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Business Model Innovation in SMEs: A Systematic Literature Review

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Abstract

To innovate in their business model, small and medium-sized enterprises (SMEs) have to be open to innovation, i.e., open to new technologies and sustainable practices among other possible strategies. The sustainability is crucial in this as the circular economy is growing as a new paradigm and the digital transformation and industry 4.0 are building knowledge around it. The organisations must, therefore, be aware of these contemporary practices and try to include the sustainable perspective into their business models. Many scholars produced knowledge related to business model and innovation, yet no systematic literature review (SLR) relating business model innovation to SMEs was found. Therefore, this SLR explains that phenomenon by answering to three research questions: (1) How the studies of business model innovation have evolved? (2) What are the challenges that SMEs have to struggle to innovate their business model? and (3) What are the trends in the study of business model innovation? 247 documents retrieved from the Web of Science database were submitted to the analysis protocol. The final sample of 122 records was submitted to bibliometric analysis using the R software and Vos Viewer software. Additionally, there was a content analysis of the articles to find trends, identifying clusters and presenting the results of condensed information in the form of tables and figures. Those results allowed the proposal of a framework for business model innovation in SME. At last, the conclusions and future studies agenda are presented to support new studies.

Keywords: Business Model Innovation; Small and medium-sized enterprises; Sustainability; Digital transformation; systematic literature review.

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1. INTRODUCTION

Business model innovation (BMI) is gaining the spot as a hot topic in management research. The huge momentum it has gained in recent years is the reflection of about 20 year's continuous development. The importance of business models for the sustainability and competitiveness of small and medium-sized enterprises (SMEs) is certainly flourishing. Upon the emergence of the COVID-19 crisis, the SMEs have found in the digitalization a path to innovate in the way they do business. (Filser et al., 2021; Strakova et al., 2022; Giotopoulos et al., 2022). The crisis also created significant challenges to industries due to changes in consumption patterns and government measures (Singh et al., 2022).

Latifi (et al., 2021) points out that BMI promotes enormous and irreversible alterations in key components of a company's business model, i.e., modification in the core of the business and brings along elevated risk, ambiguity and uncertainty. Many organisations fail to obtain the results they expect when implementing the designed innovations in their business models. Chen (et al., 2021) say that SMEs face more challenges than big companies when trying to renew their business operations. They act, in most cases, reacting to the need imposed by the market, while bigger organisations have more conditions to plan the modifications and test it in different settings to find the best alternative. Business model experimentation is highly important for the development of a new business model (Molina-Castillo et al., 2022).

The digital era leads the way for significant changes in society and have been modifying the way firms do business. Internalization, digitalization and sustainability are growing paths for firms nowadays, with the digital transformation being a relevant aspect for innovation and business renewal (Garzella et al., 2021; Denicolai et al., 2021). BMI can positively contribute for the performance of SME and generate competitive advantage (Anwar, 2018). A study conducted by Asemokha (et al, 2019) shows that BMI and entrepreneurial orientation (EO) are important drivers for the performance of internationalizing SMEs.

The sustainability arises as a factor of influencing change in organisational business model as the transition to a circular economy has been in the center of discussions among governments, industries and the civil society. (Bashir et al., 2022; Uvarova et al., 2021). Marucci (et al., 2022) say that the circular economy replacing the linear paradigm is a key point that SMEs have struggled to incorporate in their business models. Therefore, the study of the incorporation of the sustainable principles into the core of business model focusing on the SMEs is high relevant.

Small and medium-sized enterprises, in order to achieve digital development, need to conduct investments in information and communication technology (ICT) infrastructure, according to Giotopoulos (et al., 2022). Strakova (et al., 2022) states that the stability and development limitation of SMEs relates to the degree of digitalization of corporate processes. The capacity to innovate the business model became a high factor to survive competition especially for SMEs facing the need to keep up with international competition in a globalized world. (Garzella et al., 2021; Von Joerg & Carlos, 2022).

The BMI is capable of create a firm´s advantage and improve SMEs performance (Latifi et al., 2021). Many studies have been conducted to identify important aspects of Business Model Innovation (Guimaraes et al., 2021; Magni et al., 2022; Herrero-Luna et al., 2022; Suchek et al., 2022). Although there is a relevant increase in studies related to business models and innovation combined, there is a lack of studies relating it to the context of SMEs. Filser (et al, 2021) present a bibliometric analysis related to business model innovation and pointed out the study of the SMEs context as a trend. The unique contribution of this paper is to synthesize the studies related to business model innovation and small and medium-sized enterprises to generate the first systematic literature review (SLR) of business model innovation in SME. In the end, this study aims to be able to answer to three research questions:

1. How the studies of business model innovation have evolved?

2. What are the challenges that SMEs have to struggle to innovate their business model?

3. What are the trends in the study of business model innovation?

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The first question shall be answered by performing a bibliometric analysis that demonstrates the evolution of the studies concerning this field. To answer the second question it is necessary to perform the content analysis of the records in order to find what has been identified so far about the challenges to innovate in SMEs business models. To answer the third question, it is mandatory to identify the clusters within the sample. After that, the trends shall be identified and organized in a table of proposed future studies.

The reading of the articles allowed the identification of five thematic groups: innovation business model, SME business models, sustainability, digital transformation and industrial innovation. Among the results, the review found that small and medium sized enterprises could engage in business model development by getting involved in a regional innovation ecosystem as BMI demonstrate to be a crucial element to explain the firm's performance.

In the next sections of this paper we show the methods adopted in the research, the systematic literature review itself, as well as the identified clusters and present a framework for the business model innovation in SMEs. At last, we present the final considerations and references used.

2. METHODS

In order to bring forth a broad understanding of the most recent findings related to the business model and innovation in SMEs, this article carried out a critical and systematic literature review. The research protocol was conceived following the study of Agrawal (et al., 2022) that conducted a reliable and replicable systematic literature review.

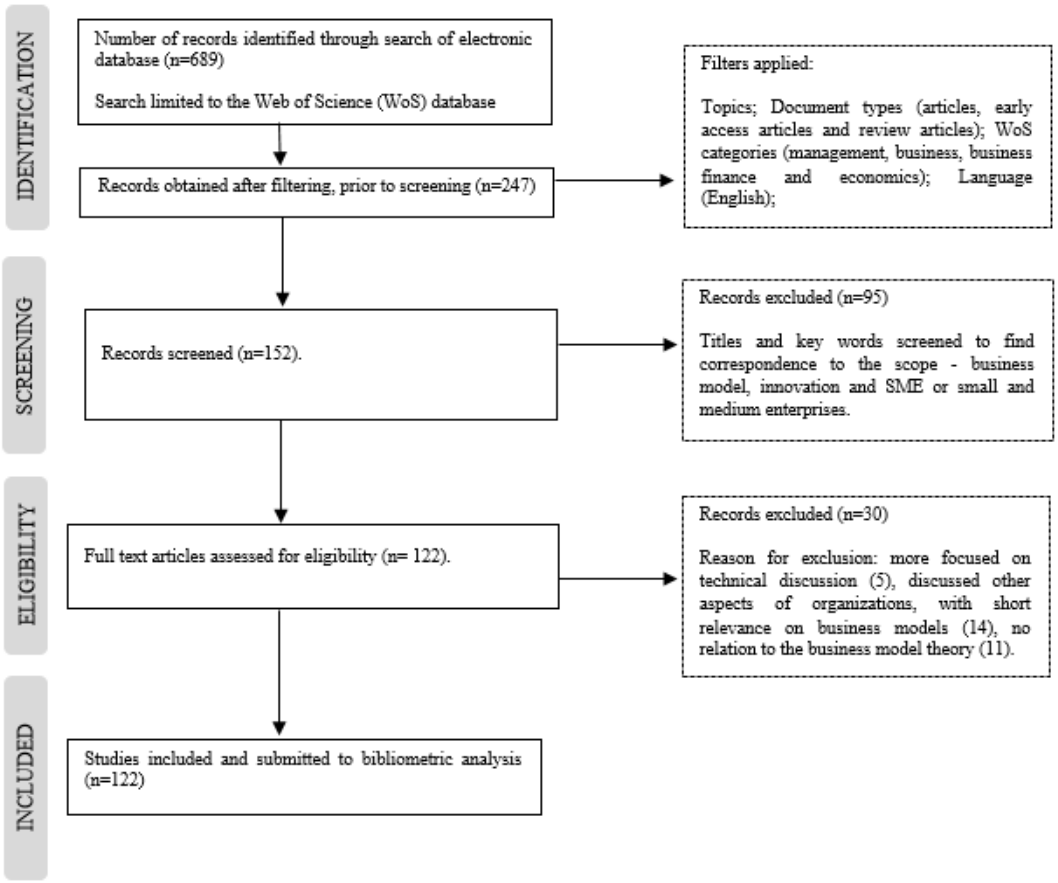

Figure 1 – Representation of the methodological approach

Source: the author, adapted from Haddaway (et al., 2022).

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The articles incorporated in this SLR derived from the Web of Science (WoS) database. A search by topics for articles was conducted based on the criteria established using the query "(("Business Model*") AND ("Innovat*")) AND (("SME*") OR ("Small and medium ent*"))". The aim was to identify investigations surrounding the fields of business models and innovation related to small and medium enterprises considering the categories "Management, Business, Economics and Business Finance". Articles (including early access) and review articles in the English language with no time restriction were additional filters adopted in the search. The outcome generated a total of 247 articles that were submitted to the protocol, based on the study of Haddaway (et al., 2022) described below in Figure 1, to be properly analysed in this study.

This research used the Vos Viewer and R Studio software to conduct a bibliometric analysis of the final 122 records obtained. Then, the procedure combined the bibliometric to a content analysis of the articles to find trends, identifying clusters and presenting the results of condensed information in the form of tables and figures. Those results were the base to the proposal of a framework and to foster the conclusions and future studies agenda.

3. Results and Discussions

3.1. Research Profile

The business model and innovation have been object of study combined since 2003. The search developed in this study could only find articles written between 2003 and 2022, as seen on table 2. The 122 articles were published in 71 different sources with an annual growth rate of 18,46%. The collaboration is a factor identified as only 10 documents are single authored and the remaining 112 present a mean of 3,2 authors per document.

Table 1 – Main information about data

Description	Results
Timespan	2003:2022
Sources (Journals, Books, etc.)	71
Documents	122
Annual Growth Rate %	18,46
Document Average Age	2,6
Average citations per doc	24,3
References	7573
DOCUMENT CONTENTS	
Keywords Plus (ID)	359
Author's Keywords (DE)	421
AUTHORS	
Authors	354
Authors of single-authored docs	10
AUTHORS COLLABORATION	
Single-authored docs	10
Co-Authors per Doc	3,2
International co-authorships %	34,43

Source: the author.

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Among the 78 sources identified, table 2 shows the 10 most prolific publishers. Combined, the first four sources represent 21,3% of the total amount of publications identified. The data retrieved from the Web of Science and analysed using the R studio software demonstrated the most relevant authors, i.e. the authors that published more articles related to the focus of this study.

Table 2 – Most relevant sources

Sources	Articles
JOURNAL OF BUSINESS RESEARCH	10
INTERNATIONAL JOURNAL OF INNOVATION MANAGEMENT	6
R & D MANAGEMENT	5
TECHNOLOGY ANALYSIS \& STRATEGIC MANAGEMENT	5
BUSINESS STRATEGY AND THE ENVIRONMENT	4
JOURNAL OF THE KNOWLEDGE ECONOMY	4
JOURNAL OF MANUFACTURING TECHNOLOGY MANAGEMENT	3
JOURNAL OF SMALL BUSINESS AND ENTERPRISE DEVELOPMENT	3
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	3
TECHNOLOGY INNOVATION MANAGEMENT REVIEW	3

Source: the author.

Table 3 results demonstrates that Anwar, Bouwman, Kraus, Torkkeli, with four articles each, and Clauss, Cucculelli and Mueller, with three articles each, are the authors that produced more for this field in collaboration with other authors.

Table 3 – Most relevant authors

Authors	Articles
ANWAR M	4
BOUWMAN H	4
KRAUS S	4
TORKKELI L	4
CLAUSS T	3
CUCCULELLI M	3
MUELLER J	3
BETTINELLI C	2
BREIER M	2
BULIGA O	2

Source: the author.

3.2. KEYWORD AND CITATION ANALYSIS

According to Agrawal (et al., 2022), the keyword statistic is used to analyse the frequency of relevant keywords of the articles in the title and keyword sections. Different keywords are frequently used since the authors have different perspectives in the development of their research. In the fields of business models and innovation related to SMEs it is also observed and the keywords analysis is so important because of that. Using the R software, a word cloud was created to demonstrate the most frequent keywords used by the authors, as seen in Figure 2.

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Figure 2 – Word Cloud based on the articles keywords

Source: the author.

The 20 most frequently used keywords used are shown in Table 4. These are the most used keywords from a total of 790 keywords. Business model, business model innovation and SMEs appear as the most common words used. The plural and singular variations of these words are seen too. The sustainability, circular economy, entrepreneurship, internalization and open innovation are other terms that caught the attention based on this analysis.

Table 4 – Most relevant authors

Words	Occurrences	Words	Occurrences
business model	43	open innovation	6
business model innovation	38	digital transformation	4
SMEs	33	digitalization	4
SME	18	enterprises	4
innovation	16	absorptive capacity	3
business models	11	ambidexterity	3
sustainability	10	business	3
circular economy	9	collaboration	3
entrepreneurship	9	competitive advantage	3
internationalization	8	covid-19	3

Source: the author.

In order to highlight the most cited documents among the collected sample, Figure 3 presents a citation analysis, based on the documents obtained, using the Vos Viewer software. It reveals that Mueller (2018) and Coreynen (2017) are the most cited articles with 385 and 262 citations respectively, followed by Jenkins (2009) and Mangematin (2003), the only articles published in their respective year and mentioned as responsible for the high average for the total citation observed.

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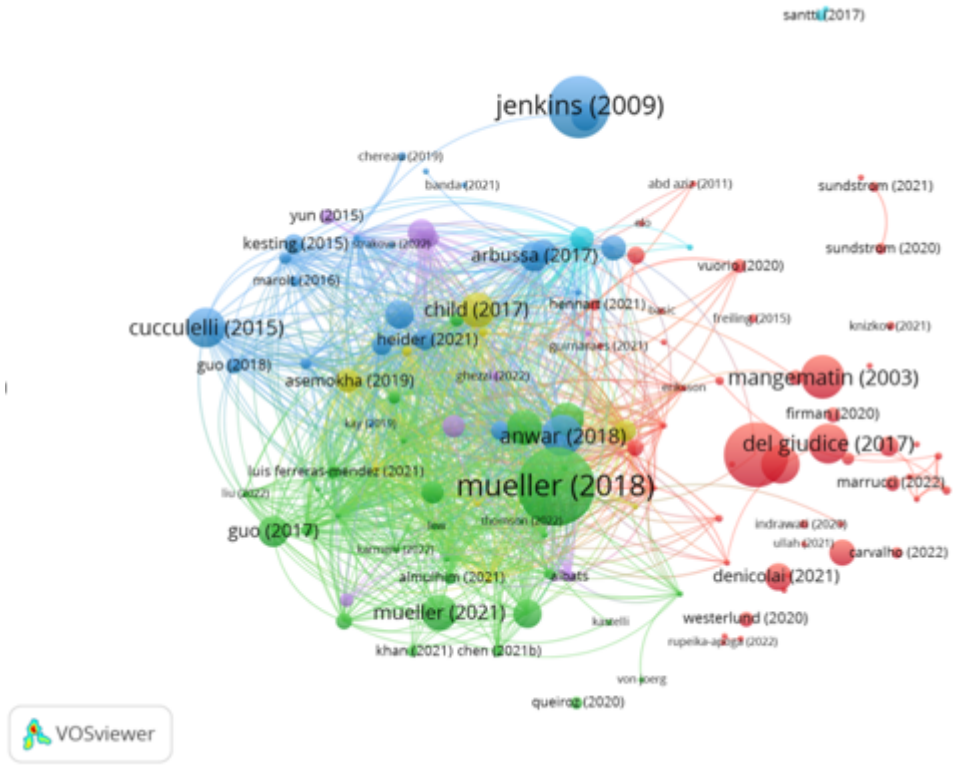

Figure 3 – Citation analysis based on the documents

Source: the author, from VOS Viewer.

3.3. IDENTIFIED CLUSTERS

The documents from the Web of Science database were analysed using the Vos Viewer software to identify the relation among the keywords for clustering the articles. Figure 3 represents the result of the analysis. Five clusters were identified and, therefore, the articles were grouped and submitted to content analysis.

The Innovation and Business Model cluster was divided in three subgroups – innovation, dynamic capabilities and firm performance. The SME Business Models was divided in two subgroups – SME business model and business models. The third cluster is Industrial Innovation. The fourth cluster identified is Digital Transformation and it was divided in two subgroups – digital transformation and open innovation. The fifth and last group is sustainability. The key findings related to these clusters are shown in Figure 4. After that are presented relevant aspects of each of these clusters.

3.3.1. INNOVATION BUSINESS MODEL

The fast-changing business environment made the Business Model Innovation (BMI) study increasingly important (Marolt et al., 2016). Firms should set BMI among the most important strategic decisions to take considering that it represents a relevant signal of an open business model and may contribute to the financial and nonfinancial performance of the enterprise (Guo et al., 2018; Ghezzi et al., 2022; Al-Nimer et al., 2021). The continuous development of new technology that brings changes to business environment, make a push on the patterns and systems used by the organisations, what breaks the old guarantee that the business would last forever as it was conceived. According to Ammar & Chereau (2018), this innovation in business model can take a large range of differentiations, from the firm's entrepreneurial choices to administrative or engineering choices.

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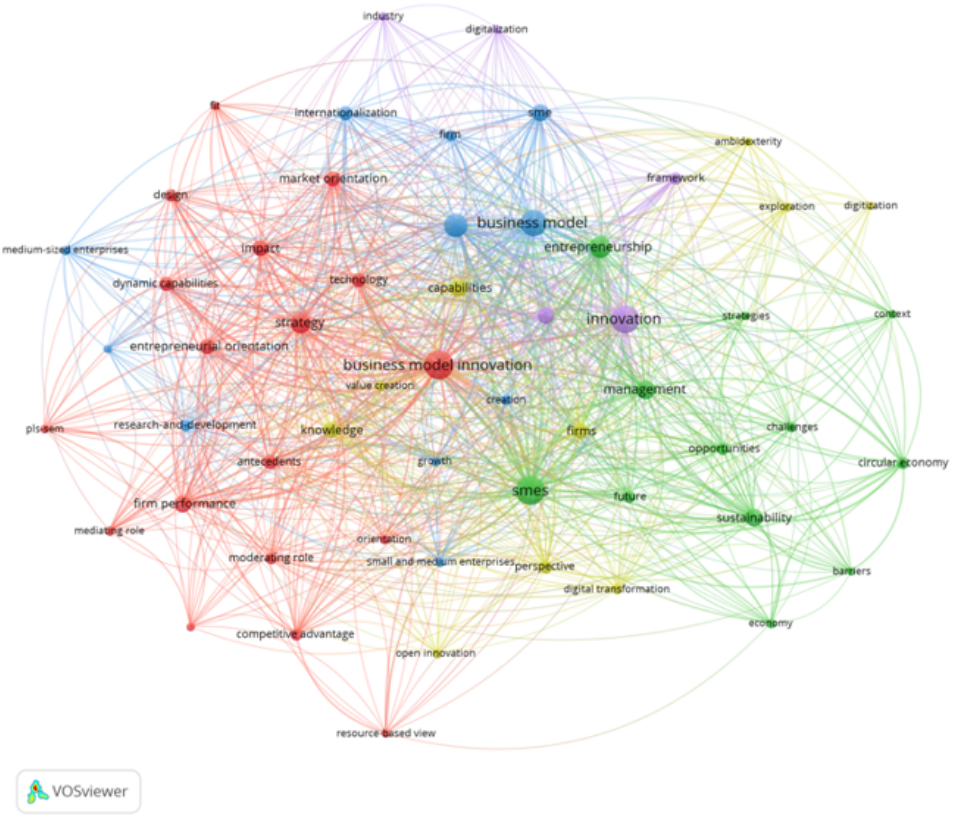
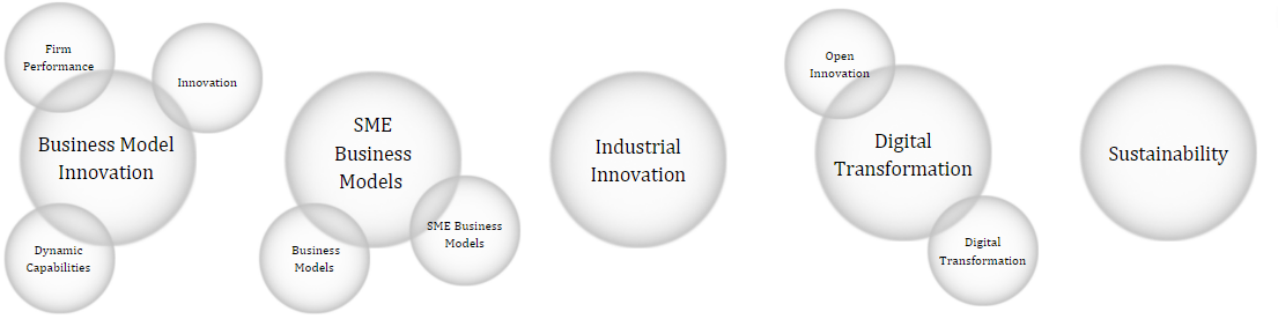


Figure 4 – Keyword analysis

Source: the author, from VOS Viewer.



- BMI among the most important strategic decisions.

- Innovation may be achieved in different organisational areas.

- BMI mediates the relation between the entrepreneurial capability and the focus on SMEs internationalization.

- BM is not static, demands updates.

- Dinamic capabilities are necessary to promote innovation and keep the balance of flexibility and efficiency in the operations.

- The implementation of BMI delivers a positive impact on SMEs performances and innovativeness.

- SMEs need to address the innovation in their business models.

- SME can benefit from a regional innovation ecosystem to engage in BM development.

- It is difficult to SMEs to recognize their ability to create, to innovate, and the cause is the strong connection these organisations have with their local environment as this powerful link prevents radical BMI.

- The BM is about the activities configuration adopted by a firm to create value and it is essential to acknowledge the competitive advantage and sustainable growth.

- Changes in BM are contingent factors that explains performance.

- Industry 4.0 and the Internet of Things are changing the way organisations do business.

- The technological innovations allow significant modifications in BM.

- Digitalization is a key factor for competitive advantage and to improve business model.

- To innovate in their BM, SMEs need the digital technology to work as enabling factors to support it.

- Leveraging value from digitalization, firms may innovate in their business models

- Two sorts of open innovation are required for SMEs sustainable development: knowledge strategy and business model.

- The implementation of a sustainable business model improves SMEs performance and competitive advantage.

- Circular economy concept knowledge is fragmented and shortly noticed in SMEs business models.

Figure 5 – Identified clusters related to the study of business model innovation for SMEs

Source: the author, from VOS Viewer.

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Changes in the BM bring a positive effect in the ability of an organisation to improve its performance. The smart technologies are helpful for the firm performance as they connect the firms with the digital transformation. The BMI involves the search to create and capture value in different ways, by the acquisition of external resources and its integration and adaptation to internal capabilities (Cucculelli & Bettinelli, 2015; AlMulhim et al., 2021; Denicolai et al., 2014).

3.3.2. SME BUSINESS MODEL

To be able to compete and survive in the contemporary global market the SMEs need to address the innovation in their business models. The markets change in a fast pace and the small and medium sized businesses have to find ways to meet their clients' expectations in order to remain relevant to them. The Industry 4.0 can assist the SMEs in speeding up their growth targets and turn into more innovative companies as innovation helps to trail a path to sustainable competitiveness and smart growth. (Von Joerg & Carlos, 2022; Cosenz & Bivona, 2021; Gerlitz, 2016). Heikkila (et al., 2018) implies that the SMEs may take different innovation paths in terms of business model depending on their strategic goals.

3.3.3. INDUSTRIAL INNOVATION

The innovation is unstoppable, people have to accept change and so the organisations. The industry 4.0 is changing the way organisations do business. Technologies such as the Internet of Things (IoT) allow companies to manage their business around the world and improve the products and services in a faster way. (Ekiksson et al., 2022; Paiola et al., 2022)

These technological innovations may be considered the usher for firms, even those established, to promote significant modifications in the BM. The BMI process is incremental based on experimentation and learning. It intermediates the relation between information technology capabilities and organisational performance and between this last one and the entrepreneurial orientation. (Mueller et al., 2021; Paiola et al., 2022; Ullah et al., 2022).

3.3.4. DIGITAL TRANSFORMATION

Digitalization is a pivotal element for organisations seeking competitive advantage and improve their business model. (Andersen et al., 2022) The crisis developed by the arise of Covid-19 created the need for a significant change in BM for SMEs worldwide as open innovation more and more became an issue to be addressed and finally became the lifeline for many firms. Industry 4.0, Web 2.0, servitization and social media networks assist SMEs as valid networking and information content opportunities to address and retain customers, creating value and improving revenue (Muller, 2019; Jabeen et al., 2022; Gutierrez-Leefmans & Holland, 2019). Industrial, commercial and value servitization can be enabled for companies using digitalization (Coreynen et al., 2017).

3.3.5. SUSTAINABILITY

The sustainability is a hot topic for practitioners and academia research related to BMI and it promote a wider spectrum for the SMEs performance and competitive advantage by the implementation of a sustainable business model (SBM). First globalization and recently the COVID-19 crisis pushed small and medium enterprises in the innovation way, to find innovative capabilities to compete local and internationally (Bashir et al., 2022; Clauss et al., 2022; Lee et al., 2012). SBM requires that the organisation advance on sustainability practice along its entire supply chain in order to achieve success in the implementation (Machion et al., 2022).

Small and medium-sized organisations find in B Corp certification a remarkable alternative to engage in sustainable practices as it certifies social and environmental performance and requires the organisation to promote changes in mission, practices and capacities (Carvalho et al., 2022). In order to engage in these sustainable practices and innovative performance, SMEs need financial support locally or internationally and the government should be aware of that necessity since these companies can contribute to a nation economic growth (ullah et al., 2021).

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4. FRAMEWORK

The clusters analysis demonstrates that there is an inter connection between the articles. In order to demonstrate that relation, Figure 6 presents a framework for business model innovation in SMEs. The SMEs need to bring changes to their business models in order to be able to compete in today's market and create value. The transformation process requires the SME to innovate process in many ways, adapting the firm to absorb the digital technologies and take advantage from it. At the same time, the firm has to establish sustainable development policies that can be facilitated by the adoption of certifications such as B Corp, or by finding place in a regional ecosystem. That process of opening to innovation additionally brings internationalization perspective and, by that, wider market opportunities. That transformation process of an outperformed BM into an innovative one generates the business model innovation in SMEs as output. The whole process is conducted within a dynamic and competitive environment. Therefore, constant feedback during the process is necessary.

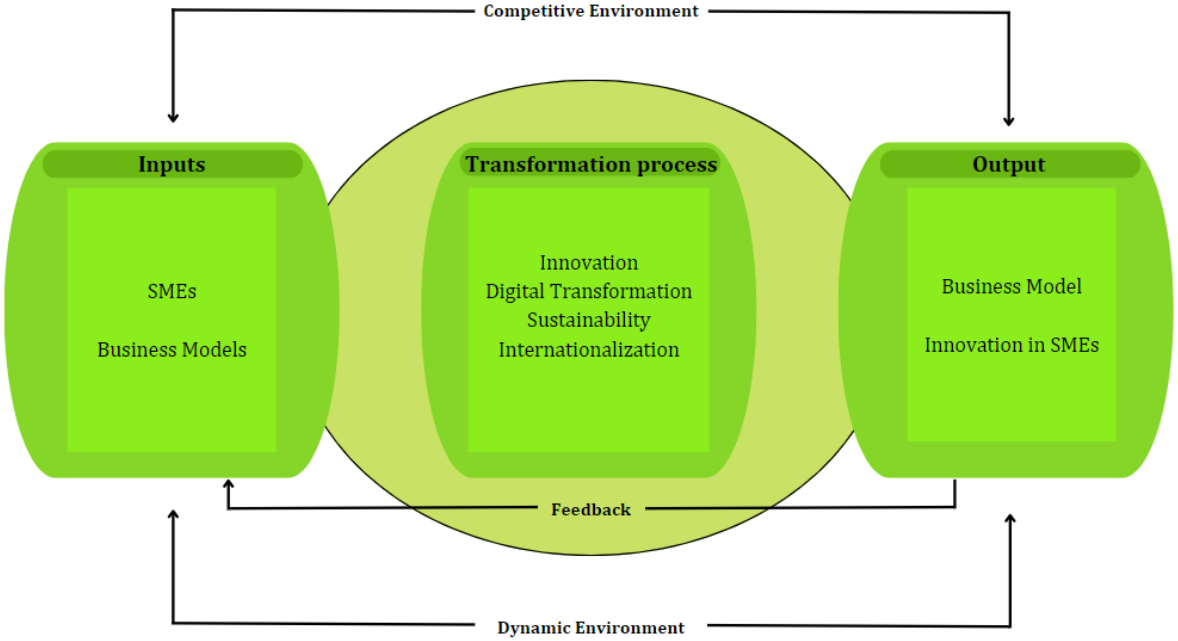

Figure 6 – Framework for business model innovation in SME

Source: the author

5. CONCLUSION, LIMITATIONS AND FUTURE STUDIES

This study is a SLR addressing business model innovation in SMEs. A bibliometric analysis using Vos Viewer and R software was made in combination with content analysis of the 122 articles sample retrieved from Web of Science. In the course of the research, the studies published so far related to business model innovation and small and medium-sized enterprises were integrated to generate the results and discussions of the previous section.

The first question answered in this paper was how the studies of business model innovation have evolved? This question was answered through the bibliometric analysis developed using the R software. The analysis showed the evolution of the studies about business model innovation. The second research question asked: what are the challenges that SMEs have to struggle to innovate their business model? The content analysis of the articles was mandatory to answer this question. Most SMEs find it difficult to identify the innovation they produce, since its day-by-day activities and seems common to them (Blloslavo et al., 2022). To innovate in their business model SMEs have to be open to innovation. The sustainability is crucial in this as the circular

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economy is growing as a new paradigm and the digital transformation and industry 4.0 are building knowledge around it.

The ultimate research question was: what are the trends in the study of business model innovation? The SLR demonstrates that business model innovation is a trend itself. Most SMEs do not focus on innovating their business model and are not familiar with concepts such as circular economy, digital transformation and Internet of Things. Firms that are aware of these concepts tend to be more innovative, internationalized, focused on sustainable development and digital transformation.

Established SMEs need support to innovate in their business models. A future study should be undertaken to identify what kinds of assistance the governments and international agencies promote to incentive established organisations to be more innovative. Born sustainable companies and start-ups have the innovation in their core, but many manufacturers and other industries do not access it. Future studies should try to identify specific dynamic capabilities required for the implementation of BMIs. Additionally, SMEs encounter challenges when it comes to effectively managing knowledge, which hinders their ability to pursue innovation. Therefore, leaders within these organizations should address these limitations in order to foster a culture of innovation. Another future study proposition is about the sustainable business model. This hot topic is poorly explored in the literature and the SMEs are aside of it.

This SLR documents a large amount of information concerning the BMI in SMEs, yet it has limitations. The sample was retrieved from the Web of Science database and was limited to articles and review articles in spite the fact that there are other databases that might have a great amount of high-quality information that was not gathered.

Besides the limitations, this research has potential to affect academics, practitioners, policy makers and other people interested in the development of this field of study and there is a lot more to dig in the process to assimilate it.

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