

Entrepreneurial competencies in the success of enterprises: A bibliometric analysis of the publications in the field

Girişimlerin başarısında girişimcilik yetkinlikleri: Alandaki yayınların bibliyometrik analizi

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Abstract

There has been an acceleration in competence-based management in recent years, which has, in turn, influenced entrepreneurial success by strengthening entrepreneurial competencies. This study aims to analyse and predict the future of the research on entrepreneurial competencies using bibliometric methods. For this purpose, VOSviewer software was used for co-word analysis. Bibliometric methods such as citation analysis and co-author analysis were used to analyse the studies related to entrepreneurial competencies. It was found that most publications were published in 2019 based on a search in the Web of Science database between 1995 and 2023. The analysis of 1403 publications revealed that 460 proceeding papers, 10 early access and 210 book chapters were involved in the search. After reducing the set to include articles, 914 papers were evaluated. Results show that the authors most cited over the years are Lans Thomas, Al Mamun Abdullah, Mulder Martin, and Obschonka. Furthermore, it was found that Spain had the highest number of published works, followed by China and the USA respectively. Study findings also revealed that entrepreneurial competencies are more related to core, emotional, and network competencies and sustainable development, creativity, innovation, social capital, and higher education.

Keywords: Entrepreneurship, Entrepreneurial Competencies, Performance, Bibliometric Analysis, VOSviewer

Jel Code: L26

Öz

Yetkinliğe dayalı yönetimde son yıllarda bir hızlanma yaşanmakta ve bu da girişimci yeterlilikleri güçlendirerek girişimcilik başarısını etkilemektedir. Bu çalışmanın amacı girişimcilik yetkinlikleri üzerine yapılan araştırmaları bibliyometrik yöntemler kullanarak analiz etmek ve geleceğe yönelik tahminlerde bulunmaktır. Bu amaçla eş kelime analizi için VOSviewer yazılımı kullanılmıştır. Girişimcilik yetkinlikleri ile ilgili çalışmaların analizinde atıf analizi ve ortak yazar analizi gibi bibliyometrik yöntemlerden yararlanılmıştır. Web of Science veri tabanında 1995-2023 yılları arasında yapılan taramaya göre en fazla yayının 2019 yılında yapıldığı belirlenmiştir. 1403 yayının analizi sonucunda 460 bildiri, 10 erken erişim ve 210 kitap bölümünün yer aldığı tespit edilmiştir. İncelenen yayınlar yalnızca makaleleri içerecek şekilde daraltıldıktan sonra 914 makale değerlendirilmiştir. Sonuçlar, yıllar içinde en çok alıntı yapılan yazarların Lans Thomas, Al Mamun Abdullah, Mulder Martin ve Obschonka olduğunu ortaya koymuştur. Ayrıca en fazla eserin yayımlandığı ülkenin İspanya'nın olduğu, onu sırasıyla Çin ve ABD'nin takip ettiği belirlenmiştir. Araştırma bulguları ayrıca girişimci yetkinliklerin temel, duygusal ve ağ yetkinlikleri, sürdürülebilir kalkınma, yaratıcılık, yenilikçilik, sosyal sermaye ve yüksek öğrenimle daha fazla ilişkili olduğunu ortaya koymuştur.

Anahtar Kelimeler: Girişimcilik, Girişimcilik Yetkinlikleri, Performans, Bibliyometrik Analiz, VOSviewer

JEL Kodları: L26

Introduction

An understanding of prioritising entrepreneurship development, vital in shaping a country's economy and entrepreneurial behaviours, has become increasingly common today. Entrepreneurship remains the only source of consistent economic growth and job creation in today's artificial intelligence and automation era. Many countries are taking various initiatives to develop entrepreneurship in their economies. Also, entrepreneurs create SMEs through which they offer new products and services and achieve greater economic freedom (Amjad, 2022). Supporting the growth and creation of SMEs is one of several trends in creating entrepreneurship in different environments (Bismala & Handayani, 2022).

The competence-based management has accelerated in recent years and influenced entrepreneurial success by strengthening entrepreneurial competencies. Thus, developing entrepreneurial competencies that include attitudes and behaviours is paramount for entrepreneurs aiming to obtain higher performance. In other words, entrepreneurial competencies are the entrepreneur's traits, attitudes, behaviours, skills, and knowledge. There are six dimensions of entrepreneurial competencies identified in the literature. These six competency areas are opportunity, relationship, conceptual, organising, strategic, and commitment competencies.

Entrepreneurship remains the only source of consistent economic growth, job creation, new products and services, and greater economic freedom. The competence-based management has accelerated in recent years and influenced entrepreneurial success by strengthening entrepreneurial competencies. In today's conditions, transforming a business idea into an enterprise and keeping that enterprise alive requires essential competencies. What competencies are needed should be discussed through entrepreneurship competency models. Studies on entrepreneurship competence worldwide can be conducted using qualitative and quantitative research methods. So, this study aims to highlight the new trends and concepts integrated into entrepreneurial competencies by analysing studies in the field. It aims to guide studies on entrepreneurship competencies by examining previous research. This will enable researchers to understand better what has been studied, who was involved in these studies, which countries are leading on this topic and which variables are associated with it. Also, by understanding existing research and its findings, new insights can be gained into how best to develop entrepreneurial competencies through further investigation. First, the conceptualization of entrepreneurial competencies and previous studies is described. Second, the data collection and the procedures involved in bibliometric analysis related to subject research are presented. Bibliometric methods were used to analyse citations, co-authorship, and co-words to examine publications related to entrepreneurial competencies. Unlike a systematic literature review, the bibliometric study evaluates research using mathematics and statistics. It provides descriptive statistics on the field and identifies the main themes through the authors' keywords. Bibliometric analysis introduces an objective approach to the assessment of scientific material. The final aim is to achieve numerical measurement indicators about research performance and provide guidance for studies related to entrepreneurship competencies by examining the research already conducted in the Web of Science database. Discussions to be made on these indicators should be inspired by the experience and knowledge of the researchers in the field. Quantitative findings on country, author, university, weak and robust research areas and literature gaps are achieved with bibliometric analysis. These can be used as a first step in research. The co-word analysis uses a software tool for constructing and visualizing bibliometric networks, VOSviewer, with the keywords "entrepreneur*" and "competent*". Bibliometric methods such as citation analysis and co-author analysis were used to analyse the research published in articles related to entrepreneurial competencies. Finally, the literature review and bibliometric analysis findings are discussed, and the conclusions are presented.

It is evident that there is a growing interest in researching entrepreneurial competencies, and most publications were made in 2019, according to the research results in the Web of Science database between 1995 and 2023, according to the data obtained in March 2023. From this date on, upon scanning with the exact keywords in 2023, 382 more studies of the article type were identified. The most cited ones are included in this research. The analysis of 1403 publications has revealed interesting results. According to the type of publications, results show that most studies include articles. Respectively, articles are followed by proceeding papers (460), early access (10) and book chapters (210). The lack of book chapters and books shows that the entrepreneurial and competencies field has not yet formed a mature methodology. Then, it came out that entrepreneurial competencies research primarily focused on the subject area of business and management. After reducing the set to include only articles, 914 papers were evaluated. According to the analysis results, the authors most cited over the years are Lans Thomas, Al Mamun Abdullah, Mulder Martin, and Obschonka, Martin. There are collaborations between Al Mamun, Man, Mitchelmore and Bird and with Lans, Mitchelmore and Chandler. Upon

evaluating the publications by country, it was found that Spain had the most significant number of published works, followed by China and then the USA, respectively. According to findings, entrepreneurial competencies are more related to core competencies, emotional competencies, network competence, sustainable development, creativity, innovation, social capital and higher education. In the future, implications can be made for developing entrepreneurial competencies in the context of entrepreneurial success.

Literature review

People who launch and develop a business possess specific entrepreneurial characteristics proven by organizing resources and capitalizing on opportunities (Bird, 1995; Mitchelmore & Rowley, 2010). Competencies, which are divided into various types according to their areas of use for entrepreneurs, who are responsible for the success of a business and the most important actors in the economy of a society, have become the main priority. In other words, competencies have become a popular approach to determining the characteristics of entrepreneurs (Bird, 1995; Man et al., 2002; Schmitt-Rodermund, 2004; Baron & Markman, 2003; Martin & Staines, 1994; Kravis & Lipsey, 1992; Lumpkin & Dess, 1996; Barney, 1991; Chaston, 1997; Feurer & Chaharbaghi, 1994).

Entrepreneurial skills consist of creative problem-solving, thinking strategically, negotiation skills, and the ability to manage the business and make intuitive decisions under uncertainty (Hasan et al., 2019). Entrepreneurial competencies are characterized as high-level attributes that include the entrepreneur's personality traits, skills, and knowledge and are thought to be necessary for successfully carrying out a job role (Man et al., 2002). Self-efficacy and learning, risk-taking tendency, employability, personal initiative, and development can be listed here (Fagadar et al., 2021).

Entrepreneurial competencies have been conceptualized as an analysis of the inherent qualities of individuals who have recently started working for a company. These traits include the need for success, inventiveness, autonomy, propensity for taking risks, locus of control, and self-efficacy (Rauch & Frese, 2007). Evaluating opportunities, taking initiative and risks, connecting with potential suppliers and buyers, and convincing investors for a project mean that an entrepreneur is competent (Lans et al., 2011).

According to the definition of Man et al. (2002), entrepreneurial competencies, which are the capability of the entrepreneur to execute the job role effectively, include six dimensions: organizing, opportunity, commitment, strategic, relationship, conceptual and commitment competencies. Opportunity competency is defined as an entrepreneur's skill to identify and select the right business opportunities. Relationship competencies include trust and cooperation, communication, persuasive ability and interpersonal skills. Conceptual competency is understanding complex information and market opportunities to improve businesses. Organizing competencies include internal and external resources such as materials, budget and human resources. Strategic competencies refer to an entrepreneur's skill to develop a business vision, and commitment competencies refer to the effort or hard work entrepreneurs need to manage their business successfully (Johari et al., 2023).

Even though SMEs have limited resources in terms of technology, finance, skills, and information, the success of their operations over the long term depends on various other factors, including integration and relationships with suppliers and customers. Studies conducted in recent years have repeatedly demonstrated the direct and indirect impact that entrepreneurial competencies have on the long-term performance of SMEs (Man et al., 2008).

According to resource-based view theorists, entrepreneurial competencies effectively provide added value, obtain resources, and develop existing resources (Mitchelmore & Rowley, 2010). Since entrepreneurial knowledge, skills, and abilities are usually rare and values that competitors cannot imitate, they can provide a sustainable competitive advantage to the organization (Tehseen & Ramayah, 2015).

Many studies have been carried out in the literature that demonstrate the meaningful connection between entrepreneurial competencies and organizational success (Ahmad et al., 2010; Umeze & Ohen, 2015; Vijaya et al., 2015).

The study of Hamzah and Othman (2023) aimed to assess the influence of locus of control on entrepreneurial competency in a small business setting. They predicted how this could generate positive outcomes regarding business growth, quality of life, and sustainable entrepreneurial intention.

Rehman et al. (2023) used resource-based theory to examine the impact of the management control system package on business performance through the mediating role of entrepreneurial competencies and the interaction role of business strategy in small and medium-sized enterprises. The results revealed

that all management control system package elements significantly and positively influence entrepreneurial competencies.

Aftab et al. (2022) found positive moderation in the relationship between entrepreneurial competencies and SME performance in Pakistan's emerging environmental dynamism market.

Ismail's study (2022) looked into the mediating role of entrepreneurial innovations on entrepreneurs' competencies in small and medium enterprises in Tanzania. It showed that entrepreneurs' competencies positively affect entrepreneurial innovation and SMEs' sustainability.

Kisubi et al. (2022)'s results of studies show that SME performance can be improved by enhancing entrepreneurial competencies.

Minimol (2021) aimed to explore entrepreneurial competencies and the dimensions and factors that makeup them through a survey among small and medium entrepreneurs. In this study, the scale was used, including all four dimensions of entrepreneurial competency, and was found useful for small and medium entrepreneurs, policymakers, and training programmes for entrepreneurs in future research.

Kocyiğit and Celik (2021) found that entrepreneurial competencies and their subdimensions (opportunity, relationship, conceptual, organizational, strategic, and commitment) positively affect firm performance.

In their paper, Meiri and Zouaoui (2020) formulate five hypotheses to determine which competencies contribute the most to micro, small, and medium business growth. According to their findings, competencies were related to management, opportunities, and business-related technical and functional competencies.

Through the mediation of positive psychology capital, Hasan et al. (2019) discovered that entrepreneurial learning significantly affects students' entrepreneurial competence.

The study conducted by Al Mamun et al. (2019) in Malaysia shows that entrepreneurial competency, entrepreneurial skills and networking positively affect entrepreneurial performance.

Al Mamun and Fazal (2018) found that innovativeness, proactiveness, autonomy, and creativity positively influenced entrepreneurial competencies. In addition, they found that entrepreneurial competencies and autonomy positively affected micro-enterprise performance and mediated the relationships between creativity, innovativeness, autonomy, and micro-enterprise performance.

Another study revealed a strong correlation between work performance and entrepreneurial competencies in Kenya's public transportation industry (Kimeu, 2017).

According to Sarwoko et al. (2013), who examined the impact of entrepreneurs' competencies on firm performance, entrepreneurial traits foster the development of competencies, which in turn impacts firm performance.

The primary aim of Lans et al.'s (2010) research chapter is to shed more light on self-awareness concerning the mastery and improvability of entrepreneurial competence. According to the results, entrepreneurial competence overall is seen as subject to at least some development. The owner-managers in their study assessed the competencies of networking and leadership the highest, reflecting the most significant potential for improvement. Many of their studies underline the importance of studying entrepreneurial competence development in existing small businesses over time.

Methodology

This section will discuss the research procedures used to develop the methodology. This study aims to review publications on research on entrepreneurial competencies. An appropriate bibliometric method was used for data collection to achieve this purpose. First, a literature review was carried out on the Web of Science, a widely used database that includes records from journals related directly to topics related to entrepreneurial competencies. Data was collected in February-March 2024. No ethics committee approval was needed since the study data comprises secondary data collected from relevant literature using online academic databases.

The Web of Science database is a leading academic research resource. This database contains the most up-to-date scientific articles and other publications worldwide. One of the main reasons for choosing Web of Science is that it provides access to many scientific articles from non-commercial international peer-reviewed journals.

Once all related information was obtained, bibliometric methods, such as citation and co-citation analysis, allowed us to identify influential authors within a field and measure their impact by looking

at citations. These metrics provided valuable insights into how different fields interact with each other through collaborative work between authors or institutions, highlighting key developments within a particular area of study over periods.

In this study, to reach all studies related to entrepreneurship and competence, the search string ("entrepreneur*", "competent*") was used within the topics, abstracts, and keywords of the studies on the Web of Science database and examined by bibliometric analysis.

Then, the file (in TXT format), including all the bibliometric information of the sample articles from the Web of Science, was exported. This file was processed using VOSviewer software for a detailed bibliometric analysis (van Eck & Waltman, 2010). Vosviewer is a powerful bibliometric visualization tool that allows users to explore and analyse the structure of scientific literature, enabling them to gain insights into research trends and patterns. Vosviewer enables researchers to quickly visualize large amounts of data from various sources such as Scopus, Web of Science Core Collection, PubMed Central or any other source in which citation information is available. The main features offered by Vosviewer include creating maps based on co-citation analysis, clustering documents based on their content, and exploring collaboration networks among authors or institutions.

Bibliometric analysis

Unlike a systematic literature review, a bibliometric study evaluates research using mathematics and statistics. It provides descriptive statistics on the field and identifies the main themes through the authors' keywords.

The final aim is to achieve numerical measurement indicators of research performance. Discussions to be made on these indicators should be inspired by the experience and knowledge of the researchers in the field. The bibliometric methods, such as co-citation analysis, citation analysis, co-author analysis, bibliographical coupling, and co-word analysis, present a workflow for conducting bibliometric studies with guidelines for researchers (Zupic and Čater, 2015). Quantitative findings on country, author, university, weak and robust research areas and literature gaps are achieved with bibliometric analysis. These can be used as a first step in research.

The statistical analysis of annual indicators of entrepreneurial competencies publications

The statistical characteristics of publications on entrepreneurial competencies are explored in detail in the following:

The initial foregrounded 1403 documents. The progress of the field during this period is seen in Figure 1.

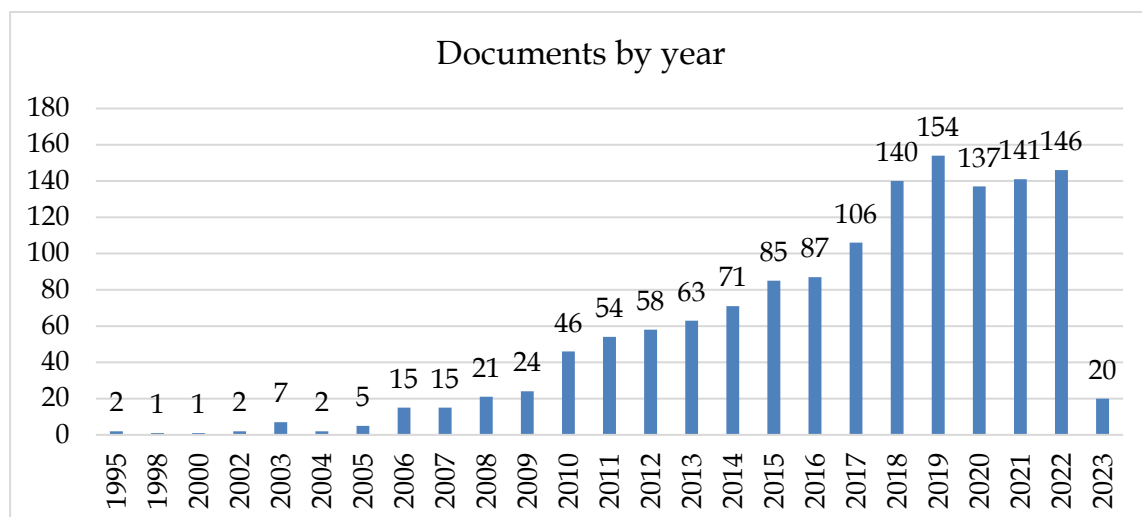


Figure 1: Progress in Entrepreneurial Competencies Field

As seen in Figure 1, it was determined that the first study was published in 1995 and that entrepreneurial competencies research has gained momentum over the last few years. This indicates that entrepreneurial competencies research has received much attention in recent years. The most significant number of publications on entrepreneurial competencies were made in 2019.

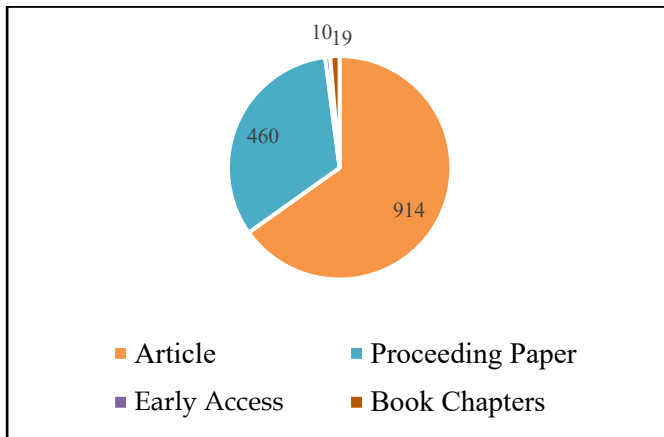


Figure 2: Types of Publications

As seen in Figure 2, there are 1403 publications related to entrepreneurial competencies research in Web of Science. The distribution of the types of publications is shown in Figure 2, including articles (914), proceeding papers (460), early access (10), and book chapters (210). The lack of book chapters and books shows that the entrepreneurial and competencies field has not yet formed a mature methodology.

Then, the pattern of documents by subject areas within the Web of Science database was analysed to highlight the importance of entrepreneurial competencies concepts and studies in the field. The authors study entrepreneurial competencies mostly in business and management, as shown in Figure 3.

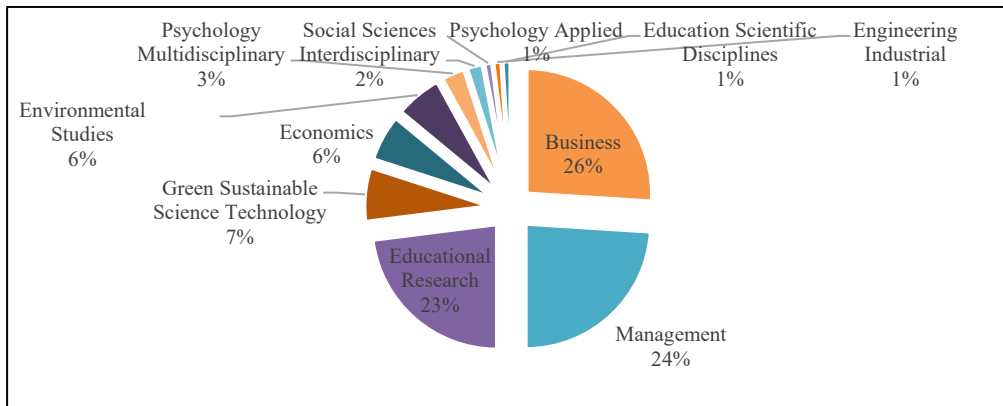


Figure 3: Share of Entrepreneurial Competencies Articles Published Under Prominent Categories

As seen in Figure 3, entrepreneurial competencies research has focused primarily on business and management. Then, refining the results reduced the number to 914 works, exclusively articles in the Web of Science database as of March 2023. Leading countries, productive authors and the most frequent keywords were identified.

Many authors have done research in the field of entrepreneurial competencies. The authors' names most cited are shown in the analysis (Table 1). Accordingly, Lans Thomas, Al Mamun Abdullah, Mulder Martin and Obschonka, Martin are the most cited authors.

Table 1: The Ten Most Cited Authors in Entrepreneurship Competencies and the Number of Texts

Author	Documents	Title of the Most Cited Article	Total Citations
Al Mamun, Abdullah	15	Effect of Entrepreneurial Orientation on Competency and Micro-Enterprise Performance	123
Lans, Thomas	11	Learning Apart and Together: Towards an Integrated Competence Framework for Sustainable Entrepreneurship in Higher Education	555
Mulder, Martin	10	Analyzing, Pursuing and Networking: Towards a Validated Three-Factor Framework for Entrepreneurial Competence from a Small Firm Perspective	321
Agarwal, Sucheta	7	Sustainable Competencies of Social Entrepreneurship for Sustainable Development: Exploratory Analysis from a Developing Economy	115
Fazal, Syed Ali	7	Entrepreneurial Knowledge, Skills, Competencies and Performance: A Study of Micro-Enterprises in Kelantan, Malaysia	58
Ferreras-Garcia, Raquel	6	Entrepreneurial Competences in a Higher Education Business Plan Course	51
Serradel-Lopez, Enric	6	Nascent Entrepreneurship and the Developing Individual: Early Entrepreneurial Competence in Adolescence and Venture Creation Success During the Career	51
Agrawal, Vivek	5	Sustainable Competencies of Social Entrepreneurship for Sustainable Development: Exploratory Analysis from a Developing Economy	53
Obschonka, Martin	5	Nascent Entrepreneurship and the Developing Individual: Early Entrepreneurial Competence in Adolescence and Venture Creation Success During the Career	350
Biemans, Harm J. A.	4	Identification Of Competencies for Professionals in Open Innovation Teams	34

Then, the file (in TXT format), including all the bibliometric information of the sample articles from the Web of Science, was exported. This file was used in the VOSviewer software to conduct detailed bibliometric analysis (van Eck and Waltman, 2010). VOSviewer is a powerful bibliometric visualization tool that allows users to explore and analyze the structure of scientific literature, enabling them to gain insights into research trends and patterns. VOSviewer enables researchers to quickly visualize large amounts of data from various sources such as Scopus, Web of Science Core Collection, PubMed Central or any other source in which citation information is available. The main features offered by VOSviewer include creating maps based on co-citation analysis, clustering documents based on their content, and exploring collaboration networks among authors or institutions.

Figure 4 shows the frequency of the citations. Given the size of the clusters, Al Mamun, Lans, Mulder, and Ferreras were the most cited authors. In general, the map of the authors under each group is related to each other within themselves. This shows that they are in a close relationship. Authors such as Lans Mulder are fundamental in entrepreneurial competencies. Authors like Al Mamun have new work in the field of entrepreneurial competencies. Although his works are new, many citations show they are high quality.

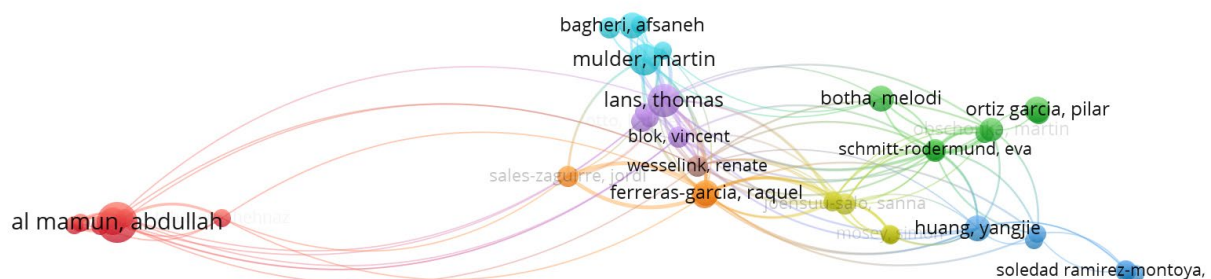


Figure 4: Citations of Authors

Many authors contributed essential to developing the entrepreneurship’s success field, studying entrepreneurial competencies. Figure 5 shows the authors with the most connections between them. In Figure 5, the colours and line thicknesses indicate the connection power of authors that study together.

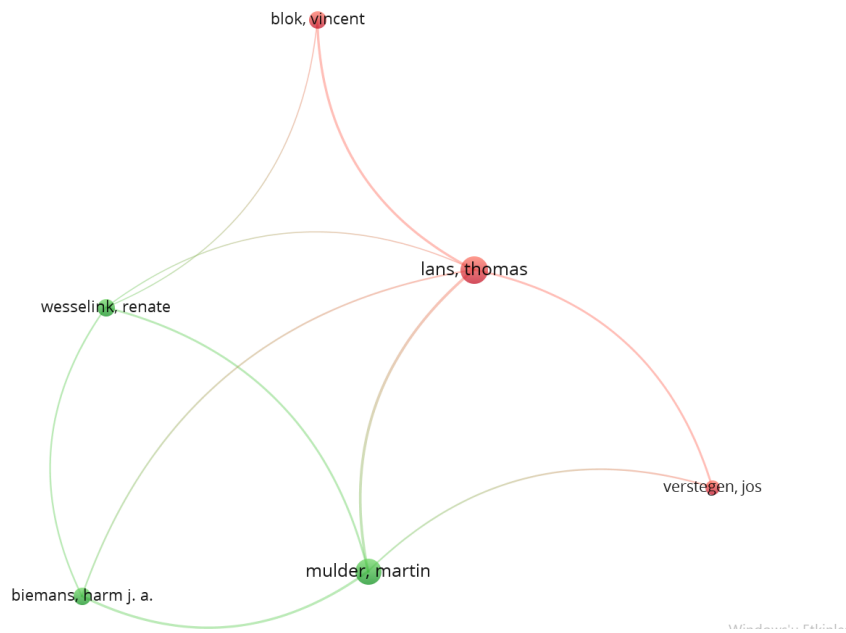


Figure 5: Co-authorship Network Map of Various Authors Who Carried Out Analysis on Entrepreneurial Competencies

Figure 6 depicts a chart of collaboration between critical authors who have published on entrepreneurial competencies. The size of the circles varies according to the number of manuscripts published by each author. The colours indicate the working group.

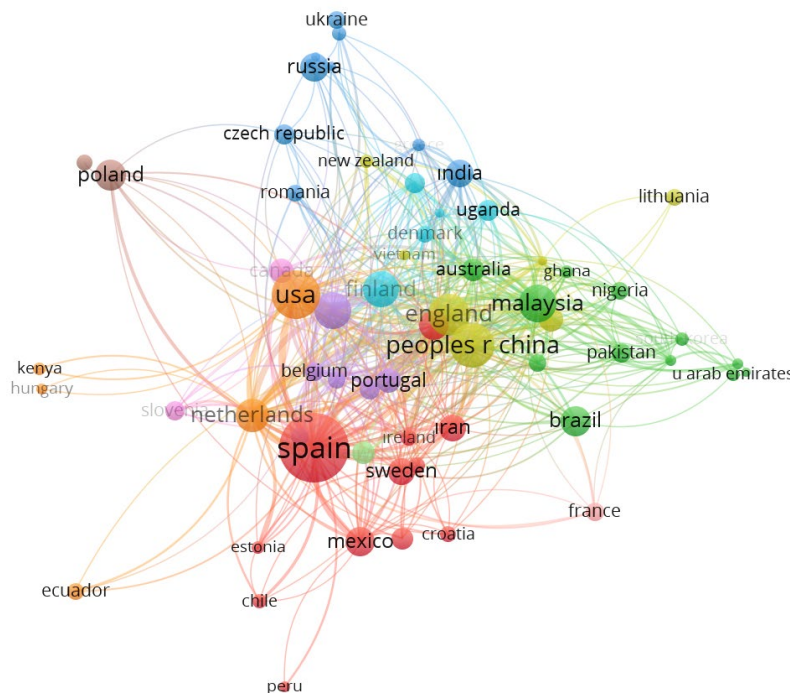


Figure 6: Top Countries in Entrepreneurial Competencies

Figure 6 shows a combination of all types of countries, including developing (such as Malaysia, China, and Nigeria) countries and developed (such as the US, England, Spain and Sweden). This shows that entrepreneurial competence is essential in all types of countries regardless of their level of development and resources. Understanding which countries have higher publication rates can help inform future research initiatives and collaborations between national institutions. By accessing this information, researchers can better understand where their work would best fit or who they should collaborate with to expand upon existing knowledge bases.

Considering the connections between the authors and the highest number of publications in Figure 8, it is evident that there is an intense concentration around these authors. The majority of them have weak connections with each other, but they are still connected to some degree. This suggests that while many authors may be relatively isolated from one another, those who have published more often tend to share common interests and collaborate on similar projects.

Limitations and recommendations for future research

One limitation of the study is that the focus on the articles yielded by search queries in the Web of Science Database and other sources such as books, reports or proceeding papers are not included. Also, bibliometric analysis has limitations, such as the possibility of missing relevant articles due to the selection of databases and the data quality. On the other hand, these data and the implications of these research findings can be helpful in interdisciplinary studies. Future research should focus on the effect of entrepreneurial competencies on performance and efficiency.

Conclusion and discussion

This study aims to guide studies related to entrepreneurship competencies by examining the research already conducted in the Web of Science database. This will enable researchers to understand better what has been studied, who was involved in these studies, which countries are leading on this topic, and which variables are associated with it. By understanding existing research and its findings, new insights can be gained into how best to develop entrepreneurial competencies through further investigation.

In order to accomplish this goal, the data within Web of Science database journals related to entrepreneurship competencies were first analysed. Also, factors such as authorship patterns and country-level contributions were evaluated when considering previous work on this subject matter to assess current gaps in knowledge about entrepreneurial competency development accurately. Additionally, any potential biases or limitations associated with past studies that may affect their relevance for future investigations were also considered. This research provides theoretical implications. In addition, due to the small number of publications on this issue, it is a research area with great potential to search and publish. The results show that entrepreneurial competencies have a close relationship with entrepreneurship success. In addition, when ventures try to improve their performance in SMEs, it is closely connected with entrepreneurial competencies.

In this study, competence, entrepreneurial competencies, and behaviours were highlighted. For this purpose, a bibliometric analysis of research on entrepreneurial competencies was conducted, analysing 1403 results (including articles, proceeding papers, data papers, and review articles) identified from the Web of Science database. The results refinement reduced the number to 914 works, exclusively articles. Leading countries, productive authors and the most frequent keywords were identified.

Results show that the authors most cited over the years are Lans Thomas, Al Mamun Abdullah, Mulder Martin, and Obschonka. Furthermore, it was found that Spain had the highest number of published works, followed by China and the USA respectively. Study findings also revealed that entrepreneurial competencies are more related to core, emotional, and network competencies and sustainable development, creativity, innovation, social capital, and higher education. Research results are similar to those of other studies in the relevant literature.

Manickam and Rozan (2023) used the Scopus database in their study and expanded to scientific mapping using VOSviewer to provide a complete view of research trends about entrepreneurial competencies. According to the results, the overall number of articles has climbed consistently from 2017 to 2021. They found that researchers from India, Malaysia, and the United Kingdom significantly contributed to the research on entrepreneurial competencies.

The study by Pennetta et al. (2023), based on a systematic literature review and strengthened by a bibliometric study, aimed to define and classify the wide range of known entrepreneurial abilities with terms such as skills and competencies. The results contribute to the entrepreneurship research by shedding light on the inconsistent use of non-standardised terminologies. It also provides an entrepreneurial model and updated skills map to guide scholars to frame research in the post-COVID era with more clarity.

Reis et al. (2021) aimed to identify the core entrepreneurial competencies and map the current literature by sampling them in the Scopus and Web of Science databases. The research identified a list of 98 entrepreneurial competencies by contributing to understanding the entrepreneurial competencies helping create and develop entrepreneurship education.

In this research, the findings suggest that future research can focus on topics and highlight the competencies listed below;

- sustainable development,
- creative,
- innovation,
- emotional competencies,
- core competencies,
- network competence,
- communication,
- higher education and entrepreneurial success in the context of entrepreneurship or small and medium enterprises.

Some of the core competencies that reflect corporate culture and values, show how businesses want to be recognized by competitors and customers and cover the entire business are as follows (Gürel, 2010):

- Being open to innovation, change and continuous learning,
- Analytical thinking,
- Risk-taking,
- Being proactive,
- Using resources effectively.

Network competencies mean competencies related to good communication and interactions with others. An entrepreneur's critical success factor is networking with employees, business partners, family, friends and customers. It is the ability to work together with others. In addition, developing long-term trust relationships and working as a team are also within the scope of network competence (Soh, 2003).

Entrepreneurs with emotional competencies effectively build personal power when they face difficulties maintaining their businesses. These competencies include self-control, tolerance, determination, emotional intelligence, self-awareness, and motivation (Vijay and Ajay, 2011).

When entrepreneurs have network competence, communication and innovation competence, their firm performance can tend to improve. Entrepreneurial competencies related to innovation have a significant impact depending on how much they influence business success (e.g. a proactive approach to advancing the business in new markets and producing new products).

The research concludes that entrepreneurial competencies are related to higher education. Therefore, policymakers and educators can use this information to design and implement entrepreneurship education programs focusing on developing competencies.

Finally, once all relevant information from earlier works is gathered, a comprehensive review should be conducted to identify critical areas where more exploration could lead us towards a greater understanding of developing entrepreneurs' skill sets. This review process would include assessing different theories regarding entrepreneurial capabilities and evaluating possible implications from empirical evidence provided by past studies. With all necessary components put together, a clear path forward can then be established, allowing us to move ahead confidently while continuing to explore ways to build upon current approaches to fostering successful business owners throughout society today.

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Externally peer-reviewed

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