

Technological innovation in Small and Medium Enterprises: A bibliometric analysis

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Abstract

Purpose: The objective of this study is to find out the development of SMEs in the digital era.

Research Methodology: The authors used the Scopus database and searched for articles containing keywords such as "technolog* innovation" AND smes OR "small and medium enterprises." The data were obtained from 1990 to 2023, with a total of 408 documents consisting of 295 articles, 20 book chapters, 67 conference papers, 8 conference reviews, 1 erratum, 1 note, 5 retracted documents, and 11 review documents.

Results: The study found that the development of publications on technological innovation in SMEs experienced fluctuations, but tended to increase. The most productive source and the most impactful author were IEEE Transactions on Engineering and Management, and the majority of publications were conducted in collaboration with fellow authors from the same country. The most cited country was the United Kingdom, followed by Singapore and the United States. The topic that appeared most often in publications was related to technological innovation.

Contributions: This study highlights the importance of technological innovation in SMEs and its impact on the economy.

Keywords: *innovation technology, SMEs, bibliometric*

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1. Introduction

The importance of technological innovation in the development of small and medium-sized enterprises (SMEs) in today's digital age cannot be understood. Technological innovation has been identified as a critical driver of growth in SMEs, enhancing their competitiveness in the domestic and global markets. The benefits of technological innovation are not limited to the competitiveness of SMEs; they also have a positive impact on a country's economy. Technological advances provide opportunities for businesses to increase productivity, reduce costs, and enhance efficiency. This translates into increased economic growth, job creation, and higher living standards for citizens. Furthermore, technological innovation has opened new markets, allowing SMEs to expand their reach beyond traditional local markets to global markets. The need for SMEs to embrace technological innovation cannot be ignored if they remain competitive in a global economy. Thus, government policies and private sector investments aimed at fostering technological innovation in SMEs are essential for boosting economic growth and development.

By investing in innovative technology, SMEs can better understand their customers and needs, allowing them to tailor their products and services to meet these demands effectively. In addition, technology adoption can help SMEs streamline their supply chain management, providing increased transparency and better collaboration with suppliers and partners (Parella, 2022; Prasanna et al., 2019). This can lead to improved inventory management, on-time delivery, and reduced lead-times, which can positively impact customer satisfaction and loyalty. Lastly, the utilization of innovative technology can help SMEs

unlock new growth opportunities by identifying new markets and developing new products and services that meet the changing needs of consumers. In short, the importance of innovative technology cannot be overstated, as it can help SMEs improve operational efficiency, increase productivity, boost revenue and profits, and ultimately build a sustainable competitive advantage in the marketplace.

Apart from operational benefits, innovative technology can also enable SMEs to expand their market reach, improve cash flow, and enhance customer satisfaction levels. Digital marketing tools such as social media platforms enable SMEs to reach a wider audience and promote their products and services more effectively. Online payment systems and cloud-based accounting software can help SMEs streamline their financial processes and improve cash flow management. In essence, innovative technology offers significant opportunities for SMEs to build a competitive advantage and thrive in today's highly competitive business environments. By leveraging advanced technological solutions, SMEs can remain ahead of the game and drive their growth and success in the long run.

Advancements in technology have greatly impacted small and medium enterprises (UKM) in terms of accessing global markets and adapting to the rapidly changing business environment. According to Naradda Gamage et al. (2020) and OECD (2004), technological innovation has enabled UKM to overcome barriers in accessing international markets, particularly with the existence of the Internet and e-commerce platforms. With these available resources, UKM can now sell its products to foreign markets with greater ease and efficiency.

Furthermore, technological innovation has also aided UKM in adapting to fast-paced changes in the business environment (Naradda Gamage et al., 2020; OECD, 2004; Putra, 2022). In this digital era, UKM, which can adopt new technologies (Akinlolu, Haupt, Edwards, & Simpeh, 2022; Efendi, Sugiono, Guritno, Sufyati, & Hendryadi, 2020), is more flexible in facing challenges and opportunities. These emerging technologies help UKM streamline operations, automate processes, and enhance performance, thereby increasing operational efficiency and effectiveness. Moreover, technological innovation helps UKM improve the quality of its products and services. Purwandani and Michaud (2021) and OECD (2004), by tracking real-time inventory and the automation of quality control, UKM can deliver better quality products and services to their customers. This increasing performance highlights the uniqueness of their offerings, helps businesses differentiate from competitors, and fosters a more loyal customer base.

Technological innovation has significantly impacted the development of UKM. Adopting emerging technologies not only helps increase market access, but also enhances the quality of their products and services, fostering long-term success in a competitive market. Current digital transformation will revolutionize the way businesses interact and innovate to enhance their processes and strategies. Thus, it is essential for the UKM to adopt technologies and innovative business models to stay ahead of the curve and ultimately succeed in the global market.

The development of research on innovation technology in SMEs has great significance as it supports the growth and sustainability of SMEs (Pramono & Safarini, 2022b; Prasanna et al., 2019; Songling, Ishtiaq, Anwar, & Ahmed, 2018) and impacts the economy as a whole. Research on technological innovation in SMEs is critical, as it can help SMEs remain competitive in a changing market (Efendi et al., 2020; Mubarak, 2022). By understanding and adopting the latest technology, SMEs can become more efficient in their operations, produce high-quality products or services, and offer better solutions to customers. This helps them to compete with larger companies and access a wider market. It also helps drive economic growth by creating new jobs, increasing corporate earnings, and increasing their contribution to the gross domestic product (GDP) (Abubakar, Imran, & Abba, 2021; Pramono & Suhendi, 2023; Putra & Dharma, 2023; Surya et al., 2021; Yahya & Yani, 2023). It can also increase tax contributions and state revenue. Another benefit is helping SMEs identify new ways to improve their operational efficiency. These include business process automation, better supply chain

management, data analysis for smarter decision making (Prasanna et al., 2019), and more efficient use of resources. All these factors lead to reduced operational costs and increased profitability.

Through research, SMEs can find better resources and funding to develop innovative technologies. Many governments and financial institutions have programmes and incentives to support SMEs that focus on technological innovation (Efendi et al., 2020). With effective research, SMEs can utilize these resources more effectively. Another benefit is that SMEs that can adapt to technological change are more likely to survive in the long term (Martins, Branco, Melo, & Machado, 2022; Ollila & Yström, 2020; Pramono & Safarini, 2022a). Research on innovation technology helps SMEs plan long-term strategies that consider upcoming technological developments. This allows them to avoid surprises and to remain relevant in the market.

Innovation is essential for creating competitive advantage (Efendi et al., 2020; Nulkar, 2014). In-depth research on technological innovation helps small and medium-sized enterprises (SMEs) identify opportunities to develop unique products or services that distinguish them from their competitors. This, in turn, can lead to the establishment of a strong brand presence and significant business growth. Innovation is crucial for sustaining competitiveness in today's rapidly changing business landscapes. Businesses must be agile to adapt to changes in customer demand and technological advancements, and innovation provides them with the necessary tools to do so. As customers become more discernible, companies must continually improve their offerings to remain relevant. SMEs can leverage innovation to create new forms of value for their clients and differentiate themselves from competitors. Thus, innovation is key to unlocking competitive advantage, allowing businesses to outpace their competitors and thrive in today's dynamic marketplace.

Rapid technological development has allowed small and medium-sized enterprises (SMEs) to compete on a global scale. Consequently, numerous studies have been conducted on technological innovation in the SME sector. However, with an abundance of available research, it can be challenging to determine the direction of research in this field. Therefore, bibliometric research is vital for creating a comprehensive map of research studies and trends relating to the application of innovative technology in the SME sector.

The primary objective of this study is to evaluate the current state of knowledge by reviewing and analyzing existing research on the application of innovative technology in the SME sector. By identifying research gaps and highlighting areas where the current research is insufficient, this study aims to provide a more in-depth understanding of the contribution and evolution of knowledge in this field.

In addition to its academic contributions, this study seeks to identify research trends that have not received adequate attention. By doing so, researchers hope to uncover new research opportunities that would facilitate the development of SMEs' technological innovation, increase their efficiency, and enable them to compete effectively on a global scale (Pulka & Gawuna, 2022; Surya et al., 2021). The digitalization of industries and the rise of advanced technologies have further emphasized the importance of SMEs' involvement in economic growth, job creation, and enhancing a country's competitiveness (Fitriatna, Purwanab, & Buchdadic, 2020). However, to achieve these vital contributions, innovative technologies must be made available and accessible to SMEs. This accessibility can only be achieved through specialized research and development initiatives that implement technological advancements targeted specifically for SMEs. The results of this research will significantly contribute to the development of SMEs by providing a comprehensive perspective on advancements in the field of technological innovation. This knowledge would enable SMEs to adapt to advanced technologies, enhance their operational efficiency, and provide them with tools to compete globally. Currently, the SME sector is considered the backbone of many economies worldwide, generating substantial employment opportunities and significantly contributing to a country's GDP.

However, SMEs' future success depends heavily on their ability to adapt to emerging trends, especially those related to technological advancements.

Therefore, this research is critical for assisting policymakers, academic researchers, and industry practitioners in identifying research gaps and determining the direction of research to ensure the sustainability and competitiveness of the SME sector. With the increasing importance of SMEs in economic growth and job creation, advancements in research on SMEs' technological innovation are invaluable in making this sector thrive and maintaining their relevance in the future.

Thus, bibliometric research on technological innovation for SMEs is important for identifying knowledge developments, evaluating their impact, and providing a clearer view of the future direction of SME-related research that focuses on technological innovation. Some of the identifications in this study are as follows:

1. Analyzing the development of articles with the theme of technological innovation in SMEs
2. Analyze the most relevant sources related to the theme of technological innovation in SMEs
3. Analyzing the most relevant authors on the theme of technological innovation in SMEs
4. Analyze the correspondence of authors by country of origin on the theme of technological innovation in SMEs
5. Analyzing the most contributing countries to the theme of technological innovation in SMEs
6. Analyzing the occurrence of words on the theme of technological innovation in SMEs

3. Research Methodology

This research study addresses the application of bibliometric methodology to map research related to innovation technology in Small and Medium Enterprises (SMEs). By utilizing this methodology, this research aims to provide a comprehensive picture of the authors, sources, impact, frequently occurring keywords, topics, and other relevant information about the work (Börner, Chen, & Boyack, 2003). This methodology typically generates a map through visualization along with an adequate representation of the same. However, the main focus of this research is to construct a map by employing various mapping techniques. Although bibliometric research has not received much attention, several researchers have concentrated on the graphical representation of bibliometric data using software. The use of software such as R Studio in this research has simplified the visualization. Despite the collection of numerous articles, the software can generate simple outputs that are more straightforward for researchers to analyze.

The bibliometric methodology is highly effective in providing a holistic overview of research published on a specific topic. This enables researchers to track the development of the relevant field in a more coherent manner, providing a detailed understanding of the context in which the research is conducted. In this particular study, the use of bibliometric methodology provides a vital tool for mapping out all the research on innovation technology in SMEs. Overall, this research presents a significant contribution to the field of innovation technology in SMEs, as it highlights the gaps in current research as well as the areas that require further exploration, while demonstrating the usefulness of bibliometric methodology for such explorations. The research findings hold great potential value for policymakers, academic researchers, and SME owners alike and can greatly inform decision-making regarding the application of innovation technology in SMEs.

The use of online databases such as Scopus has revolutionized the way researcher's access information and data. With only a few clicks, researchers can now access a wealth of publications, books, and articles that would have taken months or even years to gather before the advent of online databases. The database used in this study is Scopus, which has made it easy for researchers to access a vast number of publications in the field of technology innovation and medium enterprises (SMEs). The search for publications was conducted using keywords such as "technolog* innovation" AND smes OR "small and medium enterprises," which yielded a total of 408 documents. Of these, 295 were articles, 20 were book chapters, 67 were conference papers, and 11 were reviews. The period covered by the publications

was 1990–2023. The availability of such vast amounts of information has significantly improved research in different fields. With access to up-to-date publications, researchers can easily keep up with the latest trends and developments in their fields. The use of databases such as Scopus has made research easier and faster, providing researchers with a substantial amount of information to explore and analyze.

4. Results and discussions

Based on the data collected in the Scopus database, the number of publications on technological innovation in SMEs does not decrease from year to year. A total of 408 publications were published by 1,004 people with the same interest in this theme. Of these, 51 people conducted their own research, while the rest conducted cross-country collaborations. This shows that this theme is a worldwide concern, and many researchers are trying to deepen the understanding of technological innovation in SMEs. Using R biblioshiny software, the author created a publication data resume that made it easy to understand the research data description briefly and effectively. Table 1 shows the description of publication data from 1990 to 2023, which will be used as a basis for further data processing.

Table 1. Resume of research data

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	1990:2023
Documents	408
DOCUMENT CONTENTS	
Keywords Plus (ID)	1197
Author's Keywords (DE)	1183
AUTHORS	
Authors	1004
Authors of single-authored docs	51
AUTHORS COLLABORATION	
Single-authored docs	57
Co-Authors per Doc	2.74
International co-authorships %	20.83
DOCUMENT TYPES	
article	295
book chapter	20
conference paper	67
conference review	8
erratum	1
note	1
retracted	5
review	11

In addition, the author noted a tendency for the number of publications to be published in international journals with varying levels of impact factors and less published in national journals. This indicates that researchers and academics are increasingly paying attention to higher quality and publishing criteria so that they can achieve better international recognition and reputation. In addition, the increase in the number of publications in 2020 and 2022 can be attributed to significant events that are the focus of research and news worldwide, such as the COVID-19 pandemic. Thus, this publication development map provides an interesting overview of the trends in scientific research and publications in Indonesia.

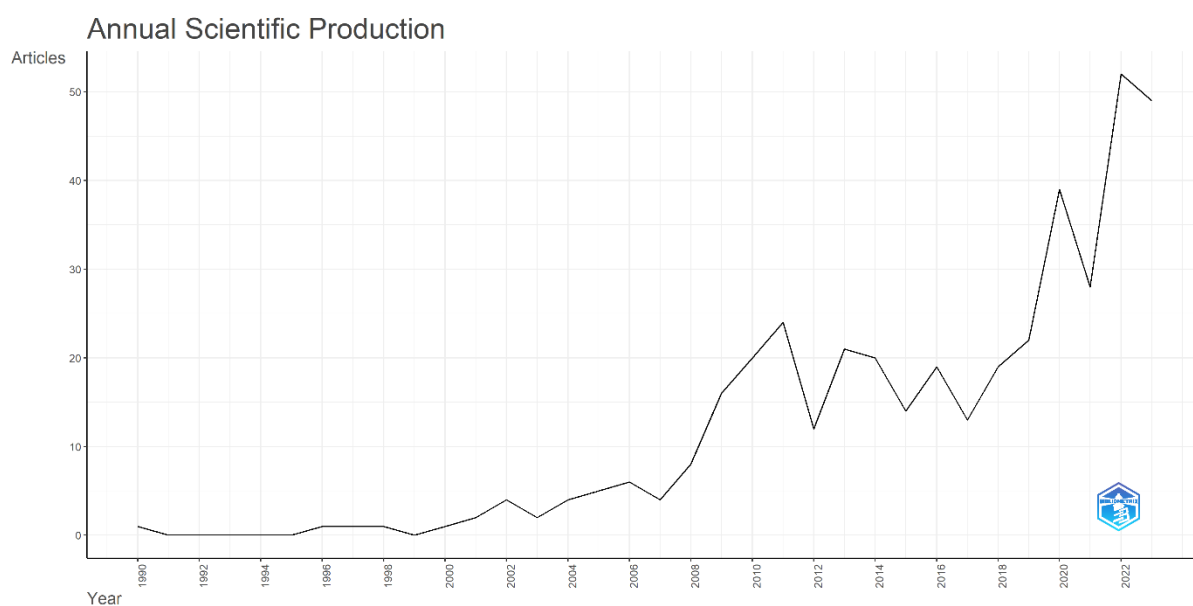


Figure 1: Total Publication

4.1. Most Relevant Sources

The data presented in Figure 2 sheds light on the quantity and quality of research publications related to the theme of "Technological innovation in SMEs." The blue bar chart represents top journals with high levels of relevance to the theme, indicating that these journals publish more research papers related to the topic. The number of publications from all journals ranges from five to 36, demonstrating the growing interest of researchers in exploring the impact of technological innovation on Small and Medium Enterprises (SMEs). These findings have significant implications for policymakers, researchers, and practitioners, emphasizing the need for continued research in this area to enhance the competitiveness of SMEs in today's dynamic and fast-changing business landscape.

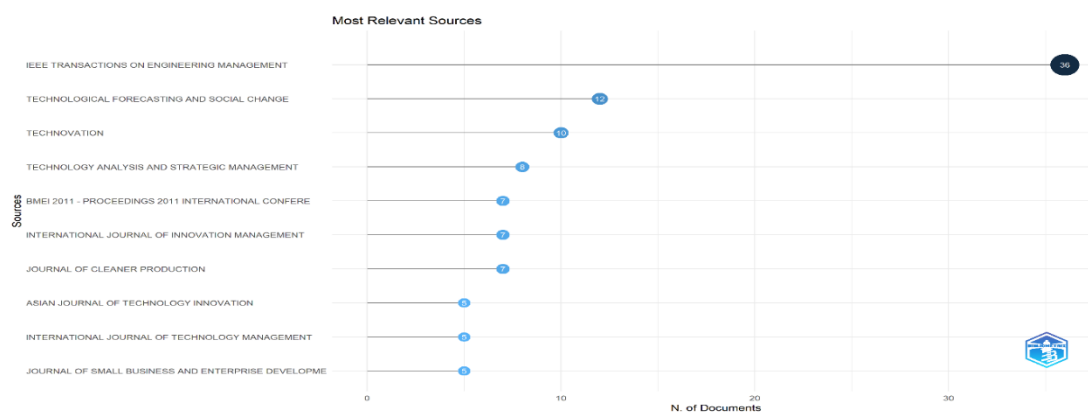


Figure 2: Most Relevant Sources

IEEE Transactions on Engineering and Management has emerged as the top source of relevant research materials related to the topic at hand, given its publication of 36 documents. This suggests that the journal is a prime hub for rigorous scholarships in engineering and management. Technological Forecasting and Social Change followed closely with 12 publications, which highlights its significance in the field of technological forecasting – a sub-area of engineering and management. Technovation, another important journal in innovation management, took third place with the publication of 10 documents. The top four journals are particularly significant, having published numerous authoritative papers that aid decision-making in technology-related fields. However, other publications with fewer

documents also provided valuable information on snippets. Therefore, researchers and scholars must keep a diverse range of sources close to hand for a well-rounded perspective on the topic at hand.

4.2. Bradford's Law

Next, Bradford's law is presented, which classifies journals based on their level of productivity into several categories, including core, mid-level, and broader journals. Core journals are marked with a gray section and labeled as "Core Source." These journals were the most productive in the field of technological innovation in SMEs over a period of time.

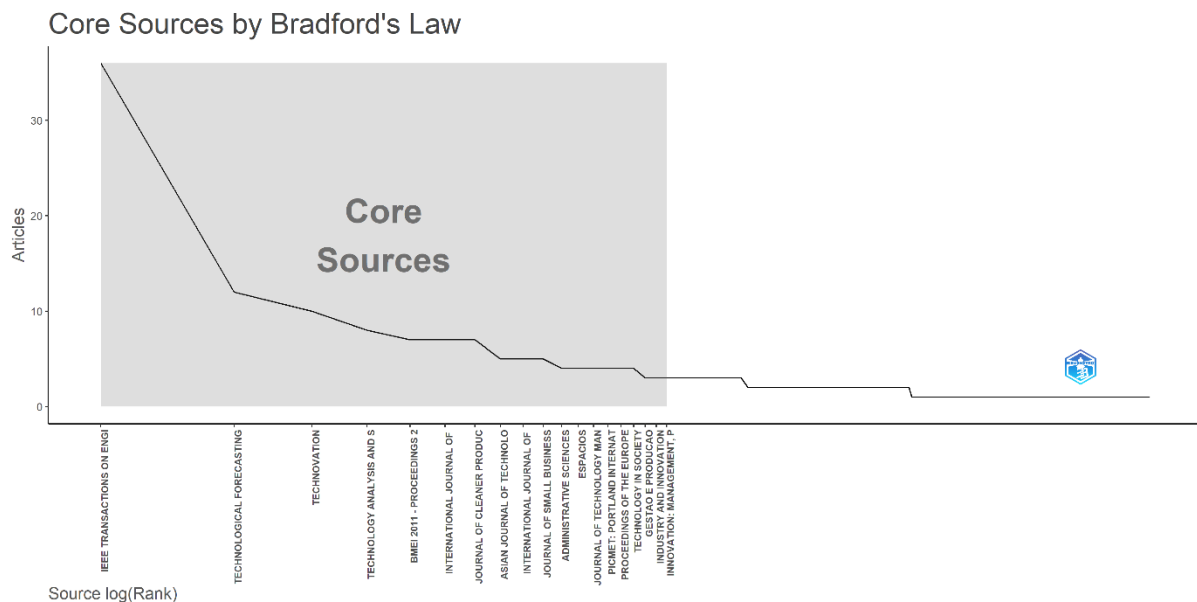


Figure 3. Bradford's Law

The importance of studying and following trends in publishing and the scientific community cannot be overstated. The ability to track the publication and citation rates of different journals is a key tool for researchers and academics to select appropriate outlets for their work or gauge the impact of their research. In this context, Figure 3 provides an enlightening view of the scientific publishing landscape related to technological innovation in small and medium-sized enterprises (SMEs).

As shown in the figure, IEEE Transactions on Engineering and Management has the highest number of publications, with more than 30 documents. This indicates that journals are the most popular outlets for academics and researchers in the field of technological innovation in SMEs. It also suggests that the journal is a reputable source of authoritative and high-quality research within the community. Technological Forecasting and Social Change came second with 10 publications, suggesting a significant gap in the number of publications between the first and second-ranking journals.

The picture becomes even more nuanced when considering other publications included in the category of core journals related to technological innovation in SMEs. These journals are also relevant outlets for researchers and academics interested in this field and their publication and citation rates provide a broader understanding of the field's trends and developments. Being aware of these publications can be of immense help to researchers attempting to keep abreast of evolving ideas and innovations in the area.

Overall, Figure 3 highlights the importance of journal selection and publication rates when tracking the scientific community's evolution and understanding the impact of research. The insights obtained through such analyses serve as a valuable guide for researchers, academics, and publishers, as they navigate the shifting landscape of scientific knowledge and innovation.

4.3. Source Impact

This section shows the journals that have the highest impact in order of the h-Index. This is indicated by the blue bar chart. The darker the blue color on the diagram, the greater is the impact of the journal.

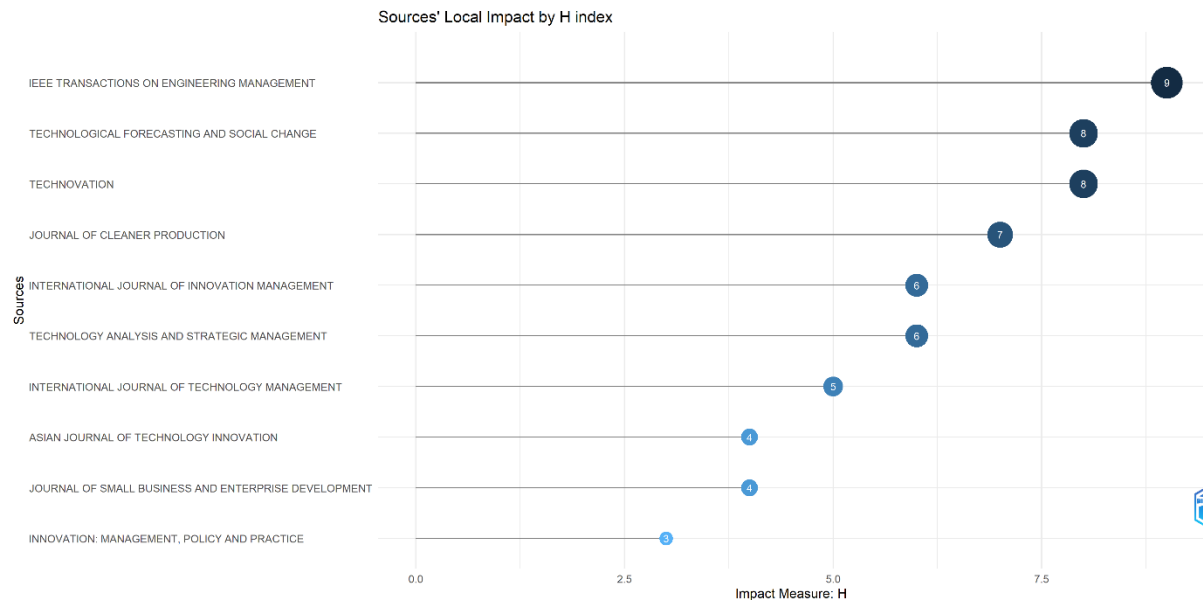


Figure 4. Source Impact

The H-index is an indicator of the impact and quality of scientific research. The h-Index plays an important role in identifying leading journals in the field of technological innovation in Small and Medium Enterprises (SMEs). Among the top journals, IEEE Transactions on Engineering and Management emerged as the frontrunner with an h-index of 9, followed by technological forecasting and social change and technology, both with an h-index of 8. The Journal of Cleaner Production secured fourth place with an h-index of 7. The other journals achieved h-Index scores ranging from 1 to 6, indicating a relatively low impact on technological innovation in SMEs.

The growing interest in technological innovation in SMEs is evident from the increasing number of articles published in academic journals focusing on this topic. These studies explore various aspects of innovation in SMEs, such as the factors that drive innovation, the challenges SMEs face when adopting and implementing innovation, and the outcomes of successful innovation in SMEs. The role of academic journals in disseminating knowledge and facilitating discussions of technological innovation in SMEs cannot be overstated. In particular, the h-index serves as a valuable metric for evaluating the impact of these publications and identifying the top journals that contribute to the field.

In conclusion, although the h-Index is not an absolute measure of the quality of academic journals, it provides a useful benchmark for evaluating the impact of research publications in the field of technological innovation in SMEs. The journals with higher h-Index scores are likely to have greater influence on research, policy, and practice, making them important sources of information and insights for researchers, practitioners, and policymakers.

4.4. Most Relevant Author

This section discusses the authors' contributions to the publication of Technological Innovation in SMEs through their relevance. This was measured based on the number of publications by each author. Bala Subrahmaya was the most productive author, with seven publications related to this theme. Secondly, Radicic is in second place with five articles, while in third place, there are Ferreira FAF, Ferreira JJM, Hervas-Oliver, and Zhang Y, each with four articles. The rest of the studies had three articles.

The results of this study provide valuable insights into the importance of collaboration and knowledge sharing among authors to drive innovation in SMEs. The fact that the Bala Subrahmanya is the most productive author highlights the need for authors to collaborate and share knowledge to generate new ideas and drive innovation. It is also interesting to note the variety of authors in the top three positions, which suggests that no single individual or group dominates the field of technological innovation in SMEs. Further research is needed to explore the different factors that contribute to successful innovation in SMEs and identify the most effective strategies for fostering innovation in this sector.

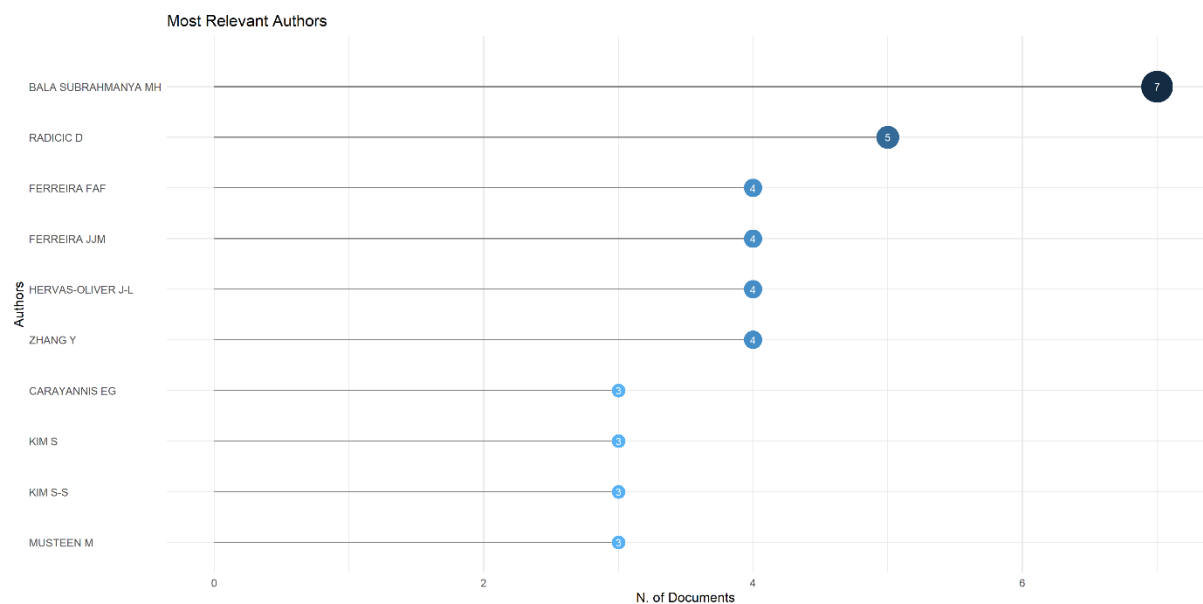


Figure 5. Most Relevant Author

4.5. Author Impact

The ranking of authors who have published their papers can also be created based on their relevance to the research topic of Technological Innovation in SMEs using the h-index. The h-index scores ranged from 2 to 6. From Figure 6, it can be seen that the author with the highest h-index score is Bala Subrahmanya, with an h-index score of 6. In contrast, Hervas-Oliver and Radicic are placed second, with an h-index score of 4, while other authors receive an h-index score of 2 and 3. Lower h-Index scores indicate that the impact of articles published by authors related to the topic of technological innovation in SMEs is still low.

It is noteworthy that the h-Index is an indicator of an author's productivity, impact, and performance based on the number of publications and their citations. The authors with a higher h-index score are considered to have greater research output and impact. However, h-Index scores are not necessarily a measure of the quality and novelty of the research, as they do not consider factors such as the context of the research or the quality of the publications. Therefore, while h-Index scores provide useful information about authors' productivity and impact, they should be complemented by other metrics to provide a more comprehensive picture of research quality and impact.

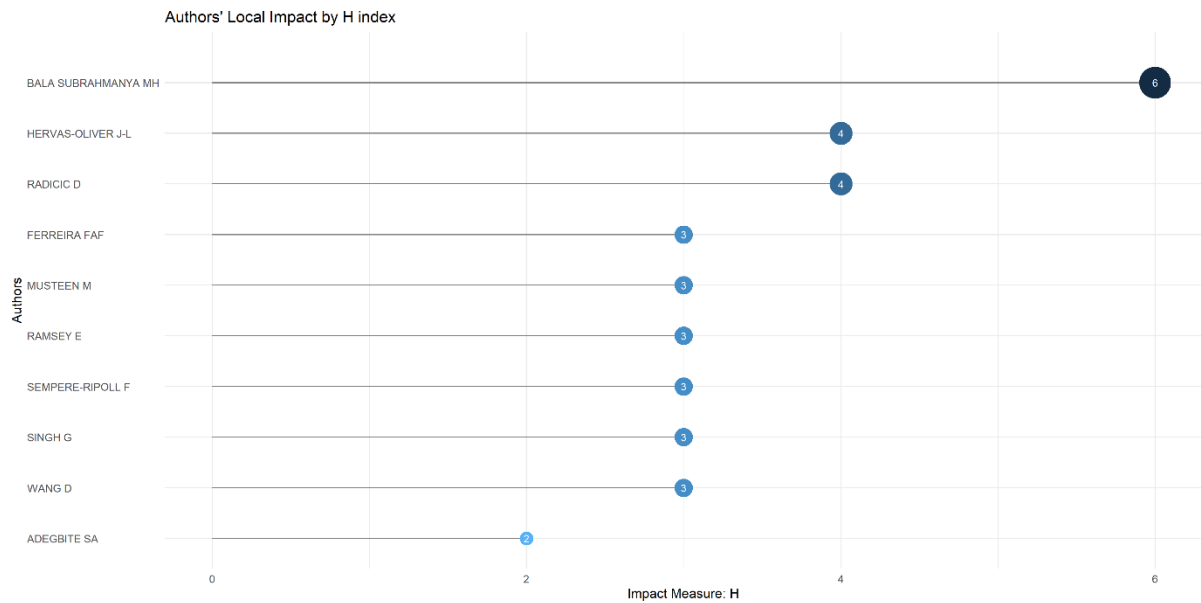


Figure 6. Most Relevant Author

4.6. Corresponding Author's Country

Figure 7 illustrates the countries that correspond with the authors of each article in the topic of technological innovation in small and medium-sized enterprises (SMEs) and determines whether the collaboration between them is a single-country collaboration (SCP) or a multi-country collaboration (MCP). Based on these data, 20 countries have the highest number of published documents. China holds the top rank with almost 50 documents, followed by the United Kingdom with 20 documents. Several other countries, such as India, Italy, Korea, and Spain, are cited frequently, coming close to the United Kingdom's citation count. Indonesia was also noted to have a relatively high number of correspondents; however, it did not participate in any collaboration with other countries on this topic.

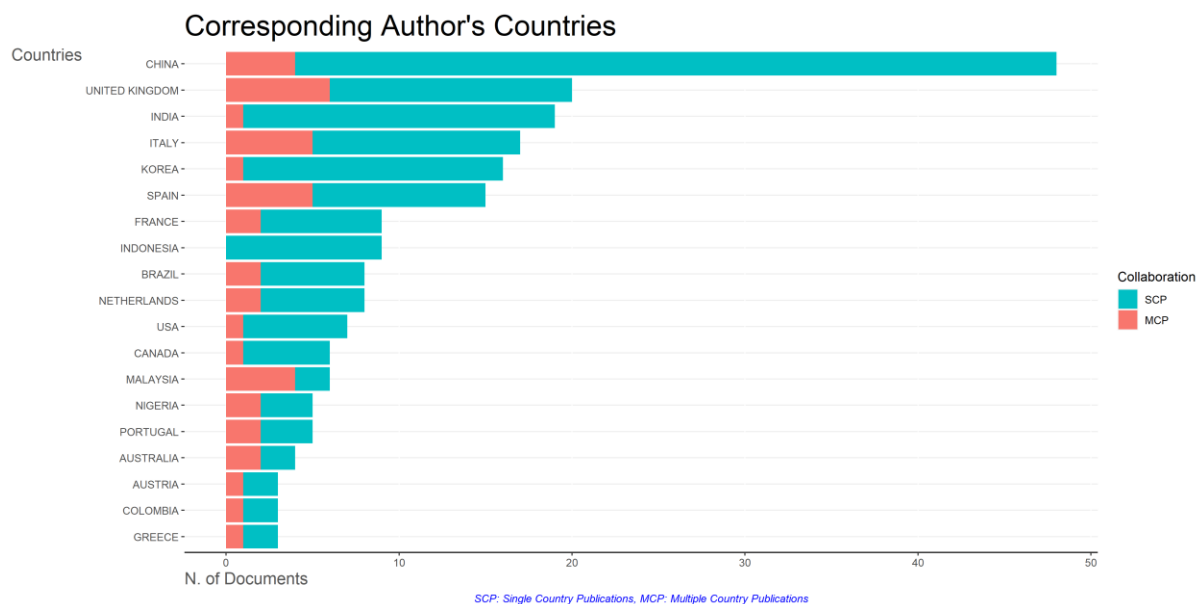


Figure 7. Corresponding Author's Country

4.7. Most Cited Country

In the same study, research articles were grouped based on the country of origin with the highest number of citations. The United Kingdom is the most frequently cited country, with 1083 citations, followed by

Singapore, with 916 citations. The United States of America (USA) was ranked third with 685 citations. Other countries have also garnered a considerable number of citations, as shown in Fig. 8.

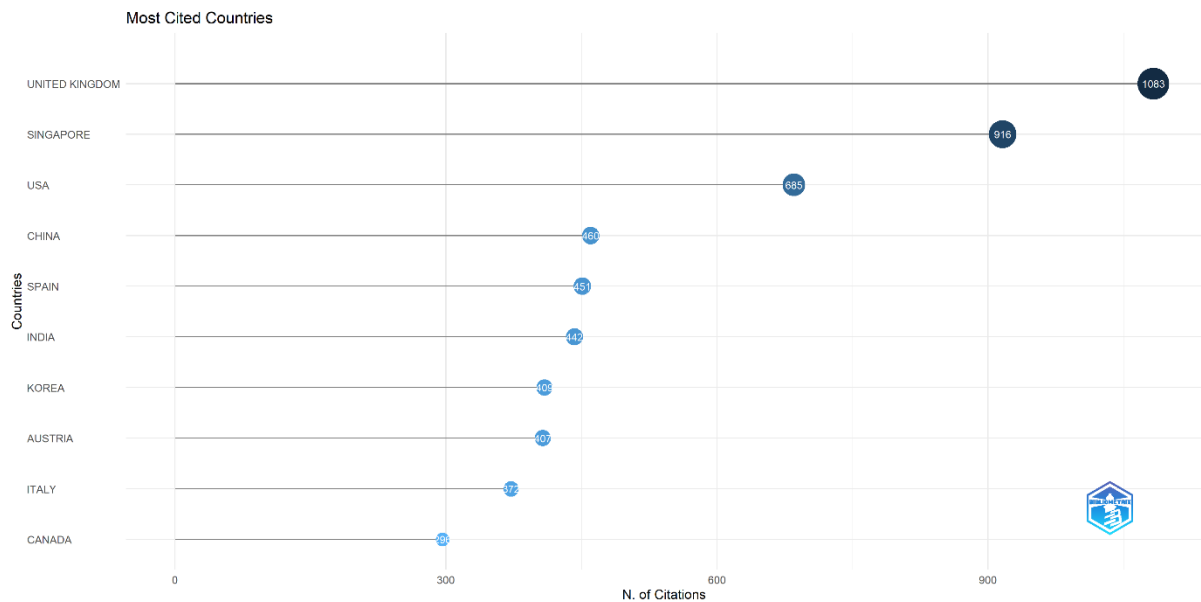


Figure 8. Most Cited Country

4.8. Word Cloud

The word cloud in Fig. 9 displays the most frequently mentioned words in the collection of publications. The word cloud shows words of various sizes, according to their frequency of appearance. The placement of the words in the cloud was randomized, but the words with the highest frequency of appearance appeared in the middle, showing a larger size. Based on Fig. 9, the word "technological innovation" appeared most frequently, indicating that the topic of technological innovation is the most frequently discussed item in articles about technological innovation in SMEs. The authors emphasized this phrase frequently in their articles.



Figure 9. Word Cloud

The results demonstrate the most active countries in contributing to scientific production, as China takes the lead. The study also shows the level of collaboration between authors from different countries on this specific research topic, with two types of collaboration identified: single- and multi-country collaborations. Comprehensive data show the leading countries with the highest number of published documents and top-cited nations. These results provide an overview of the research conducted on technological innovation in SMEs and highlight potential opportunities for future research in this field.

The study also found that China has the most published articles on technological innovation in SMEs, followed by the United Kingdom and India. However, most of these publications were limited to collaborations within their respective countries. Moreover, the United Kingdom was the most cited country, followed by Singapore and the United Kingdom, and the most common topic found in publications related to technological innovation in SMEs was technological innovation itself. The study also indicated other related topics commonly featured in publications on this topic.

This study has several implications. First, it helps researchers and academics identify the direction of research on technological innovation in SMEs through the current frequently debated research topics. Second, it helps evaluate academic performance through the impact of authors who are consistently ranked among those with the highest impact. Finally, it shows that there are many opportunities to develop the topic of technological innovation in SMEs, as the majority of research collaborations are still limited to authors from a single country.

Although this study provides valuable insights into the trends of publications on technological innovation in SMEs, it has some limitations. One of the main limitations of this study is that it focuses only on Scopus-indexed publications and does not include publications from other platforms or non-indexed sources. Another limitation is that the data were limited to articles published in English, which may exclude relevant publications in other languages.

Furthermore, the study concludes by highlighting that the research was limited to a certain period and to specific countries, which may not be representative of the global trend of technological innovation in SMEs. Therefore, further research in other countries and periods is required to obtain a more comprehensive view of the technological innovation trend in SMEs.

The findings of this study provide opportunities for further research on technological innovation among SMEs. One recommendation is to assess the impact of technological innovation on SMEs' overall performance including sales, productivity, and profitability. Another suggestion is to focus on the role of SMEs' leaders in driving technological innovation, such as their leadership styles and innovation management practices.

Additionally, future research could explore the relationship between technological innovation, SMEs, and the economy, as technological innovation has significant implications for economic growth and development. Further research can also examine the factors that facilitate technological innovation adoption in SMEs and the cost-benefit analysis of SMEs adopting technological innovation.

The implications of this study are far from clear. First, it provides a better understanding of the trends and sources of publications on technological innovation among SMEs. This understanding can help to guide future research in this field. Moreover, it helps to evaluate the academic impact of authors who have contributed significantly to the development of publications on this subject.

Second, this study indicates the need for more collaboration among researchers from different countries. This collaboration can lead to a better understanding of how technological innovation affects different economies and regions. Moreover, this can lead to the development of best practices for implementing technological innovation in SMEs across different countries.

Lastly, the study highlights the importance of considering technological innovation in SMEs' policies and practices. Technological innovation can provide SMEs with a competitive advantage and enhance their overall performance. Therefore, policymakers and decision-makers need to incorporate technological innovation strategies into SMEs' development plans to support SMEs' growth and the economy at large.

In conclusion, this study provides valuable insights into the trends in publications on technological innovation in SMEs. Although this study has some limitations, it provides an excellent starting point for further research on this topic. The implications of this study suggest that policymakers, businesses, and researchers need to seriously consider the role of technological innovation in SMEs to enhance SMEs' overall performance and support economic growth.

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