

The Effect of Entrepreneurial Leadership on Innovation Performance in SMEs: A Systematic Literature Review

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Abstract

Innovation performance (IP) is currently crucial for small and medium-sized enterprises (SMEs). Entrepreneurial leadership (EL) ensures competitive advantages and sustainability in the contemporary global landscape. Previous studies have observed and evaluated this field's trends and focal points. The purpose of this study is to conduct a systematic literature review of previous studies on the effect of EL on IP in SMEs. The Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) statement was used to evaluate the systematic literature in the study. Articles from the years 2000 to 2023 were searched in the Scopus and Web of Science databases (WoS). Fourteen articles were included in the final process. There have been limited studies undertaken on this topic in recent decades, and fresh findings are involved with this topic after 2012. As a new paradigm to enhance innovation and sustainability, EL has become increasingly crucial in SMEs. The present study utilizes the PRISMA approach to summarize the effect of EL on IP in SMEs, acting as one reference point for ongoing research. The study also discusses the limitations and provides recommendations for subsequent analysis.

Keywords: *Entrepreneurial Leadership, Innovation Performance, Small and Medium-Sized Enterprises, Systematic Literature Review, The Preferred Reporting Items for Systematic Review and Meta-Analysis.*

Introduction

Small and Medium-sized Enterprises (SMEs) can be seen as the most crucial to fostering economic progress in numerous countries, serving as the primary drivers of growth, and they can gain a competitive edge based on their capacity for innovation. Conversely, innovation development could bring substantial risks, intricacies, and uncertainty, and innovation performance is often less than anticipated (Nguyen et al., 2023). Innovation development poses difficulties for SMEs because of their inherent disadvantage of being tiny, having constraints in terms of financial resources and lack of a diverse range of expertise (Fang et al., 2023; Pan et al., 2024). Therefore, SMEs may benefit from adopting more flexible methods to enhance their innovation performance in the turbulent environment.

However, managers can determine the inclination to participate in innovative activities, and the future direction of the firm is influenced by leaders who have entrepreneurial mindsets and behaviors (Al-Sharif et al., 2023). The concept of entrepreneurial leadership is one new paradigm, which focuses on identifying opportunities and driving innovation in the competing environment, and leaders who possess entrepreneurial leadership can generate creative ideas to main their competitiveness and recognize and identify innovative opportunities to foster innovative activities within the organization (Bagheri & Harrison, 2020).

Innovation performance is important for the survival, growth, and sustainability of enterprises, which are becoming increasingly necessary for their success in the competing setting in SMEs (Fontana & Musa, 2017). As the concept of EL becomes more prominent, it is increasingly important for organizations to pursue EL while also addressing IP in a competitive context. Utilizing EL to enhance IP in SMEs has become a crucial question, as it may also ensure their sustainable development in a competitive context (Hussain & Li, 2022). If organizations want to achieve long-term development and gain sustained competitive, and they must consider

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the importance of both EL and IP, also recognizing the interdependence between these two factors (Ravet-Brown et al., 2023).

The systematic literature review (SLR) is a rigorous method for assessing and integrating existing literature on a particular subject (Okoli, 2015). It serves as both a methodology and a research outcome, organizing and assessing existing studies while identifying research gaps (Paul et al., 2021). SLRs can provide interdisciplinary analysis using empirical data to draw significant conclusions (Suchek et al., 2021). In terms of objectives in the study, this study employs the PRISMA methodology to conduct a comprehensive analysis of prior research on the impact of EL on IP in SMEs. The second part provides one systematic organization of the main issues and discusses the approach used to perform this literature review. The third part provides an extensive analysis and discourse on the results. The subsequent section discusses the limitations and provides feasible suggestions for future studies. Besides, the final part serves as the conclusion of this study.

Methodology

Source of Database

The objective of the study is to provide a succinct overview of the current body of literature on a certain topic using a scoping review, which will include summarizing important aspects and evaluating the scope of previous research (Mongeon & Paul-Hus, 2016). Meanwhile, researchers have established specific criteria as guidelines and limits for searching journals in databases, and the requirements including publication years, document types and language (Xie & Hanafiah, 2023). It is noted by Cao and Hanafiah (2024), many academic researchers in the field of social science employ systematic analysis to facilitate more efficient and organized database searches, and this approach also provide one solid foundation for their research endeavors. However, utilizing at least two databases is satisfactory for research purpose, considering the absence of a comprehensive electronic database (Wright & McDaid, 2011). Therefore, the present study is based on two prominent scholarly databases, Scopus, and Web of Science (WoS).

The Scopus database was introduced in 2004 and can be seen as an abstract and citation database owned by Elsevier. Scopus is a large interdisciplinary database compiled from various sources such as books, commercial journals, literary journals, and conference papers (Saunila, 2020). Additionally, Scopus offers tools that facilitate the analysis, detection and visualization of search results, and there is an extensive analysis of research across disciplines, encompassing scientific, technical, medical, and social science research in Scopus (Ghani et al., 2021). Scopus comprises approximately 36,337 titles from roughly 11,678 publishers. Among these, 34,346 titles are peer-reviewed journals in natural sciences, social sciences, physical sciences, and health sciences (Sikandar & Abdul Kohar, 2022). Meanwhile, Scopus can be seen as one expansive interdisciplinary database provided by Elsevier, possessing distinct advantages in science and technology (Wright & McDaid, 2011). The bibliometric and citation tools make use of the extensive Scopus index. The coverage period for citation sources commended in 1870, but the references cited can be traced back to 1788 (Lame, 2019).

When comparing Scopus with Web of Science (WoS), it is important to note that WoS was the initial bibliographic database (Paul, 2021). Eugene Garfield launched WoS in the 1960s under the Institute for Scientific Information. The WoS databased has almost 11,400 journals in more than 45 languages covering many disciplines, including science, social science, and the arts and humanities, and its purpose to facilitate discovering the most pertinent and top-notch research (Mongeon & Paul-Hus, 2016). Furthermore, WoS is one comprehensive and discerning database comprising a diverse range of specialized indexes organized based on the type of information or theme being indexed (Carloni, 2018). The main element of the WoS platform is the Core Collection (WoS CC), which comprises six primary citation indexes: Science Citation Index Expanded (SCIE), Social Sciences Citation Index (SSCI), Arts & Humanities Citation Index (A&HCI), Conference Proceedings Citation Index (CPCI), Books Citation Index (BKCI), and the newly established Emerging Sources Citation Index (ESCI). Nevertheless, most institutions choose to opt for a subscription to the Web of Science Core Collection (WoS CC) instead of the entire WoS Platform. This choice offers greater flexibility by allowing them to alter their database subscription as needed (Pranckutė, 2021).

Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA)

PRISMA can be employed in this research to retrieve and revise previous studies about entrepreneurial leadership and innovation performance in SMEs. Systematic review and meta-analysis are research methods that involve the comprehensive collection of relevant studies, followed by rigorous evaluation and analysis of each study (Pati & Lorusso, 2018). The data is then processed using quantitative or qualitative synthesis methods to reach comprehensive conclusions (Tanaro et al., 2020). The PRISMA statement comprises a checklist of 27 items and a four-phase flow designed to enhance the quality of reporting in systematic reviews and meta-analyses (Stewart et al., 2015). The PRISMA approach offers principles for effectively presenting a systematic review of interventions using meta-analysis, and its unique criteria can be easily adapted to suit several other types of reviews (Sarkis-Onofre et al., 2021). Furthermore, systematic review analyzes, evaluate, and synthesizes information from several studies to investigate research problems or fill gaps under similar circumstances (Moher et al., 2010).

A Systematic Review Process

Systematic review aims to reduce bias by conducting comprehensive procedures to employ an extensive literature search and critically analyze individual research (Crowther et al., 2010). Systematic literature review (SLR) can be seen as one rigorous process, which includes examining and evaluating existing studies using a transparent and reproducible methodology (Mb et al., 2003). SLR also can search for relevant information, assess the quality of the literature, and synthesize the findings objectively (Cooper et al., 2018). Therefore, this research utilizes SLR to get precise and all-encompassing literature pertaining to the issue be examined (Kraus et al., 2020). Besides, there are some stages in the process of systematic literature review, including searching and identifying journal articles, applying predetermined criteria to choose defined studies, and synthesizing all research (Voorberg et al., 2015).

Firstly, researchers should search and identify journal article by systematically examining extensive databases to locate relevant studies (Paul, 2021). Therefore, the study should employ a systematic review to identify related articles. Then, specific criteria must be established to ensure the defined studies align with research objectives (Okoli, 2015). In the last phase, the synthesized components are combined to generate significant opinions, which also requires a comprehensive examination of the primary research to address and substantiate all the previously raised questions (Cooper et al., 2018).

Besides, some keywords can be employed to search for articles about EL and IP in SMEs by WoS and Scopus database, and the keywords consist of entrepreneurial leadership, innovation performance, relationship, and SMEs. Researchers set up specific criteria at the beginning of the investigation, which can be seen as guidelines and limitations when searching for articles in databases. Meanwhile, all articles must have a publication year falling within the range of 1 January 2020 to 31 December 2023, and all document types must adhere to the standard of becoming journal articles in the English language.

The initial stages of the systematic literature review include identification, screening, and determination of eligibility and inclusion (Mb et al., 2003). In the identification procedure, which consist of multiple processes. Researchers should select the keywords 'innovation performance', 'entrepreneurial leadership', 'effect', and 'SMEs' and use synonyms from a thesaurus spanning the years 2000 to 2023, which can be used to precisely identify in the WoS and Scopus database. Firstly, researchers selected the options 'article title', 'abstract', and 'keywords' in the Scopus and WoS search box, ranging from 2000 to 2023. 21 articles and 49 articles were recorded in these two databased, respectively. Meanwhile, 13 papers were eliminated because they were conference proceedings, books chapters, books reviews, or non-English publications, and 57 articles were screened. Besides, a total of 5 articles were selected for the purpose of identifying duplicate databased. Therefore, 5 articles present in both databases were removed among 57 articles, and 52 articles were evaluated to determine their eligibility. The following procedure entailed examining articles that had access to the full paper. 38 studies were excluded due to the lack of empirical data. These articles either lack empirical data or do not explicitly examine the effect of EL on IP in SMEs. 14 articles were included to determine their eligibility, and 38 articles were removed.

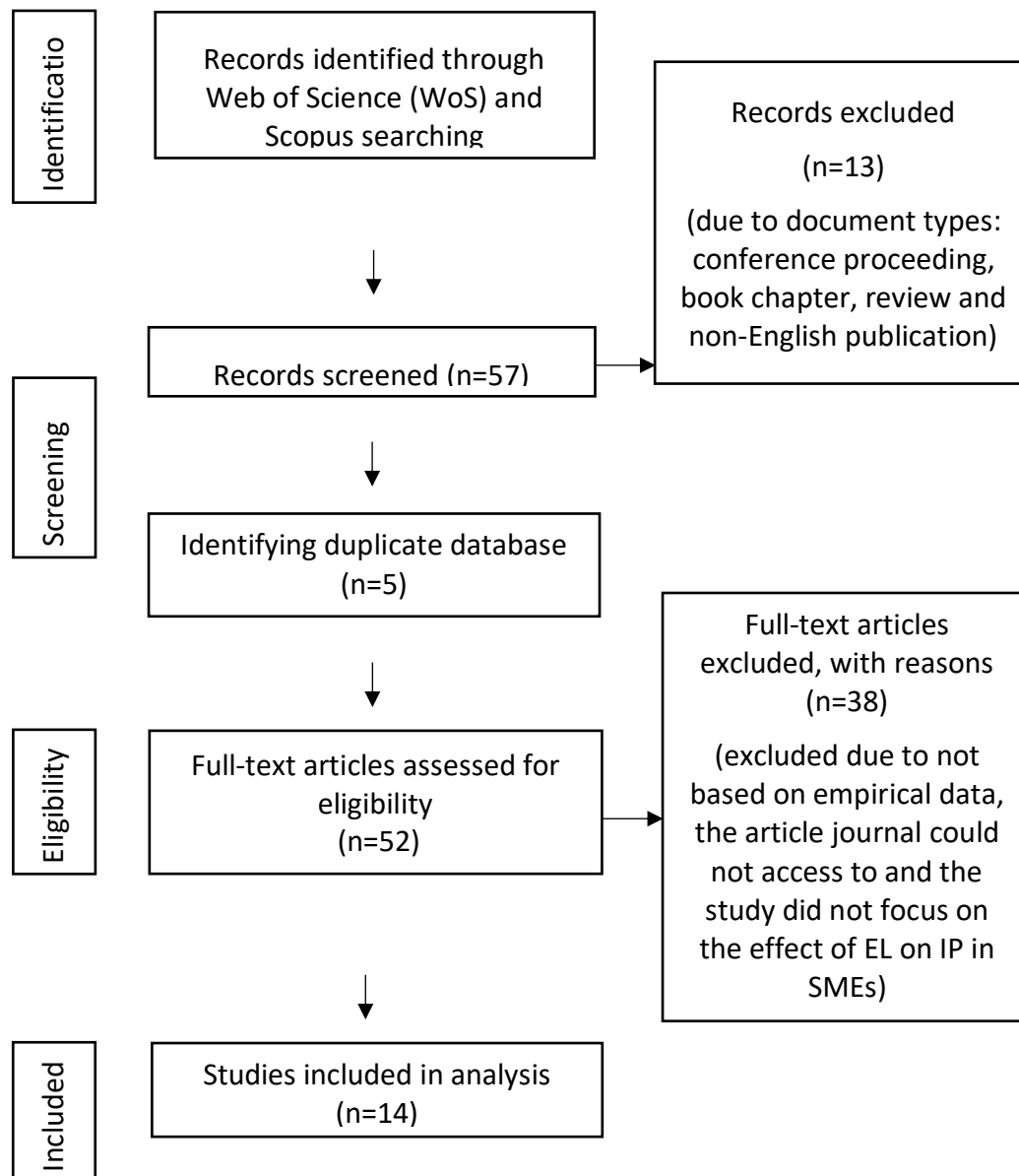


Figure 1. Flow of Systematic Review of Searching

Review and Discussion

Review of Article in WoS Database

The study conducted a comprehensive search for 49 scholarly publications in the WoS database, including specific keywords including effect, entrepreneurial leadership, innovation performance, and SMEs. The article was initially published in 2012. However, no publications were released in 2013. Three studies were published in 2014. In 2021, the number of published articles reached its highest point at nine articles. However, the number of publications decreased to eight and seven in the subsequently two years, respectively.

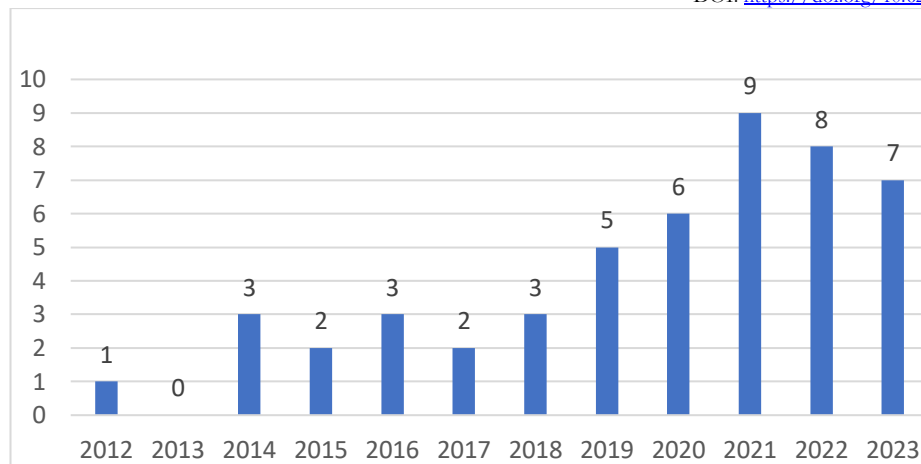


Figure 2. Number of Articles in Wos Database

Review of Article in Scopus Database

When conducting a search in the Scopus database for journal articles, it is possible to find 21 articles by using keywords such as effect, entrepreneurial leadership, innovation performance, and SMEs. The article was initially published in 2012 with two articles and was subsequently published one article in 2014. Nevertheless, there was a lack of publication in both 2015 and 2016. In 2017, only one article was published, while there was no publishing in 2018, reverting to the same level as in 2016. The maximum number of publications reached at six in 2022 but decreased to three articles in 2023.

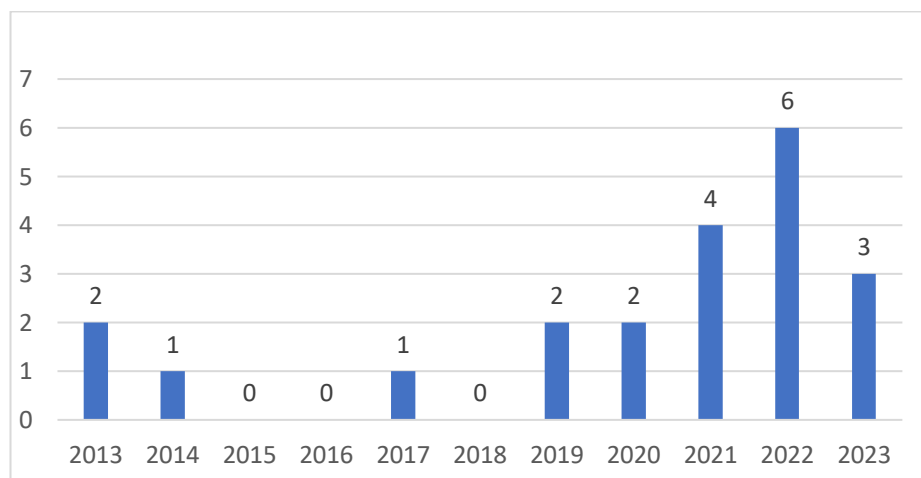


Figure 3. Number of Articles in Scopus Database

Analysis of Article's Citation Number

Citations are a measure of how often an article is mentioned in other publications, and they serve as statistics for assessing the influence and usage of the cited work in research policy and within the research framework (Nigam & Nigam, 2012). The present study indicated a list of the top 10 publications that have received the most citation in these two databases, and the details can be seen as in Table 1 and Table 2. The highest article in WoS is 'Drivers of innovation ambidexterity in small to medium sized firms' with 212 citations and 'Frugal-based innovation model for sustainable development: technological and market turbulence' with 58 citations in Scopus.

Table 1. Number of Citation in WoS

Author/Year	Title	Number of Citations
Chang & Hughes (2012)	Drivers of innovation ambidexterity in small- to medium-sized firms	212
Ahn et al. (2017)	Understanding the human side of openness: the fit between open innovation modes and CEO characteristics	128
Roper & Tapinos (2016)	Taking risks in the face of uncertainty: An exploratory analysis of green innovation	119
Eniola & Enteban (2017)	SME Managers and Financial Literacy	54
Akbari et al. (2020)	Does entrepreneurial leadership encourage innovation work behavior? The mediating role of creativity self-efficacy and support for innovation	52
Iqbal et al. (2021)	Frugal-based innovation model for sustainable development: technological and market turbulence	52
Yeoh (2014)	Internationalization and Performance Outcomes of Entrepreneurial Family SMEs: The Role of Outside CEOs, Technology Sourcing, and Innovation	47
Iqbal et al. (2021)	Linking Entrepreneurial Orientation with Innovation Performance in SMEs; the Role of Organizational Commitment and Transformational Leadership Using Smart PLS-SEM	46
Obeso et al. (2020)	Knowledge management processes and organizational performance: the mediating role of organizational learning	46
Ng & Kee (2018)	The core competence of successful owner-managed SMEs	45

Table2. Number of Citations in Scopus

Author/Year	Title	Number of Citations
Iqbal et al. (2021)	Frugal-based innovation model for sustainable development: technological and market turbulence	58
Iqbal et al. (2021)	Linking Entrepreneurial Orientation with Innovation Performance in SMEs; the Role of Organizational Commitment and Transformational Leadership Using Smart PLS-SEM	57
Yeoh (2014)	Internationalization and Performance Outcomes of Entrepreneurial Family SMEs: The Role of Outside CEOs, Technology Sourcing, and Innovation	53
Majali et al. (2022)	Green Transformational Leadership, Green Entrepreneurial Orientation and Performance of SMEs: The Mediating Role of Green Product Innovation	50
Sawaeen & Ali (2020)	The impact of entrepreneurial leadership and learning orientation on organizational performance of SMEs: The mediating role of innovation capacity	50

Nguyen et al. (2021)	The impact of entrepreneurial leadership on SMEs' performance: the mediating effect of organizational factors	46
Paudel (2019)	Entrepreneurial leadership and business performance: Effect of organizational innovation and environmental dynamism	34
Chelliah et al. (2022)	Entrepreneurial Orientation and Open Innovation Promote the Performance of Service SMEs: The Mediating Role of Cost Leadership	6
Ahmad et al. (2022)	Digital Business Model Innovation SMEs: The Roles of Entrepreneurial Leadership and Government Support	4
Llyas et al. (2017)	Role of strategic leadership, entrepreneurial orientation, and innovation on small and medium enterprises performance	4

Analysis of Study Settings

The research setting in the study refers to the specific location where the research is being conducted (Sarkis-Onofre et al., 2021). The highest setting of the WoS database is in England, followed by Pakistan, Malaysia, China, and other countries. The highest setting of the Scopus database is in Malaysia, followed by China, Indonesia, and other countries. Among these countries, research articles are the most contributed to in Malaysia and China in two databases.

Table3. Number of Study Settings

Database	Scopus	WoS
England	-	10
Malaysia	8	7
China	2	7
Indonesia	2	4
USA	-	4
Australia	-	3
Iran	-	2
Italy	-	2
North Ireland	-	2
Jordan	2	-
Argentina	1	1
Germany	1	1
Nepal	1	-
Oman	1	-
Pakistan	1	8
Peru	1	-
Portugal	1	2
Scotland	-	2
South Korea	-	2
Spain	-	2
U Arab Emirates	-	2
Canada	-	1
Cyprus	-	1
Czech Republic	-	1
France	-	1

Greece	-	1
Lebanon	-	1
Lithuania	-	1
Mongolia	-	1
Qatar	1	-
Spain	1	-
Thailand	1	-
United States	1	-
Vietnam	1	-

Methodology of Study

Research methodology refers to one systematic approach to address problems in every study, which involves describing, explaining, and predicting phenomena (Goundar, 2012). Additionally, researchers demonstrate how to articulate problems and objectives and present the conclusions from data collected during the study period (Patel & Patel, 2019). Quantitative methods include the collection and analysis numerical data for statistical analysis, and qualitative methods use non-numerical data to explain phenomena (Basias & Pollalis, 2018). When researchers choose suitable research methodologies, some factors can be considered, including research purpose, objectives, nature of the issue, and research questions. The quantitative method analyzes substantial data to validate hypotheses and test the theory. However, the qualitative method comprehends complex ideas and experiences and answers “what,” “how,” and “where” about research questions. Out of all the investigations undertaken in this research, the majority utilized quantitative method. This accounts for 58 out of the total number of studies, which corresponds to 83 per cent, as shown in Table 4. Besides, 7 studies, or 10 percent, were conducted in qualitative research, and only 5 studies or 7.1 percent used mixed methodology. It shows the more researchers conducted quantitative methods to explore the effect of EL on IP in SMEs.

Each company has started to prioritize innovation performance and use this non-financial metric to evaluate its sustainable development. Through the comprehensive literature review, the current study found that the most studies conducted quantitative analysis through SMART-PLS and AMOS to explore the effect of EL on IP in SMEs. Most scholars indicate that EL positively influences IP in SMEs. Firstly, leaders who possess EL could be encouraged to establish one innovative work environment and cultivate an organizational climate beneficial for implementing innovative-driven strategies. Secondary, EL helps leaders restructure their organizations, and it is beneficial for them to identify and seize opportunities and develop innovative products to sustain competitive advantages. Thirdly, entrepreneurial leaders can skillfully synchronize innovative endeavors with the strategic vision of firms, and they can inspire and involve employees, ensuring that their actions align with the organization’s innovative objectives.

Table4. Methodology of Study

Data	Quantitative	Qualitative	Mixed
Scopus	17	4	0
WoS	41	3	5
TOTAL	58	7	5

Analysis of Field Study on Entrepreneurial Leadership and Innovation Performance in SMEs

EL can be employed from various perspectives to assess business performance and sustainable development (Leitch & Volery, 2017). A wide range of studies has explored the effect of EL on IP in SMEs. Meanwhile, some fields, such as Business Economics, Social Science, Computer Science, Environmental Science, and Engineering, can be involved.

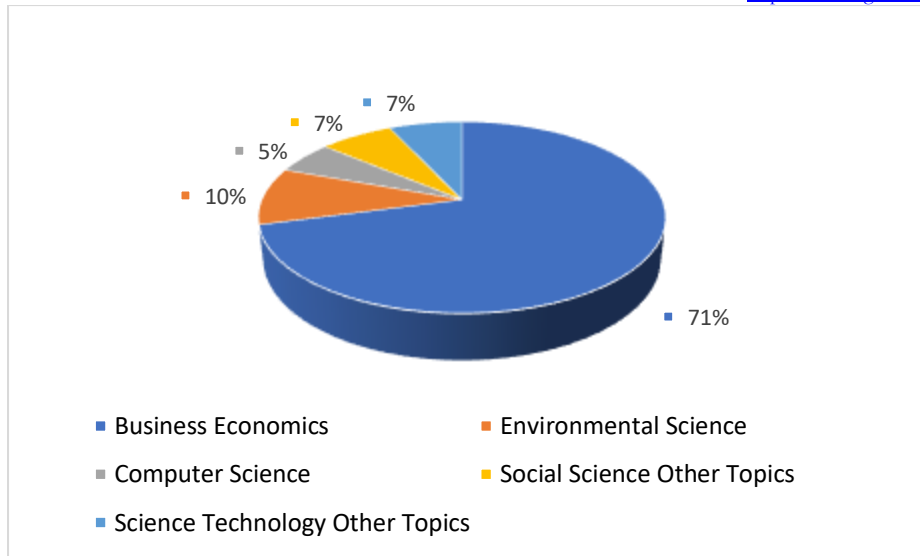


Figure 4. Area of Field Study in WoS

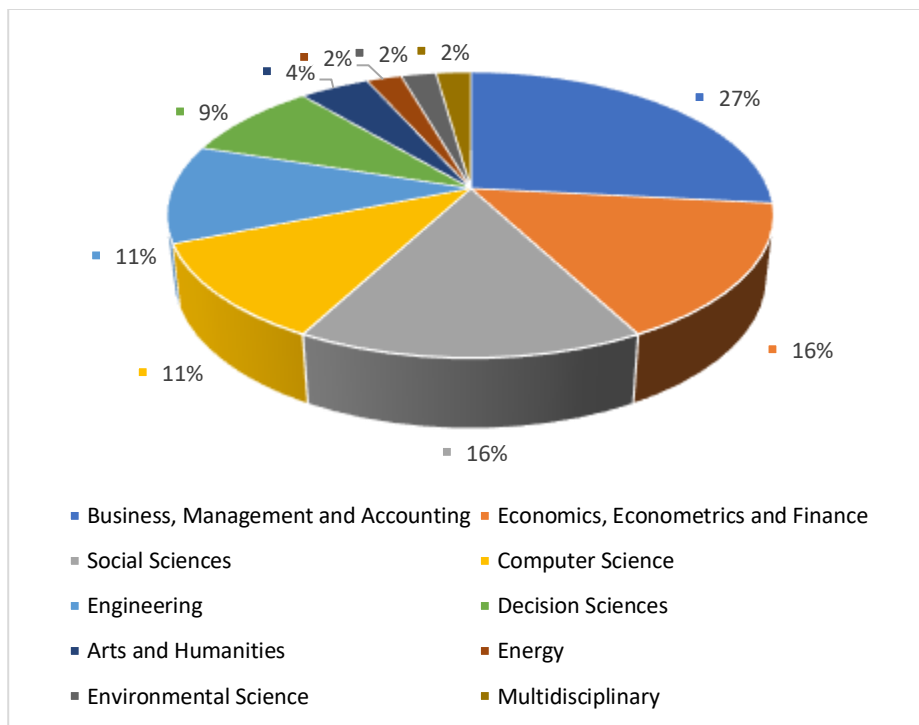


Figure 5. Area of Field Study in Scopus

Based on the WoS database, Business Economics is the study field with the highest number of articles, contributing 51 articles or 71 percent of the total. The analysis field of Environmental Science has 7 publications, which accounts for 10 percent of the total. The third research study field are Social Science Other Topics and Social Technology Other Topics, which account for 5 articles or 7 percent of the total, respectively.

According to the Scopus database, the largest area of study is Business, Management, and Accounting, which accounts for 12 studies or 27 percent of the total. The second research comprises two disciplines, namely Economics, Econometrics and Finance, and Social Science, each accounting for 7 articles or 16 percent, respectively. Next, the third research study field also include two fields, Computer Science and Engineering, contributing to 5 articles or 11 percent of the total, respectively.

Underpinning Theory in Study

Underpinning theory encompasses the fundamental principles or notions that substantiate and establish one theoretical framework for understanding social significance within the research. Theories facilitate the explanation and comprehension of how society operates and guide study and application in a manner (Wacker, 1998). Although the PRISMA only included 14 studies, 19 underpinning theories or 8 underlying theories can be found in the study. Besides, some articles conducted multiple theories to be employed in the research. There have been underlying theories discovered, including Contingency Theory, Institutional Theory, Strategic Choice Theory, Self-Determination Theory, Self-Efficacy Theory, Social Cognitive Theory, Upper Echelons Theory and Resource-Based Theory. Among these theories, Resource-Based theory is commonly used. Many scholars indicated that Resource-Based Theory can be employed to explain the effect of EL on IP in SMEs. According to the Resource-Based Theory, organizations can leverage their internal resources to gain a competitive edge in a volatile environment. These internal resources encompass both tangible and intangible assets, which can aid in fostering innovation and ensuring sustainable long-term growth.

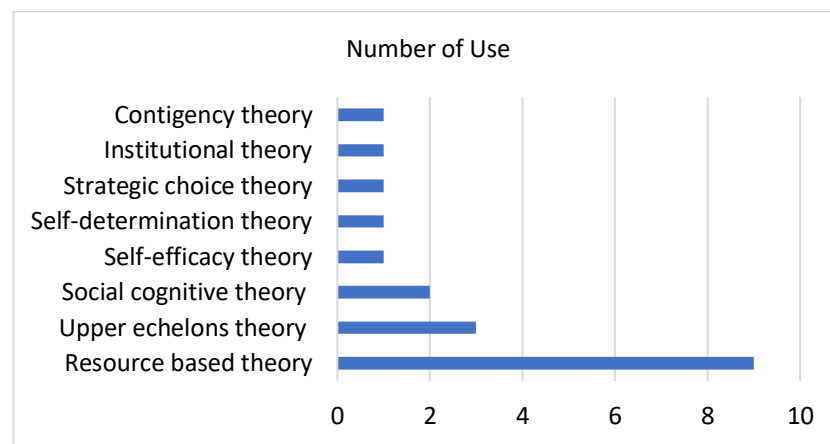


Figure 6. Underpinning Theory in Study

Limitation and Recommendation

To implement innovative-driven strategies, IP plays a critical role in SMEs and can be used to assess their long-term viability in the competing environment. Meanwhile, the ongoing study employs the PRISMA technique to systematically analyze literatures about the effect of EL on IP in SMEs. The PRISMA technique offers standardized instructions to improve the reporting of systematic literature reviews and meta-analyses. However, the current research solely utilizes the Scopus and WoS databases to implement PRISMA, resulting in a limited scope of analysis. Therefore, future investigations could employ the PRISMA technique using numerous databases for comparative analysis.

Meanwhile, it is indicated by Paudel (2019) that the current breadth of study could be expanded. The current study conducted one systematic, explicit, comprehensive approach for identifying, evaluating, and synthesizing the literature on the effect of EL on IP in SMEs during the past two decades. These articles were conducted using two prominent sources, WoS and Scopus. Future studies could consider other aspects of EL and IP in SMEs (Nguyen et al., 2021). The methodology of research conducted quantitative in most of the 14 studies, and employing quantitative research can extrapolate findings from a survey sample to a large population (Sawaeen & Ali, 2020). However, the limitations of quantitative methodologies can result in conclusions that are likely to be applicable only to the specific purpose and objectives of the research effort. On the other hand, qualitative research allows researchers to gather more data to draw more conclusive results (Avgousti, 2013).

Subsequent studies can employ qualitative research to investigate how EL influences IP in SMEs, and this method could enrich the theoretical framework and discussion related to qualitative research.

However, previous studies primarily conducted quantitative research to explore the effect of EL on IP in SMEs, and these studies focus on the overall influence of EL or a single dimension of EL on IP in SMEs. The effect of EL on IP in SMEs is intricate, and each dimension of EL could have different influences on IP in SMEs. Further studies should employ non-quantitative research to enrich the theoretical framework and discussion, such as configuration theory. Meanwhile, future studies could consider several mediators when exploring the effect of EL on IP in SMEs, including entrepreneurial orientation, strategic orientation, organizational learning, and employees' innovative behavior. Additionally, some moderating variables can also be considered for the effect of EL on IP in the future, including organizational culture, environmental uncertainty, and market competition intensity.

Conclusion

A systematic literature review can be conducted in the current study, which summarizes articles on the effect of EL on IP in SMEs, covering the period from 2000 to 2023. The number of articles indicated one upward trend in both WoS and Scopus databases. As a result of these two databases being in their initial stages, the numbers began to decline. The highest growth rate was attained in 2021 in WoS and in 2022 in Scopus, respectively. This study examined the top 10 publications that garnered the most citations, and it also highlights the highest setting in England and Malaysia in these two databases, respectively. The bulk of articles in this research employed quantitative methodologies, and multiple study fields, such as Business Economics, Environmental Sciences, Computer Sciences, Engineering, and other disciplines. Besides, the study has employed eight fundamental theories due to different studies employing multiple hypotheses to explore. Most of the literature indicates that EL positively influences IP in SMEs. In the competitive setting, entrepreneurial leaders can maintain their competitive advantages and improve their innovation performance, and this can be linked to encouraging knowledge sharing, cultivating innovative culture, and stimulating innovative behavior. Therefore, entrepreneurial leadership has the potential to enhance innovation performance in SMEs, and entrepreneurial leaders not only improve operating efficiency but also stimulate market success, which ultimately contributes to innovation performance in SMEs.

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