Trend Of Research On Small and Medium Enterprises (*SMEs*) in Developing Countries in The Last Five Years: a Bibliometric Analysis

Mohamad Arief Rafsanjani[1*], Waspodo Tjipto Subroto[2], Norida Canda Sakti[3], Nico Irawan[4]

[1-3]Faculty Of Economics And Business, Universitas Negeri Surabaya, Surabaya, Indonesia
[4]Thai Global Business Administration Technological College, Samut Prakan, Thailand

Abstract. Small and medium enterprises (SMEs) play a pivotal role in driving economic growth, innovation, and employment creation, especially in developing countries. This study employs a bibliometric approach to analyze trends, themes, and scholarly contributions to SME research in these regions over the past five years (2020–2024). Drawing on 485 publications from the Scopus database, the analysis reveals significant trends in scholarly output, key citation metrics, influential authors, and emerging research topics. The findings indicate a steady growth in scholarly interest, with the highest publication output observed in 2022. Research topics such as entrepreneurship, digital transformation, green innovation, and financial management are prominent, reflecting their critical importance to SME development. Additionally, sustainability and Industry 4.0-related themes are identified as having high citation impact, underscoring their relevance to contemporary challenges and opportunities for SMEs. China, the United Kingdom, and India are the leading contributors to the field, with substantial contributions from emerging economies such as Malaysia and Indonesia. This study contributes to the understanding of SME research dynamics by highlighting key areas of focus, identifying influential contributions, and mapping the global landscape of SME scholarship. By providing insights into recent trends and thematic priorities, the study offers practical implications for policymakers, researchers, and practitioners seeking to enhance the resilience, innovation, and sustainability of SMEs in developing countries. The findings underscore the need for targeted strategies and collaborative efforts to address emerging challenges and foster inclusive economic growth through SME development.

Keywords: Small and medium enterprises (SMEs), Bbibliometric analysis, Developing countries, Research trend

1. INTRODUCTION

Small and medium enterprises (SMEs) are widely acknowledged as vital drivers of economic growth and development, particularly in developing countries. SMEs contribute significantly to national and local economies by generating employment (Ayandibu & Houghton, 2017), reducing poverty (Abisuga-Oyekunle et al., 2020; Nor, 2024), and fostering innovation (Ng & Kee, 2017; Premkumar et al., 2014). In regions where large industries may be scarce, SMEs often act as the backbone of the economy, accounting for the majority of businesses and employment opportunities (Jaroš et al., 2016; Maharaj & Doorasamy, 2024). For instance, in many developing nations, SMEs represent over 90% of all firms and contribute between 40% to 60% of GDP. They play a critical role in diversifying economic activities, enhancing export potential, and promoting inclusive growth.

Despite these contributions, SMEs face numerous obstacles, including limited access to financial resources (Huong & Anh, 2024; Im & Yoon, 2021), inadequate infrastructure (Ascúa, 2021; Borana et al., 2024), insufficient technological adoption (Javani et al., 2023; Triandini et al., 2023), and complex regulatory frameworks (Kumar & Dubey, 2022; Sherazi et al., 2013). These challenges hinder their growth and long-term sustainability, making it

essential to develop tailored support mechanisms and policies that address their specific needs. Understanding these dynamics is crucial, as SMEs have the potential to accelerate the transition towards more sustainable and resilient economies.

Bibliometric analysis provides a systematic approach to evaluating trends, patterns, and gaps within a specific body of literature (Aleixandre-Benavent et al., 2017; Haddow, 2018; Supian & Ismail, 2022). By employing this method, researchers can uncover valuable insights into the evolution of SME research, identify influential works, and highlight areas that require further exploration. In the context of developing countries, such an analysis is particularly important given the diverse economic and socio-political environments that influence SME operations (Habibi et al., 2024; Munkongsujarit, 2018). The insights gained from this analysis can inform policymakers, practitioners, and researchers aiming to support SME growth and sustainability.

This study aims to contribute to the understanding of how recent research on SMEs in developing countries has evolved, offering a nuanced perspective on the academic and practical implications of the field. By identifying emerging trends, influential contributions, and research gaps, the study provides critical insights that can shape future investigations and policy formulations (Luo et al., 2022; Sarı & Aypay, 2024; Sofik et al., 2021). The significance of this research lies in its potential to bridge the knowledge gaps and to foster targeted strategies that address the unique challenges faced by SMEs in these regions.

Moreover, the study underscores the importance of focusing on recent developments, capturing the dynamic changes in SME-related research over the past five years. This analysis not only highlights the current state of the field but also sets the stage for future studies to build on these findings. By doing so, it aims to enrich the discourse on economic development and innovation in developing countries, ensuring that SMEs continue to be recognized and supported as pivotal players in global and local economies.

2. METHODS

Search Strategy

A comprehensive search strategy was implemented from the Scopus database to conduct this bibliometric analysis. The search strategy involved a combination of keywords, including "small and medium enterprises," "SMEs," "developing countries," and their variations. Boolean operators and truncation techniques were employed to ensure inclusivity and precision. To align with the study's scope, the search was restricted to publications in

English, within the specified time frame, and focused on research conducted in or about developing countries.

Eligibility Criteria

The inclusion criteria for this review focused on peer-reviewed articles that address small and medium enterprises (SMEs) in developing countries within the specified period of 2020 to 2024. To maintain a consistent scope, only studies published in English were included. Articles that did not explicitly address developing countries or fell outside the defined time frame were excluded from the analysis. This approach ensured the selection of high-quality and relevant studies for the bibliometric analysis.

Data Collection and Analysis

The data collection process involved the use of bibliometric tools by Elsevier, namely Scival (https://www.scival.com/home). These tools facilitated the extraction and analysis of key bibliometric metrics, including the number of publications, citation counts, co-authorship patterns, and trends of the topics. The bibliometric analysis aimed to identify trends, influential works, and collaborative networks within the field of economic growth research in developing countries.

To ensure reliability and validity, the study followed the PRISMA 2020 guidelines for systematic reviews, including a transparent reporting of the search, screening, and analysis processes. The findings were organized thematically to address the study's objectives, highlighting dominant research themes, methodological approaches, and areas for future exploration.

3. RESULTS

Publication metric

After screening using PRISMA approach, the total number of papers in the last five years (2020-24 December 2024) found in the Scopus database using the above keywords is 485.

Table 1. Scholarly output from the last five years

Years	Scholarly output (papers)
2020	82
2021	90
2022	110
2023	101
2024 (per 24 December 2024)	102

The scholarly output on SMEs in developing countries demonstrates a clear upward trend over the last five years, indicating growing academic interest in the subject. In 2020, there were 82 publications, which increased to 90 in 2021, reflecting a modest but steady growth. The peak in 2022, with 110 papers, suggests heightened research activity, possibly due to an increased recognition of the importance of SMEs in fostering economic recovery and growth in the post-pandemic context. However, 2023 witnessed a slight decline to 101 papers, which might signify a stabilization in research efforts or resource allocation constraints. As of December 24, 2024, the publication count has already reached 102, suggesting that the year-end total could surpass previous years, reflecting sustained interest and investment in this field. The data underscores the relevance of SMEs as a focal point for researchers seeking to address developmental challenges and promote economic resilience in developing regions.
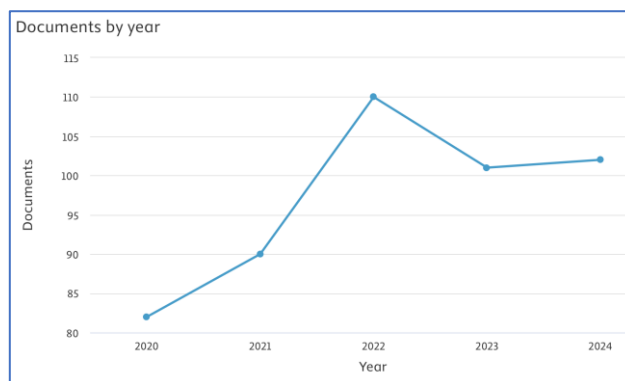

Figure 1. Scholarly output from the last five years

Citation count

The citation count for SME research over the past five years reveals the dynamic impact of scholarly contributions. Publications from 2020 garnered the highest number of citations, with a total of 2,959. This can be attributed to the longer time frame available for these works to accumulate citations and the enduring relevance of earlier contributions in shaping ongoing research. The citation counts for 2021 and 2022 are lower, at 1,513 and 1,795 respectively, reflecting the shorter periods available for citation accrual but still indicating significant recognition within the academic community. The sharp decline in citations for papers published in 2023 (825) and 2024 (311, as of December 19) underscores the time lag inherent in citation accumulation. Newly published works often take several years to reach their full citation potential, as they are gradually integrated into subsequent studies. This trend highlights the cumulative nature of academic impact, where older publications typically maintain a citation advantage over newer outputs.

Table 2. Citation count

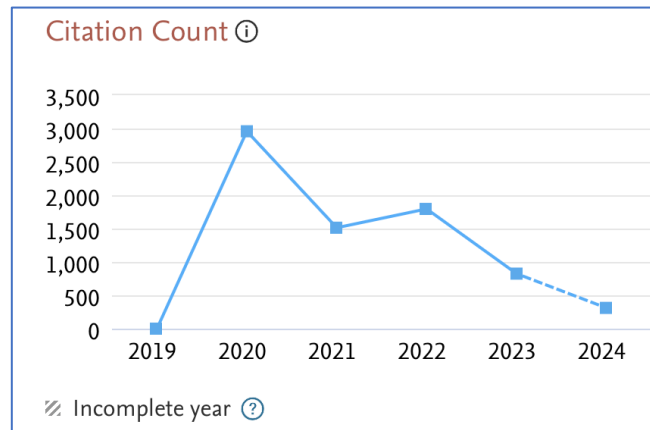| Years	Citation count
2020	2959
2021	1513
2022	1795
2023	825
2024 (per 19 December 2024)	311

Figure 2. Citation count

Top 10 Authors Based on Citation Count

The analysis of the top 10 authors by citation count reveals key contributors to SME research. Daoping Wang from China stands out as the most influential author, with six publications amassing 590 citations, highlighting his consistent and impactful contributions to the field. Similarly, Samwel Macharia Chege and Sikandar Ali Qalati, also from China, have 557 and 330 citations, respectively, from fewer publications, underscoring the high impact of their work. Interestingly, authors such as Yogesh K. Dwivedi from the United Kingdom, with only one publication achieving 326 citations, demonstrate how individual works can achieve significant academic recognition when addressing critical or innovative topics. The presence of authors from China, the United Kingdom, Greece, and Bangladesh illustrates the global nature of SME research and reflects regional differences in research focus and methodologies. The prominence of Chinese researchers highlights the country's leadership in addressing SME challenges, particularly in the context of its rapidly evolving economic landscape.

Table 3. Top 10 authors based on citation

No	Author/year	Country/Region	Scholarly Output	Citation Count
1	Wang, Daoping (2023)	China	6	590
2	Chege, Samwel Macharia (2020a)	China	5	557
3	Qalati, Sikandar Ali (2022)	China	4	330
4	Dwivedi, Yogesh K. (2020)	United Kingdom	1	326
5	Albores, Pável A. (2022)	United Kingdom	1	174
6	Malesios, Chrysovalantis C. (2022)	Greece	1	174

7	Prasanta K. Dey, Prasanta (2022)	United Kingdom	1	174
8	Rodríguez-Espíndola, Oscar (2022)	United Kingdom	1	174
9	Bahta, Dawit (2021)	China	2	152
10	Islam, Md Rashidul (2023)	Bangladesh	2	152

Top 10 Countries by Scholarly Output

The geographical distribution of scholarly output reveals regional variations in SME research. China leads with 58 publications and a citation count of 2,204, underscoring its dominant role in both quantity and impact. The United Kingdom follows closely with 52 papers and 1,184 citations, suggesting a focus on high-quality contributions despite slightly lower output. India and Malaysia rank third and fourth in publication numbers, reflecting their emerging role in SME research, driven by the importance of SMEs in their respective economies. Pakistan, with only 27 papers but 866 citations, demonstrates a high citation impact relative to its output, indicating the strong influence of its research. Indonesia, with 28 papers and 243 citations, represents the growing contributions from Southeast Asia, although its citation count suggests room for further impact enhancement. The data show that while research is geographically diverse, certain countries—particularly China and the United Kingdom—remain central to advancing the field.

Table 4. Top 10 Countries by Scholarly Output

No	Country/Region	Scholarly Output	Citation Count
1	China	58	2204
2	United Kingdom	52	1184
3	India	49	1272
4	Malaysia	42	711
5	South Africa	38	323
6	Indonesia	28	243
7	Pakistan	27	866
8	United States	24	517
9	Australia	22	678
10	Spain	20	351

Top 10 Topics by Scholarly Output

The analysis of the top research topics reveals the diverse thematic focus within SME studies. The most frequently studied topic, "Entrepreneurship; Family Business; Entrepreneurial Orientation," with 45 publications, underscores the critical role of entrepreneurship in driving SME growth and sustainability. Topics such as "Social Media; Adoption; e-Commerce" and "Industry; Information Technology; Business Model," each with 41 publications, reflect the increasing importance of digital transformation and technology adoption in modernizing SME operations. The focus on "Green Innovation; Industry; Social Responsibility" (34 publications) highlights the rising awareness of sustainability issues and

their implications for SMEs. Other themes, including "Finance; Capital Structure" (30 publications) and "Supply Chain Management" (28 publications), emphasize operational and financial challenges. Collectively, these findings reveal a comprehensive approach to addressing both traditional and emerging challenges faced by SMEs, with an emphasis on fostering innovation and sustainability.

Table 5. Top 10 topics by scholarly output

No	Topic	Scholarly Output
1	Entrepreneurship; Family Business; Entrepreneurial Orientation	45
2	Industry; Information Technology; Business Model	41
3	Social Media; Adoption; e-Commerce	41
4	Green Innovation; Industry; Social Responsibility	34
5	Finance; Industry; Capital Structure	30
6	Supply Chain Management; Industry; Airline	28
7	Internationalization; Outward Foreign Direct Investment; Emerging Market	24
8	World Trade Organization; International Trade; Industry	14
9	Industry 4.0; Digital Twin; Internet of Things	13
10	Six Sigma; Quality Management; Industry	12

Top 10 Topics by Citation Impact

The topics with the highest field-weighted citation impact provide insights into the most influential areas of SME research. The topic "Cointegration; Environmental Kuznets Curve; Carbon Dioxide Emission," with an impact of 10.32, indicates the growing relevance of environmental sustainability in SME studies, particularly in the context of climate change and resource efficiency. Similarly, themes like "Volatility; Investors; Commerce" (5.62) and "Supply Chain Management; Pricing; Commerce" (4.55) reflect the critical importance of financial stability and operational efficiency. Interdisciplinary approaches are evident in topics such as "Decision Making; Behavioral Economics; Prospect Theory" (4.43) and "Information and Communication Technologies; Educational Technology; Pre-Service Teacher" (4.41), which integrate insights from economics, technology, and education. These high-impact topics, while not the most researched, play a pivotal role in shaping academic and policy discussions, offering innovative solutions and perspectives for addressing SME challenges.

Table 6. Top 10 Topics by Citation Impact

No	Topic	Field-Weighted Citation Impact
1	Cointegration; Environmental Kuznets Curve; Carbon Dioxide Emission	10,32
2	Volatility; Investors; Commerce	5,62
3	Listeria monocytogenes; Food Microbiology; Clostridium	4,62
4	Supply Chain Management; Pricing; Commerce	4,55
5	Life Cycle Assessment; Circular Economy; Energy Engineering	4,49
6	Decision Making; Behavioral Economics; Prospect Theory	4,43
7	Information and Communication Technologies; Educational Technology; Pre-Service Teacher	4,41
8	Blockchain; Smart Contract; Authentication	4,05
9	Social Media; Adoption; e-Commerce	3,97
10	Information Theory; Construction Industry; Interoperability	2,95

4. DISCUSSION

The findings from this bibliometric analysis reveal critical insights into the evolving landscape of research on small and medium enterprises (SMEs) in developing countries. The growing scholarly output over the past five years underscores the increasing academic and practical attention devoted to this subject. The gradual rise in the number of publications, peaking in 2022, demonstrates a heightened awareness of SMEs' role in fostering economic growth (Elsebaie et al., 2023; Munkongsujarit, 2018), innovation (Rustiarini et al., 2022; Tajpour et al., 2025), and sustainability in developing regions (Zhou & Zhang, 2024). This upward trend may also reflect the global urgency to address economic challenges exacerbated by the COVID-19 pandemic, which disproportionately impacted SMEs.

The citation analysis highlights the significant influence of earlier works, particularly those published in 2020, which received the highest citation counts. This pattern reflects the cumulative nature of academic impact, where older publications have a longer time frame to gain recognition and contribute to ongoing discourse. Notably, the relatively lower citation counts for recent publications (2023 and 2024) underscore the inherent lag in citation accumulation. These findings suggest that while the field is vibrant and actively growing, the dissemination and integration of recent insights into broader research narratives take time.

The examination of key contributors and countries emphasizes the global nature of SME research, with notable contributions from China, the United Kingdom, and India. Chinese authors dominate the scholarly landscape, both in terms of output and citation impact, which aligns with the country's strategic emphasis on supporting SMEs as drivers of innovation and economic transformation (Chege & Wang, 2020b; Qalati et al., 2020; Qalati et al., 2021; Wang et al., 2023). The prominence of authors from diverse regions, including Europe, South Asia,

and Africa, illustrates the universal relevance of SME research, although the disparity in output and impact among countries suggests varying levels of research intensity and resource allocation.

The thematic analysis reveals a broad spectrum of research interests, with entrepreneurship, technology adoption, sustainability, and financial management emerging as dominant topics. The prevalence of studies on "Entrepreneurship; Family Business; Entrepreneurial Orientation" reflects the foundational role of entrepreneurial activities in driving SME growth and innovation (Al-Housani et al., 2023; Barinova & Zemtsov, 2023; Cruz Rincon et al., 2023). Similarly, the focus on digital transformation topics such as "Social Media; Adoption; e-Commerce" and "Industry 4.0; Digital Twin; Internet of Things" highlights the critical importance of technological adaptation in enhancing SME competitiveness in an increasingly digitalized global economy (Bening et al., 2023; Kumar & Kaur, 2021; Reardon et al., 2021; Wen et al., 2023). The growing emphasis on "Green Innovation; Social Responsibility" aligns with the global push toward sustainable business practices, which are particularly crucial for SMEs in developing regions striving to balance economic growth with environmental preservation (Al-Swidi et al., 2024; Şengüllendi et al., 2024; Sun et al., 2023).

Interestingly, the analysis of citation impact reveals that some highly specialized topics, such as "Cointegration; Environmental Kuznets Curve; Carbon Dioxide Emission" and "Decision Making; Behavioral Economics; Prospect Theory," yield disproportionately high academic influence relative to their output (Akhtar et al., 2022; Eleftheriadis & Anagnostopoulou, 2024; Laing & Pinto, 2023). This suggests that interdisciplinary approaches addressing niche yet critical issues resonate strongly within the academic community and have the potential to inform broader policy and practice.

The discussion of geographical distribution and research themes underscores the critical need for tailored policies and support mechanisms that align with the unique challenges faced by SMEs in different regions. For instance, the dominance of Chinese researchers may reflect the country's advanced infrastructure for academic research and policy alignment with SME priorities, which could serve as a model for other developing countries. The relatively modest output from regions such as Africa and Southeast Asia highlights the need for enhanced investment in research capacity to address localized challenges effectively.

This study also identifies gaps and opportunities for future research. While significant progress has been made in areas such as entrepreneurship and technology adoption, less attention has been devoted to issues like SME participation in global value chains (Pham & Jinjarak, 2023; Yan et al., 2023), the impact of regulatory environments (Bahri et al., 2021;

Rahman et al., 2020), and the role of gender dynamics in SME development (Sanchez-Riofrio et al., 2023; Seema et al., 2021). Additionally, the relatively low output on emerging topics like "Industry 4.0" and "Circular Economy" suggests the need to further explore the intersection of digitalization, sustainability, and economic growth (Ghosh et al., 2024; Sharma et al., 2024).

In conclusion, the findings highlight the dynamic and multifaceted nature of SME research in developing countries. By mapping scholarly contributions, influential works, and emerging trends, this study provides valuable insights for researchers, policymakers, and practitioners aiming to address the unique challenges and opportunities faced by SMEs. Future efforts should focus on fostering interdisciplinary collaboration, expanding research capacity in underrepresented regions, and addressing pressing issues such as sustainability, digital transformation, and inclusivity in SME development.

5. CONCLUSION

This bibliometric analysis provides a comprehensive overview of research trends on small and medium enterprises (SMEs) in developing countries over the past five years. The study highlights the steady growth in scholarly output, reflecting an increasing focus on the pivotal role SMEs play in fostering economic growth, innovation, and sustainable development. Key topics, including entrepreneurship, digital transformation, sustainability, and financial management, dominate the research landscape, showcasing the multifaceted challenges and opportunities SMEs face in developing regions. China, the United Kingdom, and India emerge as leading contributors to this research field, demonstrating the global relevance of SME studies.

The findings underscore the critical importance of technology adoption, green innovation, and entrepreneurial orientation in enhancing SME competitiveness. Emerging topics like Industry 4.0 and the circular economy highlight the evolving priorities within SME research, particularly in light of global sustainability goals and digital transformation. Moreover, the analysis of citation impacts suggests that niche, interdisciplinary research addressing specific challenges can yield significant academic and practical influence.

The implications of this study are far-reaching. Policymakers can draw upon the identified research trends to craft targeted interventions that address the unique challenges SMEs face in different regions. For instance, the emphasis on digital transformation and green innovation provides actionable insights into priority areas for investment and policy support. Academics and researchers can leverage these findings to identify gaps and opportunities for future studies, particularly in underexplored areas such as SME participation in global value

chains, regulatory impacts, and gender dynamics. Practitioners and industry stakeholders can also benefit by aligning their strategies with emerging research insights to enhance SME growth and sustainability.

LIMITATION

consideration. First, the analysis is based solely on data retrieved from the Scopus database, which, while comprehensive, may not capture all relevant publications, particularly those indexed in other databases or published in non-English languages. This limitation may exclude important regional studies and non-traditional research outputs. Second, the study focuses on the last five years (2020–2024), which, while capturing recent trends, may overlook significant earlier contributions that have shaped the field. The citation analysis also reflects the inherent lag in citation accumulation, potentially underestimating the impact of recent publications.

Building on these limitations, future research could explore underrepresented regions, including Africa and Southeast Asia, to provide a more balanced understanding of SME research dynamics. Additionally, interdisciplinary studies addressing the intersection of SME development with issues like sustainability, gender equity, and technological innovation could further enrich the discourse. Longitudinal studies tracking the evolution of SME research themes over extended periods may also offer deeper insights into the field's progression.

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