemesi sunulmaktadır. Konu ile ilgili son on yılda yayınlanmış makaleler incelenmiş olup makalelerde akıllı perakendecilik tanımları ve çalışılan temel konulara odaklanılmıştır. Ayrıntılı olarak analiz edilen 39 makaleden elde edilen sonuçlara göre; sınırlı sayıda akıllı perakendecilik tanımı bulunmakta ve makalelerde en çok akıllı perakende teknolojileri konusu çalışılmaktadır.

**Anahtar Kelimeler:** Perakendecilik, Akıllı Perakendecilik, Akıllı Teknolojiler, Sistemik Literatür Taraması

**Jel Kodları:** M30, M31, M39

#### Abstract

Smart retailing, which focuses on increasing the quality of consumers' shopping experience, is a system that combines physical and digital dimensions of retailing. In recent years, intelligent technologies that have emerged with continuous developments in information and communication technologies have also affected the retailing field. This article presents a systematic literature review in the field of smart retailing. The articles published in the last ten years on the subject have been examined, and the articles focused on the definitions of smart retailing and the main topics studied. According to the results obtained from 39 articles analyzed in detail, there are a limited number of smart retailing definitions, and the articles mainly focus on smart retail technologies.

**Keywords:** Retailing, Smart Retailing, Smart Technologies, Systematic Literature Review

**Jel Codes:** M30, M31, M39

## Extended Abstract

### Smart practices in retail: A systematic literature review

#### Literature

Smart retailing is a system that focuses on improving the quality of consumers' shopping experiences (Pantano & Timmermans, 2014) and combines physical and digital dimensions in retailing (Inman & Nikolova, 2017). It differs significantly from traditional retailing, especially with the effective use of smart technologies. New technologies used in retailing have some advantages for both consumers and retailers. With intelligent technology-supported human-machine interaction, consumers are offered personalized customer experiences. However, these technologies can provide opportunities for collecting information, improving the shopping experience, and developing new products and services by improving consumers' in-store behaviour and decision-making (Pantano, 2010; Pantano & Timmermans, 2014).

Smart retailing is a prominent area where information and communication technologies are used, and the physical and digital dimensions of retailing are combined (Kim, Lee, Mun, and Johnson, 2017; Pantano and Priporas, 2016; Pantano, Pantano and Timmermans, 2014). Smart retailing, a new concept, has few definitions. In their pioneering work on smart retailing, Pantano and Timmermans (2014) defined smart retailing as "a specific retailing idea in which firms and consumers use technology to reinvent and strengthen their role in the new service economy by enhancing the quality of their shopping experience."

Smart technologies can improve the shopping experience by improving consumers' in-store behaviour, decision-making, and information-collection processes. Moreover, they offer various opportunities for developing new products and services (Pantano, 2010; Pantano and Migliarese, 2014; Pantano and Timmermans, 2014).

The applications of smart technologies, which inevitably emerge with the developments in information and communication technologies, in retailing is a fairly new field of study. There is a limited number of studies in the current literature. The definitions of the concept of smart retailing, the main themes in the studies, and the determination of the research gaps in the literature are very important in terms of both its contribution to the field and the basis it will form for future research in the field.

#### Design and method

A systematic literature review was used in this study. A systematic literature review is a systematic review of all the studies published in that field to develop a solution to a particular problem. Studies selected using predetermined inclusion and exclusion criteria are included in the research and synthesized within the framework of research questions (Burns & Grove, 2007; Higgins & Green, 2011). In this study, the review protocol for systematic literature review; research questions were determined as the data source, research strategy, selection criteria, and study quality and data extraction.

Selected electronic databases provide references for many knowledge areas, including social sciences. Scientific articles to be examined within the scope of the study were accessed from Scopus, Web of Science, ScienceDirect, Springer Link, Sage journals, and TR Index databases. Inclusion and exclusion criteria have been determined beforehand for the articles to be selected in the searches made from the relevant databases. According to these criteria, articles related to smart retailing, articles published between 2013-2022, articles written in English and Turkish, articles written in peer-reviewed journals, articles published in international journals, and articles in the field of social sciences were included. In addition, theses, books, book chapters, and studies not in the social sciences field are excluded.

#### Research problems

The general purpose of this study is to classify the article studies in the field of smart retailing within the framework of certain criteria. In this study, in which a systematic literature review was carried out, the research questions were determined as follows:

RQ1. What is smartness in retail?

RQ2. What are the main topics developed in smart retailing, and which topics have been studied and developed more?

RQ3. What are the key research gaps in the smart retail literature, and how might future research be shaped?

#### Data collection method

This study includes scientific articles in Scopus, Web of Science, ScienceDirect, Springer Link, Sage journals, and TR Index. In the article selection process, titles, abstracts, and keywords were searched for the relevant articles in all databases, with the keywords determined to cover the main concepts of the research. As a result of the article selection process, a total of 571 articles were obtained in the first step of the research. After applying the inclusion criteria and eliminating similar articles, 39 were identified as relevant to the current review. All articles selected within the research; were classified according to the year of publication, the place of publication, and the methodologies used in the journals and articles published. Again, in the research, the basic smart retailing definitions in the articles, the main topics studied, and the articles on the research gaps in the literature were taken into account in the data extraction process.

#### Findings and discussion

The methodological approaches adopted in the articles examined according to the results obtained from the research were analyzed. Of the 39 articles selected in this study, 31% (7) were conceptual, while 69% (32) were empirical. Therefore, it is seen that the number of studies carried out with a conceptual and theoretical perspective on smart retailing as a new subject is insufficient. Therefore, it can be stated that more empirical research is carried out on the subject.

According to the study findings, less than 50% of the articles examined include the definition of smart retailing and refer to definitions obtained from different sources. Pantano and Timmermans' (2014) smart retailing definition is the most commonly cited definition in the literature. Pantano and Timmermans (2014) define as "a specific retailing idea in which firms and consumers use technology to reinvent and strengthen their role in the new service economy by improving the quality of their shopping experience."

Again, according to the findings obtained from the study, it was possible to classify the main study topics in smart retailing under five different headings. These; are smart retail technologies (17 articles, 44%), consumer behaviour (12 articles, 31%), innovation

(4 articles, 10%), augmented reality (4 articles, 10%) and smart stores (2 articles, 5%). Therefore, it has been determined that the studies in the field of smart retailing are mostly quantitative method-based studies examining the behaviour of consumers.

Finally, research gaps in the field were examined in the study. Behavioural intentions are mostly discussed in studies on smart technologies and smart retailing. Future research may conduct field studies to examine how the technology acceptance pattern, technology readiness, and organizational characteristics influence actual behaviour in smart retailing. It is seen that the majority of the studies conducted were conducted in samples with high technology usage levels, such as the USA, England, and Australia. Future research can also carry out their studies in samples that include developing countries such as Turkey. It is seen that most of the studies carried out are cross-sectional studies. Future studies may take a longitudinal approach to better understand the implications of the smart customer experience. At another point, the expansion of the digital self (such as the use of smart technologies in retail shopping) and the smart customer experience and their impact on quality of life can be explored. Again, different studies may examine the effects of smart customer experiences on business performance (such as sales revenue) in the future

#### **Results of the article**

This systematic literature review highlights that smart retailing is an emerging topic. Within the scope of the purpose of this study, which systematically deals with the literature in the field of smart retailing, definitions for the concept are put forward, and main study subjects and working gaps in the literature are determined. The fact that the study was carried out using a well-structured and reproducible method both uses a systematic literature review method and is on smart retailing, where there is only one study in the domestic literature, indicates the originality of this study. It is envisaged that the study will be one of the pioneering research contributing to filling the gaps in the domestic literature on smart retailing. The results obtained from his study show the trends of the last ten years (2013-2022). Although the article does not attempt to establish a theoretical model, it is thought that it can help lay a foundation for future research in the field of smart retailing, both conceptually and empirically.



## Giriş

Bilgi ve iletişim teknolojilerindeki köklü ve sürekli ilerlemeler, çeşitli süreçlerin kalitesini ve dolayısıyla kullanıcıların algılanan fayda ve memnuniyetini iyileştirmek için yeni araçların geliştirilmesine yol açmıştır. Son on yıllık süreçte pek çok alanda “akıllı” uygulamaların varlığı ön plana çıkmış sağlık, eğitim, politika, ekonomi, yönetim, kamusal hizmetler gibi alanlarda kavram yaygınlaşmıştır. Bunların yanı sıra işletmecilik ve pazarlama alanları da akıllı teknoloji ve uygulamalardan etkilenmiştir. Özellikle perakendecilikte, yeni teknolojilerin uygulanması kavramının ötesine geçen bir akıllılık fenomeni çerçevesinde gelişen “akıllı perakendecilik” alanı gelişmiştir.

Akıllı perakendecilik, tüketicilerin alışveriş deneyimlerinin kalitesini arttırmaya odaklanan (Pantano ve Timmermans, 2014) ve perakendecilikte fiziksel ve dijital boyutları birleştiren sistemlerdir (Inman ve Nikolova, 2017). Geleneksel perakendecilik anlayışından derin farklılıkları olan bu anlayışta temel, akıllı teknolojilerin etkin kullanımınıdır. Geçmiş yıllarda geleneksel perakende uygulamalarını önemli ölçüde değiştirerek geleneksel satış noktalarında pek çok sayıda teknolojik yenilikler yapılmıştır. Bu noktada birçok mağaza, self-servis teknolojileri, kendi kendine para çekme masaları, bilgilendirici temas noktaları, dokunmatik ekranlarla donatılmış interaktif ekranlar, Radyo Frekans Tanımlama (RFID) sistemleri, kişisel alışveriş asistanları gibi akıllı teknoloji uygulamalarından yararlanmaktadır. Pazar analizini destekleyebilen teknolojilerin varlığı ile keyifli deneyimlere ve zenginleştirilmiş hizmetlere yönelik artan talep (Kim vd., 2007) perakendecileri akıllı teknoloji uygulamalarını düşünmeye itmektedir.

Perakendecilikte yeni teknolojilerin uygulanması hem tüketiciler hem de perakendeciler için avantajlı durumları beraberinde getirmektedir. Akıllı teknoloji destekli insan-makine etkileşimi ile tüketicilere kişiselleştirilmiş müşteri deneyimleri sunulmaktadır. Bununla birlikte bu teknolojiler tüketicilerin mağaza içi davranışlarını ve karar vermelerini geliştirerek bilgi toplama ve alışverişini iyileştirebilir, yeni ürün ve hizmetlerin geliştirilmesi için fırsatlar sağlayabilmektedir (Pantano, 2010; Pantano ve Timmermans, 2014). Gelişen akıllı perakendecilik anlayışı, firmaların ve tüketicilerin alışveriş deneyimlerinin kalitesini artırarak yeni hizmet ekonomisindeki rollerini yeniden icat etmek ve güçlendirmek için teknolojiyi kullandıkları belirli bir perakendecilik fikrini yansıtmaktadır (Pantano ve Timmermans, 2014). Perakendecilik alanında kullanımı giderek yaygınlaşan akıllı teknolojiler gelecek vizyonda perakendeci-tüketici etkileşimi, satın alma ve perakende uygulamalarında önemli ölçüde farklılıklar geliştirebileceği öngörülmektedir.

Bu çalışmada, akıllı perakendecilik alanında yayınlanan çalışmaların alana yapmış oldukları ana katkılara odaklanılmıştır. Çalışma kapsamında akıllı perakendecilik tanımlarını, temel çalışma konularını ve literatürdeki araştırma boşluklarını belirlemek amacıyla son 10 yılda (2013’ten 2022’ye kadar) yayınlanan araştırmaların sistematik bir literatür taraması yürütülmüştür.

Makale, konu ile ilgili kavramsal çerçeve ile başlamaktadır. Devamında sistematik literatür taraması için benimsenen metodoloji araştırma yöntemi bölümünde sunulmaktadır. Daha sonra yapılan makale incelemeleri neticesinde elde edilen bulgular ve tartışma bölümü yer almakta olup makale, çalışmanın katkılarının değerlendirildiği sonuç bölümü ile sona ermektedir.

## Literatür taraması

### Akıllı perakendecilik

“Akıllı” kavramı, akıllı şehirlerin gelişmesiyle ortaya çıkmıştır. Geçmişteki araştırmacılar, genellikle akıllı veya dijital nesnelere akıllılık ilişkisi kurmuşlardır. Akıllı kavramı, iki yönlü algılama ve kontrol etme yeteneğine sahip herhangi bir nesne veya sistem olarak tanımlanmıştır. Algılama ve kontrol yeteneklerine ek olarak akıllı teknoloji, diğer cihazlar ve ağlarla bağlantı kurmayı da içermektedir. Giffinger, Fertner, Kramar, Kalasek, Pichler-Milanovic, Meijers, (2007) farkındalık, esneklik, dönüştürülebilirlik, sinerji, bireysellik, kendi kendine karar verme ve stratejik davranışı akıllı teknolojinin temel özellikleri olarak belirtmektedir. Harrison vd. (2010) akıllık kavramını, enstrümanlı, birbirine bağlı ve akıllı nesnelere ilişkilendirmişlerdir. Akıllı teknolojiler, dijital nesnelere veya cihazların kullanımı yoluyla gerçek zamanlı verileri yakalayarak verileri bütünleştirerek paydaşların daha iyi operasyonel kararlar almasına imkân sağlamaktadır.

Bilgi ve iletişim teknolojilerindeki gelişmeler, perakende alanındaki sistem ve süreçlerle daha yoğun bağlantılı hale geldikçe perakendecilik anlayışı değişime uğramaktadır. Perakende işletmeleri geliştirilen teknolojileri takip ederek değişen koşullara uyum sağlamaktadır. Geleneksel mağazalar, rakipleri ile rekabet edebilmek amacıyla müşteri alışveriş deneyimlerini zenginleştirecek akıllı teknolojileri mevcut süreçlerine dahil etmektedirler (Roy, Balaji, Sadeque, Nguyen, ve Melewar, 2017). Özellikle akıllı teknolojilerin (sosyal olarak etkileşimli giyinme odası, sanal giyinme odası, etkileşimli

aynalar, mağaza içi mobil uygulamalar, kişisel alışveriş asistanları vb.) kullanımı tüketici-perakendeci etkileşimlerinin potansiyel dönüşümü için oldukça önemlidir (Grewal, Roggeveen ve Runyan, 2013; Kim vd., 2017; Pantano ve Priporas, 2016; Pantano ve Timmermans, 2014; Pantano ve Viassone, 2015; Yadav ve Pavlou, 2014).

İlgili literatürde, kavramın karmaşık yapısı, nispeten yeni bir alan oluşu, sürekli gelişen teknolojiler ve nesiller arasındaki tüketim alışkanlıkları farklılıkları nedeniyle akıllı perakendecilikle ilgili tanım yetersizliği bulunmaktadır. Yapılan sınırlı tanımlamalara göre akıllı perakendecilik; “farklı temas noktalarında müşteri deneyimini kişiselleştirmek ve bu temas noktalarında performansı optimize etmek için farklı müşteri temas noktalarının sorunsuz yönetimini destekleyen etkileşimli ve bağlantılı bir perakende sistemi” (Roy vd., 2017) olarak tanımlanmıştır. Akıllı şehirler kavramından yola çıkan Pantano ve Timmermans (2014) ise akıllı perakendecilik konusundaki öncül çalışmalarında, “firmaların ve tüketicilerin alışveriş deneyimlerinin kalitesini arttırarak yeni hizmet ekonomisindeki rollerini yeniden icat etmek ve güçlendirmek için teknolojiyi kullandıkları belirli bir perakendecilik fikri” şeklinde ifade etmiştir.

Akıllı perakendecilik, perakendeciliğin fiziksel ve dijital boyutlarının birleştirildiği perakendecilikte bilgi ve iletişim teknolojilerinin evriminde belirgin bir adımdır (Kim vd., 2017; Pantano ve Priporas, 2016; Pantano ve Timmermans, 2014). Geleneksel perakendecilik anlayışı öncelikle perakende kanallarını (temas noktaları) ve ikili bir etkileşimi (firma ile müşteriler arasında) vurgularken, akıllı perakendecilik müşteriler, akıllı nesnelere, ürünler (markalar), perakendeci ve perakende kanalları (temas noktaları) arasındaki etkileşimlere vurgu yapmaktadır (Atzori, Iera, Morabito, 2010).

Perakendecilikte yeni teknolojilerin uygulanması hem tüketiciler hem de perakendeciler için çeşitli avantajlar sağlamaktadır. Akıllı teknolojiler, tüketicilerin mağaza içi davranışlarını ve karar vermelerini geliştirerek bilgi toplama süreçlerini geliştirerek alışveriş deneyiminin iyileştirilmesine katkı sağlayabilmektedirler. Dahası yeni ürün ve hizmetlerin geliştirilmesi için çeşitli fırsatlar sunmaktadırlar (Pantano, 2010; Pantano ve Migliarese, 2014; Pantano ve Timmermans, 2014).

Bununla birlikte Vrontis, Thrassou, ve Amirhanpour (2017), akıllı perakendeciliğin, karar süreci aşamalarındaki (arama, satın alma, tüketim ve satış sonrası süreç) tüketici davranışlarında değişimler oluşturmasının ve perakendeciler için yenilik yönetiminde stratejik bir yaklaşım haline gelmesinin beklendiğini belirtmektedir. Ayrıca, akıllı perakendecilik kavramı, teknolojinin kullanımıyla ilgili daha ileri bir “akıllılık” düzeyini kapsayarak mevcut modern teknolojilerin perakende sürecine uygulanmasının ötesine geçmektedir (Pantano & Timmermans, 2014).

Akıllı perakendecilik alanındaki araştırmaların daha çok tüketici davranışları üzerine yoğunlaştığı görülmektedir (Pantano ve Migliorese, 2014; Paydar, Endut, Yahya, ve Rahman, 2014; Pantano ve Priporas, 2016; Kim vd., 2017; Vazquez, Dennis, ve Zhang, 2017; Priporas, Stylos, ve Fotiadis, 2017; Roy, Balaji, Quazi, ve Quaddus, 2018; Bourg, Chatzidimitris, Chatzigiannakis, Galavas, Giannakopoulou, Kasapakiz, Konstantopoulos, Kypriadis, Pantziou, ve Zaroliagis, 2020; Chang ve Chen, 2021; Chen ve Shang, 2021; Lin, 2021). Ancak bildiğimiz kadarıyla mevcut araştırmaların çoğu akıllı teknolojilerle müşteri deneyiminden ziyade akıllı teknolojilerin benimsenmesini ve kabul edilmesini ele almıştır (Pantano ve Servidio, 2012; Rese, Schreiber, ve Baier, 2014; Priporas vd., 2017; Roy vd., 2018; Foroudi, Gupta, Sivarajah, ve Broderick, 2018; Roy, Singh, ve Shabnam, 2021). Özellikle, akıllı perakende teknolojilerinin tetiklediği çağdaş pazarlama ve perakendecilik ortamında akıllı teknolojilerle müşteri deneyimini araştıran titiz ampirik çalışmalar yetersizdir (Roy vd., 2017; Chang ve Chen, 2021). Bu noktada Roy ve arkadaşları (2017) tarafından yapılan araştırma perakende ortamında akıllı teknoloji ile müşteri deneyimini anlamaya yönelik ilk adımdır. Araştırmacılar akıllı müşteri deneyiminin (smart customer experience) bileşenlerini belirleyerek kavramsal bir model geliştirmiştir. Akıllı müşteri deneyimi kavramını literatüre kazandıran araştırmacılar alana önemli katkı sağlamıştır. Chang ve Chen (2021) akıllı mağazalarda müşteri davranışını araştırmış, tüketici alışveriş niyetini etkileyen faydacı ve hedonik motivasyonları belirlemek için hedonik bilgi sistemleri kabul modelinde (HISAM) teknolojiye hazırlığın düzenleyici rolünü incelemiştir. Yine Roy, vd. (2018), perakende sektöründe akıllı teknolojilerin müşteri kabulünü ve bunlara karşı direnci araştırarak teknolojiye hazırlığın davranışsal niyet üzerindeki etkisini araştırmıştır.

Akıllı perakendecilik, geleneksel perakendecilikte olmayan bir esneklik duygusu sağlamaktadır. Fiziksel ve dijital dünyaları birbirine bağlayan akıllı perakendecilik müşterilerle gerçek zamanlı etkileşime olanak tanınarak (Gregory, 2015) perakendecilerin izleme, kontrol, optimizasyon ve özerklik açısından yeni yetenekler edinmelerini sağlamaktadır (Porter ve Heppelmann, 2014). Bu yetenekler perakendecilerin iş modellerini sürekli olarak geliştirmelerine ve müşteriler için zenginleştirilmiş bir alışveriş deneyimi yaratmaları için farklı fırsatlar sunmaktadır (Li, Da Xu, ve Zhao, 2015).

Perakendeciler, müşterilerin ürünler hakkında daha fazla bilgi edinebileceği etkileşimli ekranlar ve tabletler aracılığıyla kusursuz bir müşteri deneyimi sağlayabileceklerdir.

Müşteri deneyimi ve müşteri benimsemesinin yanı sıra bazı araştırmacılar akıllı perakendecilikte kullanılan akıllı teknolojileri incelemişlerdir. Pantano ve Timmermans (2014) tarafından yapılan kavramsal çalışma akıllı perakendecilik literatürünü geliştirmeye yönelik öncül çalışmalardandır. Araştırmacılar perakendecilik için akıllı teknolojinin özellikleri ve bu tür akıllı teknolojilerin benimsenmesinden kaynaklanan zorluklar açısından perakendecilik için neyin akıllı olarak kabul edilebileceğini belirlemeyi amaçlamışlardır. Buna göre geleneksel mağazalarda bulunan fiziksel asistanların yerine akıllı teknolojiler, destekleyici bir araç olarak talep edilen ürün ya da hizmete erişimin sağlanmasında alışveriş asistanı olarak tercih edilmektedir. Bu bağlamda, tüketiciler arada fiziksel bir asistan olmadan ürünle etkileşime girebilir ve hizmete ancak tüketicilerin değişken isteklerine etkileşimli olarak yanıt veren teknoloji aracılığıyla ulaşabilirler. Örneğin, belirli bir ögeye yakınlık sensörleri, tüketicilere tavsiyelerde bulunabilir ve onları bazı eylemleri gerçekleştirmeye davet edebilirler. Erişim, dokunmatik ekranlar, mobil cihazlar vb. daha geniş bir cihaz tipolojisi tarafından süreç desteklenebilmektedir (Pantano ve Timmersman, 2014). Chen ve Shang (2021) yapay zekâ temelli akıllı perakende teknolojilerini araştırmış, geliştirilen mağaza içi akıllı sistemle sürdürülebilir bir kullanıcı deneyimi elde etmeye odaklanmıştır. Yine farklı araştırmacılar akıllı mağazalar (Kim, 2017; Chang ve Chen, 2021) ve akıllı perakendeciliğin inovatif yönü (Pantano ve Migliorese, 2014, Pantano vd., 2018, Pantano vd., 2017) üzerinde çeşitli araştırmalar yürütmüşlerdir.

Sonuç olarak, akıllı teknolojiler fiziksel alışveriş asistanlarının rolünü değiştirirken, müşterilerle güçlü ilişkiler kurmanın ve bunu sürdürmenin yolunu da değiştirmektedir. Bu teknolojiler, müşteriler ve perakendeciler ile müşteri ve ürün arasındaki etkileşimleri desteklemektedir. Bu nedenle, görevlerinin yürütülmesine destek sağlayarak satış görevlilerinin işi üzerinde doğrudan bir etkiye sahiptirler. (Gaur Singh ve Ramakrishnan, 2012; Yang, 2013). Geleneksel perakendecilik ve mağazacılığa kıyasla akıllı perakendecilik bir esneklik sunsa da (Roy vd. 2017), teknolojinin hızla ilerlemesi ve ardından bu teknolojik gelişmelerle tüketici davranışlarının değişmesi nedeniyle henüz netlik kazanmamış yönleri mevcuttur. Gelecek perspektifinde ele alındığında perakendeci-tüketici etkileşiminin ve ara yüzünün bugünün mevcut yapısından önemli ölçüde farklılık gösterebileceği öngörülmektedir.

Gelişen teknolojilerle beraber kaçınılmaz olarak ortaya çıkan akıllı teknolojilerin perakendecilik alanındaki uygulamaları oldukça yeni bir çalışma alanı olarak karşımıza çıkmaktadır. Literatürde sınırlı sayıda yer alan araştırmaların incelenmesi, konuya ilişkin yapılan kavramsal tanımların, çalışmalardaki ana temaların ve literatürdeki araştırma boşluklarının belirlenmesi hem alana sunacağı katkı hem de alandaki gelecek araştırmalara oluşturacağı temel açısından oldukça önemlidir.

## **Araştırma yöntemi**

Bu çalışmanın araştırma yöntemi kapsamında sistematik literatür taraması kullanılmıştır. Sistematik literatür taraması (sistematik derleme), belirli bir probleme çözüm geliştirmek amacıyla, o alanda yayınlanmış tüm çalışmaların detaylı bir şekilde taranarak sistematik bir şekilde incelenmesi şeklinde yürütülen çalışmalardır. Önceden belirlenmiş dâhil etme ve dışlama kriterleri kullanılarak seçilen çalışmalar kalite değerlendirmesi yapılarak araştırmaya dahil edilir ve derlemeye dahil edilen çalışmalarda yer alan bulgular araştırma soruları çerçevesinde sentezlenir (Burns ve Grove, 2007; Centre for Reviews and Dissemination [CRD], 2008; Higgins ve Green, 2011). Sistematik literatür taraması nicel ve nitel kanıtları inceleyebildiği gibi karma metot sistematik derleme olarak adlandırılan şekilde kanıtın iki ya da daha fazla türünü de inceleyebilmektedir (Hemingway ve Brereton, 2009). Sistematik derlemeler daha çok bilimsel bilgi içerirler ve daha güçlü kanıtları üretmeleri bakımından önemlidirler. Sistematik derlemelerin daha çok bilimsel bilgi içermeleri ve kabul görülme nedenleri ise şöyle sıralanabilir (Moule ve Goodman, 2009; Hemingway ve Brereton, 2009);

- Daha objektiftirler, daha az yan ve hata içerirler
- Literatür taraması sistematik bir yöntem ile yapıldığından çok daha kapsamlıdır
- Literatür taraması için kullanılan metotlar çalışmada açıkça belirtilir
- Çalışmadaki seçim kriterleri açıkça belirtilir
- Çalışmaya dâhil edilen çalışmaların kaliteleri değerlendirilir
- Araştırmacılar sistematik derlemeyi tekrar edip sonuçlarını doğrulayabilirler.

Kitchenham (2007), araştırmaya konu olan ilgili literatürün sistematik incelemesini yapmak amacıyla geliştirilecek olan metodolojiyi üç ana aşamada sıralamıştır;

1. Araştırma sorularının ve izlenecek protokollerin belirlenmesi ve gözden geçirilmesi,
2. Verilerin çıkarılması ve sentezine ek olarak, makalelerin seçimini ve kalitelerinin doğrulanmasını içeren incelemenin yapılması,
3. Elde edilen sonuçları sunan bir rapor aracılığıyla çalışma hakkında bilgi verilmesi.

Bu sistematik literatür taraması çalışması için inceleme protokolü şu şekilde tanımlanmıştır; araştırma soruları, veri kaynağı, araştırma stratejisi, seçim kriterleri ve çalışma kalitesi ve veri çıkarma.

### Araştırmanın amacı ve araştırma soruları

Bu çalışmanın genel amacı, akıllı perakendecilik alanında yapılan makale çalışmalarını belirli ölçütler çerçevesinde sınıflandırmaktır. Bu genel amaç çerçevesinde çalışmada literatürdeki akıllı perakendecilik tanımlarını, ana çalışma başlıklarını ve temel araştırma boşluklarını ortaya koymak hedeflenmiştir. Sistematik literatür taraması yürütülen bu çalışmada araştırma soruları aşağıdaki şekilde belirlenmiştir.

**Tablo 1:** Çalışmanın Araştırma Soruları

Araştırma Soruları	
AS.1	Perakendecilikte akıllılık nedir?
AS.2	Akıllı perakendecilik alanında geliştirilen ana başlıklar nelerdir ve bunlar arasında hangi konular daha fazla çalışılmış ve geliştirilmiştir?
AS.3	Akıllı perakendecilik literatüründeki temel araştırma boşlukları nelerdir ve gelecekteki araştırmalar nasıl şekillendirilebilir?

**Kaynak:** Yazar tarafından üretilmiştir.

### Veri kaynağı

Çalışma kapsamında incelenecek bilimsel makalelere ulaşmak için aşağıdaki veri tabanları seçilmiştir: Scopus, Web of science, ScienceDirect, Springer Link, Sage journals, TR Dizin. Seçilen veri tabanları sosyal bilimlerde dahil olmak üzere pek çok bilgi alanı ile ilgili referans sunan elektronik veri tabanlarıdır.

### Araştırma stratejisi

Toplanan bilimsel makaleler araştırma soruları ile ilgili bilgileri içermektedir. Bu amaçla şu arama dizisi kullanılmıştır: (smart AND retailing) OR (smart AND retail), (Akıllı VE perakendecilik) VEYA (Akıllı VE Perakende) Bu anahtar kelimeler araştırmanın tüm ana kavramlarını kapsamaktadır. Tüm veri tabanlarında başlıklar, özetler ve anahtar kelimelerde arama yapılmıştır.

### Seçim kriterleri

Bilimsel makalelerin aranmasını ve seçilmesini ele almak için dahil etme ve hariç tutma kriterleri tanımlanmıştır.

Dahil etme kriterleri:

- Akıllı perakendecilik ile ilgili makaleler
- 2013-2022 yılları arasında yayınlanan makaleler
- İngilizce ve Türkçe yazılmış makaleler
- Hakemli dergilerde yayınlanmış makaleler
- Uluslararası dergilerde yayınlanmış makaleler
- İşletme, pazarlama, ekonomi ve sosyal bilim alanlarındaki makaleler

Hariç tutma kriterleri;

- Tezler, kitaplar ve kitap bölümleri
- Bilişim, teknoloji, mühendislik, finans, çevre bilimi, enerji, matematik, sağlık, eğitim ve psikoloji alanlarında yazılmış makaleler

### Veri çıkarma

Araştırma kapsamında seçilen tüm makaleler; yayın yılı, yayınlandığı yer, yayınladığı dergi ve makalelerde kullanılan metodolojilere göre sınıflandırılmıştır. Yine araştırmada veri çıkarma sürecinde makalelerde yer alan temel akıllı perakendecilik tanımları, çalışılan temel konular ve literatürdeki araştırma boşluklarına ilişkin makaleler dikkate alınmıştır.

## Bulgular ve tartışma

### Makalelerin seçimi

Bu çalışma Scopus, Web of science, ScienceDirect, Springer Link, Sage journals, TR Dizin'de bulunan bilimsel makaleleri içermektedir. Şekil 1, makale seçim sürecinde elde edilen sonuçları belgelemektedir.

#### 1. Adım: Veritabanı Araştırması

- Scopus: 201 makale
- Web of Science: 145 makale
- Science Direct: 92 makale
- Springer Link: 62 makale
- Sage Journals: 68 makale
- TR Dizin: 3 makale
- Toplam: 571 makale

#### 2. Adım: Başlıkların ve Özetlerin Okunması

- 158 makale özetlerin ayrıntılı okunması için seçildi.

#### 3. Adım: Tam Metinlerin Okunması

- Scopus: 25 makale
- Web of Science: 16 makale
- Science Direct: 11 makale
- Springer Link: 2 makale
- Sage Journals: 2 makale
- TR Dizin: 1 makale
- Toplam: 57 makale tam metinlerin okunması için seçildi

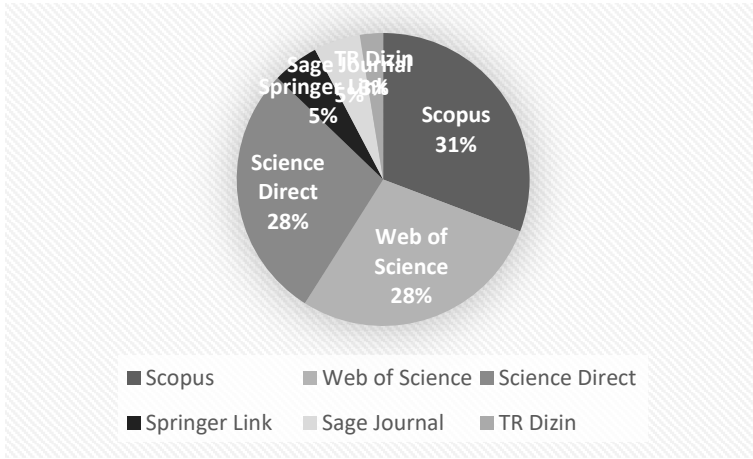
#### 4. Adım: Benzerlerin Elenmesi (18 makale)

- Scopus: 12 makale
- Web of Science: 11 makale
- Science Direct: 11 makale
- Springer Link: 2 makale
- Sage Journals: 2 makale
- TR Dizin: 1 makale
- Toplam: 39 makale çalışmaya dahil edildi.

### Şekil 1: Makale Seçim Süreci

**Kaynak:** Yazar tarafından üretilmiştir.

Makale seçim süreci sonucunda araştırmanın ilk adımında toplam 571 makale elde edilmiştir. Başlıkların okunması ve özetlerin gözden geçilmesinin ardından dahil etme kriterleri çerçevesinde 571 makale içerisinde 158 makale özetlerin ayrıntılı okunması için seçilmiştir. Özetlerin ayrıntılı olarak okunmasının ardından 158 makale içerisinde araştırmanın amacına uygun olarak 57 makale tam metinlerin okunması için seçilmiştir. Benzer olan 18 makale elendikten sonra geriye kalan 39 makale çalışmaya dahil edilmiştir. Bu süreç, elektronik veri tabanları tarafından sağlanan farklı seçim seçenekleri kullanılarak veya Springer Link veri tabanında uygulandığı gibi manuel inceleme yoluyla gerçekleştirilmiştir. Araştırma kapsamında incelenecek olan makalelerin seçiminde belirlenen dahil etme kriterleri uygulanmıştır. Bu bağlamda seçilen makalelerin akıllı perakendecilik ile ilgili olması, 2013-2022 yılları arasında yayınlanmış olması, İngilizce veya Türkçe yazılmış olması, uluslararası hakemli dergilerde yayınlanmış olması, sosyal bilimler, işletme ve pazarlama alanlarındaki makaleler olması dikkate alınmıştır.



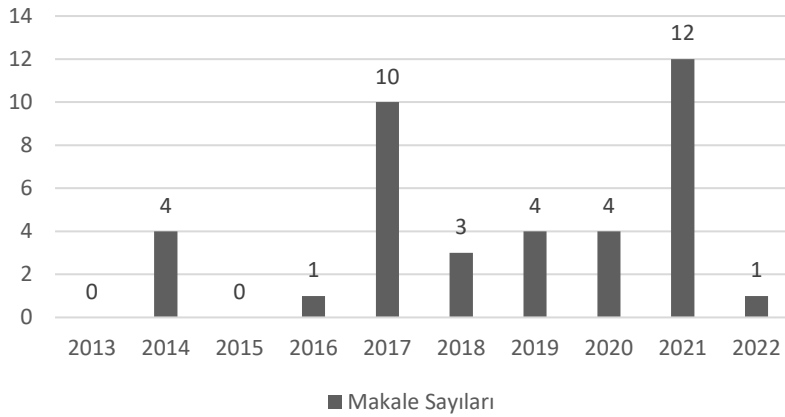
**Şekil 2:** Elektronik Veri Tabanlarından Elde Edilen Makalelerin Dağılımı

**Kaynak:** Yazar tarafından üretilmiştir.

Makale seçiminde başvurulan veri tabanlarından her birinde bulunan makalelerin yüzdesi Şekil 2’de gösterilmiştir. En fazla makalenin Scopus (12 makale, %31) ve ardından Web of Science (11 makale %28) ve Science Direct (11 makale, %28) veri tabanlarında bulunduğu görülmektedir. En düşük sayı Springer Link (2 makale, %5), Sage Journal (2 makale, %5) ve TR Dizin (1 makale, %3) veri tabanlarında bulunmuştur.

### Makalelerin sınıflandırılması

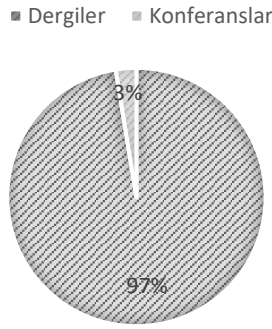
Araştırma kapsamında seçilen 39 makalenin 2013-2022 yılları arasındaki dağılımı incelenmiştir. Bu sistematik literatür taramasında ele alınan ve 10 yıllık süre içinde yayınlanan makale sayılarının yıllara göre dağılımı Şekil 2’de gösterildiği şekildedir. Bu makalelerin 34’ünün son 6 yıl içerisinde yayınlanması akıllı perakendecilik ile ilgili çalışmalara olan bilimsel ilginin önemli ölçüde arttığını göstermektedir.



**Şekil 3:** Makalelerin Yıllara Göre Dağılımı

**Kaynak:** Yazar tarafından üretilmiştir.

Şekil 3, seçilen 39 makalenin farklı bir sınıflandırmasını göstermektedir. Buna göre makalelerin 1’i konferansa (%3) ve 38’i dergiye (%97) karşılık gelmektedir. İncelenen makalelerin tamamına yakınının dergiler aracılığıyla sunulması, konferans yoluyla araştırma sunumuna daha az ilgi duyulduğunu göstermektedir.



**Şekil 4:** Makalelerin Yayınlandığı Yere Göre Dağılımı

**Kaynak:** Yazar tarafından üretilmiştir.

Makalelerin yayınlandığı dergilere göre sınıflandırılması incelendiğinde çok sayıda farklı derginin olduğu ancak yalnızca bazılarında birden fazla makalenin yayınlandığı görülmektedir (Tablo 2'de koyu renkle seçilmiştir). Tablo 2'de 39 makaleyi barındıran dergi listesinin tamamı gösterilmektedir.

**Tablo 2:** Makalelerin Yayınlandığı Dergilere Göre Dağılımı

Dergi Adı	Makale Sayısı
Asia-Pacific Journal of Management	1
Australasian Journal of Information System	1
<b>Computers in Human Behaviour</b>	<b>5</b>
Gençlik Araştırmaları Dergisi	1
Information Technology and Management	1
International Journal of Data and Network Science	1
International Journal of fashion Design, Technology and Education	1
Intenational Journal of Information Management	1
International Journal of Retail & Distribution Management	1
Journal of Ambient Intelligence and Humanized Computing	1
Journal of Business Research	1
<b>Journal of Marketing Management</b>	<b>2</b>
Journal of Retailing	1
<b>Journal of Retailing and Consumer Services</b>	<b>8</b>
Journal of Service Marketing	1
Marketing Intelligence& Planning	1
Procedia Enviromental Sciences	1
Recherche Applications en Marketing (İngilizce Baskı)	1
Science & Technology	1
<b>Sustainability</b>	<b>2</b>
<b>Technological Forecasting &amp; Social Change</b>	<b>5</b>
Young Consumers	1
<b>Toplam</b>	<b>39</b>

**Kaynak:** Yazar tarafından üretilmiştir.

Bu çalışmanın amacı ile daha fazla ilgili olan ve aynı zamanda daha fazla sayıda yayınlanmış makale içeren dergiler aşağıdaki şekildedir:

- Computers in Human Behaviour
- Journal of Marketing Management
- Journal of Retailing and Consumer Services
- Sustainability
- Technological Forecasting & Social Change

#### Makalelerin metodolojik açıdan incelenmesi

Çalışmada incelenen makalelerin genel özelliklerine göre sınıflandırılmalarından sonra, makalelerde benimsenen metodolojik yaklaşımlar analiz edilmiştir. Dikkate alınan ilk ayırım, ampirik katkıların tamamen kavramsal olanlardan ayrılmasını sağlayan, benimsenen temel metodolojik yaklaşımla ilgilidir.

Bu sistematik literatür incelemesinde seçilen 39 makalenin %31'i (7 makale) kavramsal makalelerken, %69'u (32 makale) ise ampirik makalelerden oluşmaktadır. Yeni bir konu olarak akıllı perakendecilik konusunda kavramsal ve/veya teorik bir bakış açısıyla yürütülen çalışmaların sayıca yetersiz olduğu görülmektedir. Konu ile ilgili daha çok ampirik araştırmalar yürütüldüğü ifade edilebilir.

Kavramsal makalelere ayrıntılı olarak bakıldığında, bunların çeşitli araştırma tasarımlarına dayandığı görülmektedir. Bu makalelerin dağılımı aşağıdaki şekildedir:

- Literatür taraması (2 makale, %22);
- Bir modelin veya çerçevenin oluşturulması (4 makale, %62);
- Sistemik literatür taraması (1 makale, %16).

Ampirik makalelerin ayrıntılı incelenmesi sonucunda elde edilen farklı araştırma tasarımlarına göre makalelerin dağılımı aşağıdaki şekildedir:

- Nitel, (10 makale, %24);
- Nicel, (22 makale, %76).

### Akıllı Perakendecilik Tanımları

Bu çalışmada seçilen makalelerin %50'den daha az bir kısmı akıllı perakendecilik tanımına yer vermekte ve farklı kaynaklardan elde edilen tanımlara atıf yapmaktadır. İncelenen makalelerde hem yazarlara ait hem de çalışmada atıf yapılan diğer yazarlara ait tanımlar dikkate alınmıştır. Nispeten yeni bir araştırma alanı olan akıllı perakendecilik kavramının farklı açılardan incelenebilecek geniş bir kavram olduğu düşünülmektedir. Yeni teknolojilerin kullanılmasının ötesine geçen akıllılık fenomeni ile gelişen akıllı perakendecilik kavramına yönelik yapılan tanımlar aşağıda Tablo 3'te gösterildiği şekildedir.

**Tablo 3:** Akıllı Perakendecilik Tanımları

Yazarlar	Tanım	Referans
Pantano ve Timmermans (2014)	"Firmaların ve tüketicilerin alışveriş deneyimlerinin kalitesini artırarak yeni hizmet ekonomisindeki rollerini yeniden icat etmek ve güçlendirmek için teknolojiyi kullandıkları belirli bir perakendecilik fikridir."	Pantano vd. (2018), Willems, Smolders, Brengman, Luyten, ve Schöning, (2017), Roy vd. (2017), Vrontis vd. (2017), Vazquez vd. (2017), Priporas vd. (2017), Bourg vd. (2020), Bezes (2019), Karaömerlioğlu ve Özeltürkay (2018)
Roy vd. (2017)	"Farklı temas noktalarında müşteri deneyimini kişiselleştirmek ve bu temas noktaları üzerindeki performansı optimize etmek için farklı müşteri temas noktalarının sorunsuz yönetimini destekleyen etkileşimli ve bağlantılı bir perakende sistemidir."	Priporas vd. (2017), Roy vd. (2021), Bezes (2019), Lin (2021), Riegger, Klein, Merfeld, ve Henkel, (2021)
Kim vd. (2017)	"Süreçleri daha akıllı hale getirmek için yeni teknolojilerin ve kaynakların yeniden yapılandırılmasını içeren belirli inovasyon yönetimi ve stratejilerin geliştirilmesini gerektiren perakende sistemidir."	Pantano vd. (2018)
Inman ve Nikolova (2017)	"Akıllı perakendecilik, bilgi ve iletişim teknolojilerinin gelişiminde farklı bir aşamayı temsil ederek perakendeciliğin fiziksel ve dijital boyutlarının birleştirildiği sistemlerdir."	Kim (2021)
Rauschnabel ve Hinsch (2019)	"Müşteri ihtiyaçlarına ulaşmak ve bu ihtiyaçları karşılamak için akıllı teknolojilerle geliştirilmiş kanallardır."	Nikhashemi, Knight, Nusair, ve Liat (2021)
Pantano ve Dennis (2019)	"Akıllı perakendecilik, perakendecilerin müşterilerine sürdürülebilir bir ekonomideki rollerini yeniden oluşturmak, güçlendirmek ve tüketici deneyimi kalitesini iyileştirmek için akıllı teknolojiler sunduğu bir platformdur."	Kim (2021)

**Kaynak:** Yazar tarafından üretilmiştir.

Tablo 3'te görüldüğü şekilde seçilen makalelerde yer alan akıllı perakendecilik tanımlarından en çok atıf alan ve farklı yazarlar tarafından çeşitli çalışmalarda kullanılan tanımın, Pantano ve Timmermans (2014) tarafından yapılan "firmaların ve tüketicilerin alışveriş deneyimlerinin kalitesini artırarak yeni hizmet ekonomisindeki rollerini yeniden icat etmek ve güçlendirmek için teknolojiyi kullandıkları belirli bir perakendecilik fikri" şeklindeki tanım olduğu görülmektedir.

### Akıllı Perakendecilik Temaları

Çalışma kapsamında seçilen 39 makale derinlemesine analiz edilerek, akıllı perakendecilik alanındaki temel çalışma konularını 5 farklı başlık altında sınıflandırmak mümkün olmuştur. Analiz edilen makalelerden ortaya çıkan ilk tema, akıllı perakendecilikte kullanılan teknolojilerle bağlantılıdır. Özellikle yeni gelişen akıllı perakendecilik uygulamalarının temelini oluşturan yeni teknolojilerin yoğun şekilde incelenmesi son dönemlerde geliştirilen akıllı teknolojiler üzerinde gelişen bu perakende



alanında beklenen bir sonuç olarak karşımıza çıkmaktadır. İncelenen makalelerde yer alan akıllı perakende teknolojileri; akıllı ayna, akıllı gözlük, akıllı ödeme sistemleri, dokunmatik paneller, barkod tarama, akıllı market arabaları, kişisel alışveriş asistanı, RFID teknolojileri, mobil uygulamalar, kasiyersiz self kasalar, mağaza içi CRM, sanal gerçeklik ve mağaza içi akıllı sistemler şeklindedir. Akıllı perakendecilik alanındaki temel çalışma konuları aşağıda Tablo 4'te gösterildiği şekildedir.

**Tablo 4:** Temel Çalışma Konuları

Konular	Makale Sayısı	%	Referans
Akıllı Perakende Teknolojileri	17	44%	Perumal, Qing, ve Jaganathan, (2020), Chen ve Shang (2021), Kim (2021), Willems vd. (2017), Oqunjimi, Rahman, Islam, ve Hasan, (2021), Riegger vd. (2021), Ng vd. (2019), Sandan vd. (2019), Gaur vd. (2017), Pantano (2017), Pantano (2014), Vazquez vd. (2017), Paydar vd. (2014), Shankar, Kalyanam, Setia, Golmohamadi, Tirunillai, Douglass, Hennessey, Bull, ve Waddoups, (2021), Pantano ve Priporas (2016), Karaömerlioğlu ve Özeltürkay (2018), Roy vd. (2020), Bezes (2019), Vrontis (2017)
Tüketici Davranışları (Müşteri Bağlılığı) (Müşteri Kabulü) (Müşteri Katılımı) (Müşteri Deneyimi) (Tüketici Beklentileri)	12	31%	Perumal vd. (2020), Kim (2021), Kim vd. (2017), Lin (2021), Vazquez vd. (2017), Hasan vd. (2021), Pantano ve Priporas (2016), Bourg vd. (2020), Paydar vd. (2014), Roy vd. (2021) Roy (2018) Fan vd. (2020) Sun, Xue, Bandyopadhyay, ve Cheng., (2021), Foroudi vd. (2018) Priporas vd. (2017), Karaömerlioğlu ve Özeltürkay (2018)
İnovasyon	4	10%	Pantano ve Migliorese (2014), Pantano (2014), Pantano vd. (2018), Pantano vd. (2017)
Artırılmış Gerçeklik	4	10%	Pantano vd. (2017a), Dacko (2017), Holdack (2022), Nikhashemi vd. (2021)
Akıllı Mağaza	2	5%	Kim (2017), Chang ve Chen (2021)
<b>Toplam</b>	<b>39</b>	<b>100%</b>	

**Kaynak:** Yazar tarafından üretilmiştir.

Tablo 4'te görüldüğü şekilde incelenen 39 makalede yer alan temel alanlar 5 konu başlığı altında sınıflandırılmıştır. Bunlar; akıllı perakende teknolojileri (17 makale, %44), tüketici davranışları (12 makale, %31), inovasyon (4 makale, %10), artırılmış gerçeklik (4 makale, %10) ve akıllı mağaza (2 makale, %5) şeklindedir.

### Gelecek Çalışmalara Öneriler

Çalışmanın önceki araştırma sorularına yönelik verilen cevapların neticesinde akıllı perakendecilik alanında yapılan çalışmaların konuyu hangi değişkenler hangi bileşenler ve hangi sebep sonuç ilişkilerinde ele aldığı ortaya konulmuştur. Son olarak incelenen makalelerden elde edilenler neticesinde konu ile ilgili araştırma boşlukları ve gelecek araştırmaların şekillendirilmesinde yardımcı olabilecek bazı noktalar bu bölümde sunulmuştur.

Öncelikle akıllı perakendecilik alanındaki çalışmaların daha çok tüketicilerin davranışlarını inceleyen ve nicel yöntem ağırlıklı araştırmalar oldukları görülmektedir (Pantano ve Migliorese, 2014; Paydar vd., 2014; Pantano ve Priporas, 2016; Kim vd., 2017; Vazquez vd., 2017; Bourg vd., 2020; Chang ve Chen, 2021; Chen ve Shang, 2021; Lin, 2021; Roy vd., 2021). Ancak bildiğimiz kadarıyla mevcut araştırmaların çoğu akıllı teknolojilerle müşteri deneyiminden ziyade akıllı teknolojilerin benimsenmesini ve kabul edilmesini ele almıştır (Pantano ve Servidio, 2012; Rese vd., 2014; Priporas vd., 2017; Roy vd., 2018; Foroudi vd., 2018). Özellikle, akıllı perakende teknolojilerinin tetiklediği çağdaş pazarlama ve perakendecilik ortamında akıllı müşteri deneyimini araştıran titiz ampirik çalışmalar yetersizdir (Roy vd., 2017; Chang ve Chen, 2021). İlgili literatür konu hakkında daha fazla araştırma yapılmasını önermektedir. Örneğin, Roy vd. (2017) akıllı teknolojilerle müşteri deneyimini anlamaya yönelik araştırma eksikliği olduğunu iddia etmektedir. Garaus vd. (2016), perakende sektöründe akıllı teknolojilerin müşteri davranışı üzerindeki etkilerinin daha fazla araştırma yapmak için verimli bir alan olduğunu belirtmektedir. Yine Ostrom vd. (2015), akıllı perakende teknolojileri ile gelişen yeni müşteri deneyiminin daha fazla araştırma yapılmasını gerektiren bir alan olduğunu ifade etmektedir. Pantano ve Viassone (2015) perakende mağazalarındaki teknolojik yeniliklerin alışveriş yapanların beklenti ve tercihlerine cevap vermesi gerektiğini savunurken, akıllı perakende teknolojileri ile müşteri deneyimini ve sonuçlarını anlamının perakende yöneticileri içinde önemli olduğunu ifade etmektedir.

Roy vd., (2017) tarafından yürütülen çalışmada müşterilerin akıllı perakende teknolojileri ile deneyimlerini oluşturan faktörler araştırılmış ve perakendecilikte yenilikçi bir yapı olan "akıllı müşteri

deneyimi" incelenmiştir. Kavramsal bir modelin geliştirilmesi, akıllı müşteri deneyimlerini ve bunların akıllı teknoloji, müşteri ve perakendeci düzeyindeki sonuçları araştırılmıştır. Bu çalışma akıllı müşteri deneyimi, müşteri memnuniyeti, algılanan risk, davranışsal niyetler, ağızdan ağıza iletişim niyetleri, perakende mağazaya bağlılık, alışverişin etkinliği ve tüketici refahı arasındaki ilişkileri incelemektedir. Çalışmadan elde edilen bulgular, akıllı müşteri deneyiminin memnuniyeti doğrudan artırdığını ve akıllı perakende teknolojilerine yönelik algılanan riski azalttığını göstermektedir. Yine müşteri memnuniyetinin, davranışsal niyetleri, ağızdan ağıza iletişim niyetlerini, perakendeciye bağlılığı, alışveriş etkinliğini ve müşteri refahını artırdığı da elde edilen diğer sonuçlar arasındadır.

Yine Roy ve arkadaşları (2018) tarafından yürütülen çalışmada ise teknoloji kabul modeli, sistem özellikleri, teknoloji hazırlığı ve mağaza itibarı ile ilgili literatürü entegre ederek perakende sektöründe akıllı teknolojilerin müşteri kabulü ve direnci araştırılmaktadır. Çalışmadan elde edilen sonuçlara göre algılanan teknoloji hazırlığı, algılanan kullanım kolaylığı, müşterilerin akıllı perakende teknolojilerine yönelik tutumlarını ve davranışsal niyetlerini belirlemede kullanışlılık, üstün işlevsellik, algılanan uyarlanabilirlik ve mağaza itibarının etkili olduğu görülmüştür. Ayrıca bulgular teknoloji hazırlığının müşteri tutumunu doğrudan etkilemediğini, ancak algılanan yenilik özellikleri aracılığıyla dolaylı olarak etkilediğini göstermektedir.

Akıllı teknolojiler ve akıllı müşteri deneyimlerine yönelik yürütülen çalışmalarda davranışsal niyetler incelenmiştir. Gelecekteki araştırmalar, teknoloji kabul modeli, teknoloji hazırlığı ve organizasyonel özelliklerin akıllı perakendecilikteki fiili davranışları ne ölçüde etkilediğini incelemek için saha araştırmaları yürütebilirler. Yürütülen araştırmaların çoğunluğunun Amerika, İngiltere ve Avustralya gibi teknoloji kullanım düzeyi yüksek örneklerde yapıldığı görülmektedir. Gelecek araştırmalar çalışmalarını Türkiye gibi gelişmekte olan ülkeleri içeren örneklerde de yürütebilirler. Özellikle konu ile ilgili Türkçe literatürdeki araştırma sayısı dikkate alındığında saha da büyük bir araştırma boşluğu olduğu görülmektedir. Yürütülen çalışmaların genelinin kesitsel çalışmalar olduğu görülmektedir. Gelecekteki çalışmalar akıllı müşteri deneyiminin etkilerinin daha iyi anlaşılması için boyamsal bir yaklaşım benimseyebilirler. Bir diğer noktada, dijital benliğin (perakende alışverişte akıllı teknolojilerin kullanımı gibi) ve akıllı müşteri deneyiminin genişlemesi ve bunların yaşam kalitesi üzerindeki etkileri araştırılabilir. Yine farklı araştırmalar gelecekte akıllı müşteri deneyimlerinin iş performansı (satış geliri gibi) üzerindeki etkilerini inceleyebilir.

Akıllı mağazalarla ilgili çalışmalar, büyük ölçüde akıllı teknolojilerin müşteri alışveriş davranışlarından ziyade teknolojiyi benimseme üzerindeki etkilerine odaklanmıştır. Bu alandaki boşluğu doldurmak için Chang ve Chen (2021) tarafından yapılan araştırmada tüketici alışveriş niyetini etkileyen faydacı ve hedonik motivasyonları belirlemek için hedonik bilgi sistemleri kabul modeli (HISAM) uygulanmaktadır. Ek olarak, tüketici davranışlarının bireysel özelliklerden dolayı farklılık gösterebildiği durumlarda pazarlama bağlamında araştırma modelindeki moderatör rolünü test etmek için teknoloji hazırlığı değişkeni incelenmiştir. Sonuçlar, algılanan kullanım kolaylığının algılanan faydayı ve algılanan keyfi önemli ölçüde etkilediğini, dolayısıyla bu üç faktörün alışveriş niyetini doğrudan etkilediğini göstermektedir. Bununla birlikte, algılanan kullanım kolaylığının, müşterinin teknolojiye hazır olma düzeyi yüksek olduğunda algılanan kullanışlılık ve alışveriş niyeti üzerinde daha güçlü bir etkiye sahip olacağı sonuçları elde edilmiştir.

Akıllı perakendecilik konusu literatürde yeni bir alan olması nedeniyle nicel araştırmalar kadar nitel araştırmalarla da farklı yönleri ele alınarak çalışılmıştır. Priporas, Stylos ve Fotiadis (2017) tarafından yürütülen nitel çalışmada pazarlama ve dolayısıyla perakendecilik için gelecekteki en büyük zorluklardan biri gibi görünen ve yenilik odaklı Z kuşağı tüketicilerinin akıllı perakendecilik bağlamındaki algıları, beklentileri ve önerileri keşfedilmiştir. Çalışmadan elde edilen sonuçlar akıllı teknolojilerin Z kuşağı tüketicilerin deneyimleri üzerinde önemli bir etkiye sahip olduğunu göstermektedir. Ayrıca, bu belirli tüketici grubu, çeşitli yeni cihazların ve elektronik süreçlerin yaygın olarak kullanılabilir olmasını ve böylece tüketicilere daha fazla özerklik ve daha hızlı işlemler sunmasını beklemektedirler. Dahası, teknolojinin daha bilinçli alışveriş kararları verebilmeleri noktasında destek sağlamasını beklemektedirler. Nitel araştırmaların doğası ve örneklem boyutu ele alındığında gelecek çalışmalar farklı örneklerde ve nicel yöntemlerle yeni çalışmalar yürütebilirler. Ek olarak, diğer olası davranış kalıplarını ve akıllı perakendecilikteki ilerlemeleri keşfetmek için akıllı perakendeciliğin daha derinlemesine bir analizi yapılabilir.

## Sonuç

Bu sistematik literatür taraması, akıllı perakendecilik alanının yeni ortaya çıkan bir konu olduğunu vurgulamaktadır. Akıllı perakendecilik alanındaki literatürü sistemli şekilde ele alan bu çalışmanın

amacı kapsamında kavrama yönelik tanımlar ortaya konulmuş, temel çalışma konuları ve literatürdeki çalışma boşlukları tespit edilmiştir.

İlk olarak, iyi yapılandırılmış ve tekrarlanabilir bir yöntem kullanılarak yürütülen çalışmanın hem sistematik literatür taraması yöntemi kullanması hem de yerli literatürde yalnızca bir çalışmanın olduğu akıllı perakendecilik konusunda olması bu çalışmanın özgünlüğüne işaret etmektedir. Çalışmanın akıllı perakendecilik konusunda yerli literatürdeki boşlukları doldurmaya katkı sağlamış öncül araştırmalardan olması öngörülmektedir. Bu sistematik inceleme çalışmasından elde edilen sonuçlar son 10 yılın (2013-2022) eğilimlerini göstermektedir. Makalenin teorik bir model oluşturmaya çalışmamasına rağmen, akıllı perakendecilik alanında hem kavramsal olarak hem de ampirik çalışmalarda gelecekteki araştırmalar için bir temel oluşturmaya yardımcı olabileceği düşünülmektedir.

Bununla birlikte yapılan çalışmada akıllı teknolojiler temelinde gelişen akıllı perakendecilik kavramı ile ilgili sınırlı sayıda tanım elde edilmiştir. Yapılan tanımlar incelendiğinde tanımların odağında müşteri deneyimlerinin kalitesinin artırılması, müşteri deneyimlerinin kişiselleştirilmesi ve etkileşimli yeni (akıllı) teknolojilerin yer aldığı görülmüştür. Yabancı literatürdeki sınırlı sayıdaki tanımların varlığı ve yerli literatürde herhangi bir tanımın bulunmaması bu alanda daha fazla kavramsal çalışmaların yapılmasının gerekliliğine işaret etmektedir.

Yine bu çalışmada akıllı perakendecilik alanındaki temel çalışma konuları tespit edilmiştir. İncelenen makalelerde en çok ele alınan konuların “akıllı perakende teknolojileri” ve “tüketici davranışları” olduğu görülmüştür. Yapılan tespitlerin ileriki araştırmalara çalışma alanı boşluklarının belirlenmesi yönünden katkı sunacağı öngörülmektedir. Özellikle yerli literatürde konu ile ilgili bir tek çalışmanın bulunması ilgili alanda büyük bir boşluğun varlığına işaret etmektedir. Bu makalede incelenen araştırmaların sunulan temel çalışma konuları gelecekte yapılacak araştırmalara yön vermede katkı sağlayacaktır.

Yeni bir alan olan akıllı perakendecilik konusunda yapılan araştırmalar oldukça sınırlıdır. Özellikle akıllı teknolojiler ile müşteri deneyimini inceleyen titiz ampirik çalışmalar yetersizdir. İlgili literatür konu ile ilgili daha fazla araştırma yapılmasını önermektedir. Akıllı teknolojiler ve akıllı müşteri deneyimlerine ilişkin çalışmaların davranışsal niyetleri ele alan kesitsel çalışmalar olduğu görülmekte, gelecekteki çalışmaların akıllı müşteri deneyiminin olası etkilerinin daha iyi anlaşılması için boylamsal bir yaklaşım benimsemeleri önerilmektedir. Özellikle teknoloji kabul modeli, teknoloji hazırlığı ve organizasyonel özelliklerin akıllı perakendecilikteki davranışları nasıl etkilediğini inceleyebilmek amacıyla saha araştırmaları yürütülebilir. Bununla birlikte akıllı perakende teknolojileri ile müşteri deneyimini ve sonuçlarını anlamının perakende yöneticileri açısından da önemli olduğu görülmektedir. Akıllı müşteri deneyiminin perakendeci düzeyindeki etkilerine (marka sadakati, perakende mağazaya yapışkanlık vb.) ilişkin çalışmalar, özellikle perakende yöneticilerine, akıllı perakende teknolojilerini müşteri davranışlarını geliştirme ve rekabet avantajı elde etmede bir araç olarak kullanma noktasında çeşitli çıkarımlar sağlayacaktır. Araştırmaların çoğunluğunun yürütüldüğü Amerika, İngiltere ve Avustralya gibi teknoloji kullanım düzeyi yüksek ülkeler dışında gelişmekte olan diğer ülkelerden alınan örneklerde benzer çalışmalar yürütülebilir. Yine akıllı teknolojilerin perakendecilik alanındaki uygulamalarının ve akıllı müşteri deneyimlerinin iş performansı üzerindeki etkileri araştırılabilir.

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Authors should adhere to publication requirements that submitted work is original, is not plagiarized, and has not been published elsewhere - fraudulent or knowingly inaccurate statements constitute unethical behaviour and are unacceptable. If an author has used the work and/or words, this original has been appropriately cited or quoted and accurately reflects individuals' contributions to the work and its reporting.

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Business & Management Studies: An International Journal, as the publisher of BMIJ, encourages the editors to follow the Double-blind refereeing process. The referee and the author (s) are unaware of the identity of each other. Scientific studies are sent to at least two referees in the evaluation process. The publisher defines the relationship between the publisher, editor and other parties in a contract, respect privacy (for example, for research participants, for authors, for peer reviewers), protects intellectual property and copyright, and fosters editorial independence.

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Publisher works with journal editors to:

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Business & Management Studies: An International Journal [BMIJ], işletme ve yönetim bilimlerinin tüm yönleri üzerine olan bilimsel makaleleri yayınlamaya kendini adanmış, diğer akran hakemlerin değerlendirmelerine tâbi, çoklu bilim dalından oluşan, uluslararası bir dergidir. İnternet üzerinden online olarak yılda 3 kez - 2019'dan itibaren yılda 4 kez - yayınlanan dergimiz, işletme ve yönetim bilimleri ile ilgili tüm alanlardaki yeni bulgular ve değerlendirmeler üzerine dünyadaki lider platformlardan biri olmayı hedeflemektedir.

## Business & Management Studies: An International Journal (BMIJ) Dergisindeki Makalelerin Yayın Etiği Kuralları Açısından Durumu

Business & Management Studies: An International Journal (BMIJ), akran hakemlerin değerlendirmelerine tâbi olup, bir derginin yayınlanmasında yer alan tüm tarafların en yüksek etik kurallar çerçevesinde davranmalarını sağlamayı taahhüt etmiştir. Bu taraflar; yazarlar, derginin editörü, yardımcı/bölüm editörleri, akran hakemler ve yayımcıdır.

BMIJ yayın etiği kuralları, içeride ve dışarıda, "çift-körleme hakemlik sürecine", yani makale yazar (lar)ının ve hakemlerin kimliklerinin birbirlerinden gizlenerek yapılan bir yöntemle incelenmesi üzerine kuruludur ve bu ilkeye sadık kalınarak uygulanır. Bilimsel çalışmalar, değerlendirme aşamasında en az iki hakeme (değerlendiriciye) gönderilir.

### Editörün Sorumlulukları

#### Hesap Verebilirlik:

Business & Management Studies: An International Journal (BMIJ) dergisinin editörleri, dergiye gönderilen makalelerden hangilerinin yayınlanacağı hususunda karar verme aşamasından sorumludurlar ve bu konuda hesap verme konumundadırlar. Editör, derginin yayın kurulunun ilkeleri doğrultusunda yönlendirilebilir ve sonradan yürürlüğe girebilecek olan yayın yoluyla hakaret, telif hakkı ihlali ve eser hırsızlığı gibi yasal şartlar nedeniyle sınırlandırılabilir. Editör, bu kararı verirken diğer editörler ya da hakemlerle bu durumu müzakere edebilir.

#### Tarafsızlık:

Makalelerin değerlendirme ve yayınlanma kararı aşaması; yazarların ırk, cinsiyet, cinsel yönelim, dinî inanç, etnik köken, tabiiyet veya siyasi felsefesine bakılmaksızın gerçekleşecektir.

#### Gizlilik:

Editör(ler) ve editör kurulu, gönderilen bir taslakla ilgili herhangi bir bilgiyi, -eğer açıklamak uygun görülürse- ilgili yazar, hakemler, potansiyel hakemler, diğer yayın danışmanları ve yayıncı dışında hiç kimseye açıklamayacaklardır.

#### Bilgilendirme ve Çıkar Çatışması:

Yayın için gönderilen bir taslakta açığa çıkmış ama yayınlanmamış materyaller, yazarın açık rızası olmadan editörün kişisel araştırmasında kullanılamaz. Bağımsız değerlendirme sonucu elde edilen seçkin bilgi ve fikirler gizli tutulacak ve kişisel çıkarlar için kullanılmayacaktır. Editörler, ticarî kaygılardan bağımsız, âdil ve önyargısız kararlar verirler ve âdil ve uygun bir bağımsız değerlendirme sürecini temin ederler. Editörler rekabete dayanan, ortak çalışmaya dayalı ya da başka ilişkilerden kaynaklı veya makalelerle bağlantılı herhangi bir yazar, şirket ya da muhtemel kurum bağlantıları sebebiyle ortaya çıkan çıkar çatışmalarının olduğu makale taslaklarının değerlendirmesinden feragat ederler, geri çekilirler, (başka bir deyişle, diğer editör, yardımcı editör veya yayın kurulundan başka birisinin bu değerlendirmeyi kendisinin yerine yapmasını isterler). Eğer bu faydalar yayından sonra meydana çıkarsa editörler, tüm katılımcılardan çatışan çıkar unsurlarını açıklamalarını ve düzeltmeleri yayınlamalarını isterler. Eğer ihtiyaç duyulursa, cayma kararının yayınlanması ya da kaygıların ifade edilmesi gibi başka uygun tedbirler alınır.

#### Soruşturmalara Katılım ve İş birliği:

BMIJ Editörleri, ihtiyaç halinde düzeltmeleri ve cayma durumlarını bildirerek ve şüpheli veya şüpheli iddiası olan araştırmaları ve yayın suiistimallerini takip ederek yayınlanmış belgenin bütünlüğünü sağlayacaktır. Editörler, hakem ve yazı işleri ile ilgili suiistimalleri takip etmelidirler. Bir editör; başvuru yapılmış bir makale taslağı ya da yayımlanmış bir makale ile ilgili olarak yayıncı veya toplumla bağlantılı olan yayın etiği ile ilgili şikayetler yapılmışsa bunlarla ilgili makul cevabı önlemleri almalıdır. Bu tür önlemler genelde makale taslağının ya da yayımlanmış makalenin yazarıyla bağlantı kurmak veya ilgili şikâyet ya da ortaya konulan iddiaya gereken önemi vermek şeklinde olabildiği gibi, ilgili kurumlar ve araştırma organlarıyla daha ileri seviyede bağlantılar kurmak şeklinde de olabilir. Eğer iddia onanırsa, ilgili olması halinde, düzeltmenin, cayma durumunun yayınlanması, kaygı ya da başka bir bilginin ifade edilmesi şeklinde olması da

mümkündür. Bildirilen her bir etik dışı yayın davranışı hareketi, yayımdan yıllar sonra bile ortaya çıkarılsa mutlaka soruşturulmalıdır.

### Hakemlerin Sorumlulukları

#### Editöryal Kararlara Katkı:

Akran değerlendirmesi, editöre, yayımla ilgili kararlar vermesinde ve editörün yazarla editöryal iletişimine, yazarın makaleyi geliştirmesine yardımcı olur.

#### Hızlı Davranma:

Seçilmiş herhangi bir hakem; bir makale taslağında ortaya konan araştırmayı gözden geçirme konusunda kendisini yetersiz hissederse veya taslağın hızlı ve objektif bir şekilde gözden geçirilmesinin mümkün olmayacağını bilirse, editörü bilgilendirmeli ve değerlendirme sürecinden alınmasını istemelidir.

#### Gizlilik:

Değerlendirme için gelen herhangi bir makale taslağı, 'gizli doküman' olarak kabul edilmelidir. Bu dokümanlar editör tarafından yetkilendirilmiş kişiler dışında kimseye gösterilmemeli veya kimseye tartışılmamalıdır.

#### Objektiflik Standartları:

Değerlendirmeler objektiflik ilkeleri çerçevesinde ele alınmalıdır. Yazarın şahsına yönelik kişisel eleştiri doğru değildir. Hakemler, düşüncelerini, destekleyici argümanlarla/delillerle açık ve net bir şekilde ortaya koymalıdır.

#### Alıntılanan Kaynakların Belirtilmesi:

Hakemler, yazarlar tarafından belirtilmeyen ilgili yayınlanmış eserlerin neler olduğunu bulup ortaya çıkarmalıdır. Önceden bildirilmiş olan bir gözlem, türetme veya görüş öne sürme ile ilgili herhangi bir bildirim, ilgili alıntı ile beraber olmalıdır. Bir hakem, değerlendirilmekte olan makale taslağı ile kişisel bilgisi dâhilinde olan başka herhangi bir yayınlanmış makale arasındaki kayda değer bir benzerlik veya örtüşmeye, editörün dikkatini çekmelidir.

#### Bilgilendirme ve Çıkar Çatışması:

Bağımsız değerlendirme sonucu elde edilen seçkin bilgi ve fikirler gizli tutulacak ve kişisel çıkarlar için kullanılmayacaktır. Hakemler; rekabete dayanan, ortak çalışmaya dayalı ya da başka ilişkilerden kaynaklı veya makalelerle bağlantılı herhangi bir yazar, şirket ya da muhtemel kurum bağlantıları sebebiyle ortaya çıkan çıkar çatışmalarının olduğu makale taslaklarını değerlendirmemelidirler.

### Yazarların Sorumlulukları

#### Standartların Bildirimi:

Yazarlar, buldukları sonuçları açık ve net bir biçimde, dürüstçe ve uydurmadan, üzerinde tahrifat veya uygun olmayan veri manipülasyonu yapmadan sunmalıdırlar. Yazarlar, metodlarını açık ve net bir biçimde, belirsizliğe meydan vermeyecek bir tarzda anlatmalı ki böylece bulguları başkaları tarafından doğrulanabilsin.

#### Özgünlük, İntihal ve Alıntılanan Kaynakların Belirtilmesi:

Yazarlar, sunulan çalışmanın orijinal olması, aşırma olmaması, başka bir yerde yayımlanmamış olması gibi yayın gereksinimlerine bağlı kalmalıdır. Aksi takdirde düzmece ya da bilerek ifade edilen gerçek dışı beyanlar, yayın etiğine uygun olmayan bir davranış teşkil eder ve bu durum kabul edilemez. Bir yazar; başkalarının çalışmalarını ve/veya kelimelerini kullandıysa, bu durum, orijinalinin uygun şekilde iktibas edildiği ya da bire bir alıntılandığı ve böylelikle bireylerin bu işe katkılarının doğru şekilde gösterildiği anlamına gelir.

#### Veri Girişi ve Veriyi Tutma:

Yazarların, yayımla ilgili bir editöryal değerlendirme durumuyla bağlantılı olarak kullandıkları ham veriyi vermeleri istenebilir. Böyle bir durumda yazarların, yayımlandıktan sonra bu tarz bir bilgiyi makul bir süre saklamaya hazırlıklı olmaları gerekir.

#### Yayın Etiği Kuralları:

Yazarlar, sadece yayın etiği ve sorumluluk çerçevesinde yürütülen ve tüm ilgili mevzuata uygun çalışmalarını, makale başvurusu olarak sunmalıdır.

### Bilgilendirme ve Çıkar Çatışmaları:

Tüm yazarlar makale taslaklarında yer alan, bu taslaklarının sonuçlarını ya da tercümesini etkileyeceği yönünde yorumlanabilecek herhangi bir finansal ya da maddi çıkar anlaşmazlığını bildirmek durumundadırlar. Projeye ilgili tüm maddi kaynaklar açıklanmalıdır.

### Eser Sahipliği:

Eser sahipliği, sunulan çalışmanın düşünce, tasarım, icra veya çevirisine önemli derecede katkı sunanlarla sınırlandırılmalıdır. Kayda değer bir katkıda bulunanların hepsi yazar listesinde yer almalıdır. Araştırma projesinin belli maddi yönleriyle ilgili katılım gösterenler olması durumunda da bu kişiler 'teşekkür edilenler' olarak belirtilmeli ya da 'katkıda bulunanlar' olarak listelenmelidir. Sorumlu yazar, uygun tüm yazarların makalede yer aldığından, uygun olmayanların da yer almadığından ve ayrıca tüm yazarların makalenin son halini gördüğünden ve yayın için teslim edilmesine onay verdiklerinden emin olmalıdır.

### Çoklu, Gereksiz ve Eş-Zamanlı Yayın:

Bir yazar aslında aynı araştırmayı anlatan bir makale taslağını genel olarak birden fazla dergide veya ilk yayından fazla yayımlamamalıdır. Aynı makale taslağını eş zamanlı olarak birden fazla dergiye göndermek yayın etiğine uymaz ve kabul edilemez.

### Yayımlanan Eserlerdeki Temel Hatalar:

Bir yazar kendisine ait yayımlanmış bir çalışmada, önemli bir hata veya yanlışlık ya da gerçek olmayan bir bilgi tespit ettiğinde, hızlı bir şekilde derginin editörünü bilgilendirmelidir. Makaleyi düzeltmek veya geri çekmek için editörle iş birliği yapmak, yazarın yükümlülüğündedir. Eğer editör ya da yayıncı, yayımlanan makalede önemli bir hata olduğunu üçüncü taraftan öğrenirse, hızlı bir şekilde makaleyi geri çekmek ya da düzeltmek veyahut orijinal makalenin doğruluğunu gösterir kanıtı editöre sunmak da yine yazarın yükümlülüğü altındadır.

## Yayıncının Sorumlulukları

Business & Management Studies: An International Journal (BMIJ) Dergisi Yayıncısı, editörleri "çift-körleme" hakemlik süreci konusunda cesaretlendirmektedir. Hakemler ve yazar(lar) birbirlerinin kimliklerinden habersizdirler. Bilimsel çalışmalar, değerlendirme sürecinde en az iki hakeme gönderilir. Yayıncı, kendisi, editör ve diğer taraflarla arasındaki ilişkiyi bir sözleşmede belirtir, gizlilik ilkesine riayet eder (mesela, araştırma katılımcılarının, yazarların ve akran hakemlerin gizliliği), fikrî mülkiyet hakkını ve telif hakkını korur ve yazı işlerinde bağımsızlığı teşvik eder.

Yayıncı, olması gerektiği şekliyle dergi ilkelerini belirlemek için dergi editörleriyle birlikte çalışır ve bu ilkeleri yerine getirmeyi özellikle şu hususlar bakımından amaç edinir:

- ❖ Yazı işleri bağımsızlığı,
- ❖ Gizlilik, rıza ve insan ve hayvan araştırmalarında gerekli olan özel gereksinimleri içeren araştırma etik kuralları,
- ❖ Eser sahipliği,
- ❖ Şeffaflık ve bütünlük (çıkar çatışması, araştırmacının finansmanı, standartları bildirme),
- ❖ Akran değerlendirmesi ve dergi editörünün dışında editör kurulunun rolü,
- ❖ Başvurular ve şikayetler.

Yayıncı, aşağıdaki durumları sağlamak için dergi editörleriyle birlikte çalışır:

- ❖ Derginin ilkelerini değerlendirmek (mesela, yazarlarla, okuyucularla, akran hakemlerle), periyodik olarak derginin ilkelerini, özellikle "çift-körleme" hakemliğin prensipleri çerçevesindeki yeni öneriler açısından gözden geçirmek,
- ❖ Akademik kayıt sisteminin bütünlüğünü korumak,
- ❖ Şüpheli araştırma ve suiistimal edilen yayınla ilgili yapılan soruşturmada sorumlu olan taraflara (mesela, kurumlar, hibe sağlayıcılar ve yerel yönetim organları) yardımcı olmak ve mümkün olduğu sürece vakaların çözümünü kolaylaştırmak,
- ❖ Düzeltmeleri, açıklamaları ve geri çekmeleri yayınlamak ve
- ❖ Belirtilen zamanda sayıyı yayınlamak.



Tarih (Date): 2013



Tarih (Date): 2018



Tarih (Date): 2013



Tarih (Date): 2014



Tarih (Date): 2018



Tarih (Date): 2014



Tarih (Date): 2020



Tarih (Date): 2017



Tarih (Date): 2018



Tarih (Date): 2018



Tarih (Date): 2017



Tarih (Date): 2022