

## REVIEW

# Barriers and Drivers of Sustainable Business Model Innovation: Present and Future Research Perspectives

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## ABSTRACT

Sustainable business model innovation (SBMI) introduced a unique frontier in current business operations and innovation management. Despite the numerous advantages of SBMI to contemporary business strategy, most established firms face challenges in its successful implementation. Through a systematic review process (SRP), the paper attempted to critically evaluate and analyze the previous outcome on the barriers and drivers to SBMI. The research explored 42 prior studies to identify the thematic study areas, highlight the research gaps, and outline future propositions and agendas. The research thoroughly evaluates the state-of-the-art regarding barriers and drivers to implement SBMI. The SRP approach utilized in the study sheds light on the intricacies of SBMI by highlighting six critical barriers: institutional, organizational, strategic, resource allocation, technological, and financial barriers that hinder the successful deployment of SBMI. In addition, the study's findings indicated that organizational learning, knowledge management, dynamic capabilities resource mobilization, innovative business activities, and human resource development could be a catalyst to the successful implementation of SBMI. Furthermore, the study highlighted some critical gaps and agendas for future research on SBMI. This study contributes to the literature on business model innovation and offers a practical outlook that can facilitate firms and policymakers in developing strategies to improve their business model.

**Keywords:** Business model; SBMI; Barriers; Systematic literature review; Business model innovation

## 1. Introduction

Sustainable business practices are the key to a

firm's long-term existence in the twenty-first century. The sustainability of business model innovation (SBMI) has become paramount due to the recent

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### ARTICLE INFO

Received: 23 January 2023 | Revised: 2 February 2023 | Accepted: 14 February 2023 | Published Online: 27 February 2023

DOI: <https://doi.org/10.30564/mmpp.v5i1.5424>

### CITATION

Sampene, A.K., Agyeman, F.O., Aziz, F., 2023. Barriers and Drivers of Sustainable Business Model Innovation: Present and Future Research Perspectives. *Macro Management & Public Policies*. 5(1): 1-25. DOI: <https://doi.org/10.30564/mmpp.v5i1.5424>

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global financial, economic, and pandemic crisis that has hit the world. This situation has raised an essential question about the impact of existing companies' business models (BM) on the economic system, environment, and society. In discussing such a relevant topic, the issue of sustainability comes to mind. Sustainability issues result from a systematic approach in the fundamental operation and design, causing a weakening of both ecological and society on which humans depend<sup>[1]</sup>. Addressing sustainability challenges presents an opportunity for businesses and entrepreneurs to be innovative. The severe threats of human-caused environmental changes, such as climate change, have prompted a push to promote more sustainable lifestyles. Ecological sustainability is considered at the heart of SDG declarations, as some of the 17 Sustainable Development Goals (SDGs) are focused explicitly on guaranteeing global environmental improvement<sup>[2]</sup>. For example, SDG 11 strives to make global cities and human settlements more inclusive, safe, resilient, and sustainable, focusing on decreasing cities' negative environmental impacts<sup>[3,4]</sup>.

Moreover, sustainability is an effective tool to improve business sales, investment, financial support, innovation, employee diversity, productivity, visibility, and the goodwill of a company<sup>[5]</sup>. The concepts of sustainability and long-term viability are currently being discussed in academic literature and business studies. These ideas emphasize influencing human behavior, lowering production costs, and assisting people in making the best possible use of their limited resources. Sustainability emphasizes the importance of developing resilient systems regarding biodiversity, environment, and culture while being mindful of ecological potential and viability<sup>[6]</sup>.

SBMI's success has increased in recent times and for an excellent purpose. Technological advances have made it easier to introduce various novel business models effectively. SBMI has recently been a hot topic among innovation management analysts<sup>[7]</sup>. As a result, SBMI is needed to balance opportunities and revenue frameworks to optimize long-term solutions<sup>[8]</sup>. SBMI is based on the business model

concept and integrates it with the primary stakeholders' management philosophy<sup>[9]</sup>. Launching a new business is time-consuming and challenging<sup>[10]</sup>. Specifically, in the early stages, the focus is on creating a commercially viable product and establishing the company's organizational and financial structure<sup>[11,12]</sup>. Many SBMI fail, and entrepreneurs, businesses, and firms are no exception<sup>[13]</sup>. The reasons for these failures are relatively unexplored by researchers. The high failure rate of BMI concluded that these failures could be attributed to industrial challenges that remain relatively understudied in the literature, and practitioners have little guidance<sup>[14]</sup>.

In addition, the lack of oversight and incentive programs, the lack of data and metrics to assess and communicate impacts, and the cost of a product or waste take-back, are the top challenges for entrepreneurs deploying circular BM<sup>[15]</sup>. Entrepreneurs also face challenges such as a lack of brand awareness, access to funding sources, mentoring programs, network services, and intricate product or packaging design in their quest to implement SBM. In support of the above reasons for the high failure rate of SBMI. Most businesses face challenges such as existing assets, leadership, and corporate identity<sup>[16]</sup>. The researchers also indicated that these barriers had not been explored in depth in the literature. Moreover, many firms like Dell, Apple, Roll-Royce, and Netflix have usefully capitalized on opportunities of BMI. Such successful BMI examples inspire enterprise leaders and managers to look for opportunities to innovate their business models<sup>[17]</sup>. Simultaneously, they are eager to identify the barriers to business model innovation. Therefore, this research aims to close these gaps in the literature by examining the obstacles of SBMI among businesses through a systematic review process. Hence the research questions to be addressed in this study include: **RQ1:** What is the current research perspective and profile of the present SBMI? **RQ2:** What are the barriers and drivers involved in successfully implementing SBMI? **RQ3:** What critical research gap in the SBMI requires further analysis? **RQ4:** What future research directions could fill the current research gaps?

The contribution of this study is as follows: First, this research is the first known article to systematically synthesize and analyze previous studies' outcomes of barriers and drivers to the implementation of SBMI. In addition, the research espoused prior literature gaps while highlighting research gaps and prospects. Second, the outcome of this research enhances discussion concerning the variable predictors that may serve as a barrier that businesses face when implementing sustainable business models to help them develop necessary measures to overcome them. Third, the study also underscores the dynamic nature of creating a sustainable business model and establishes a new foundation of knowledge on the various strategies that can better implement BM among businesses and entrepreneurs. Such knowledge and understanding could aid businesses, organizations, and entrepreneurs in adopting plans and policies to overcome the challenges of improving their SBMI. Lastly, the adoption of a systematic literature process (SRP) promotes the conceptual evaluation of SBMI implementation by providing a conceptual framework to assist businesses, scholars, and practitioners in investigating the nexus among the various variables (thus barriers and drivers). The rest of the study is structured as follows; Section 2 focuses on the conceptualization of SBMI, Section 3 details the review methodology, Section 4 focuses on the discussion, and Section 5 details the conclusion and implication of the study.

## 2. Conceptualization of SBMI

### 2.1 Business model

During the dot-com boom in 1990, the word “business model” became popular—one aspect of the business model concept has ignited a debate. Simply put, “*a business model is a medium or avenue in which a business generates, delivers, and captures value*”<sup>[18]</sup>. As a result, effective business models take a holistic approach, incorporating these elements into a well-organized and well-thought-out framework. BM creativity is simply a new way of bringing these pieces together to create a system that

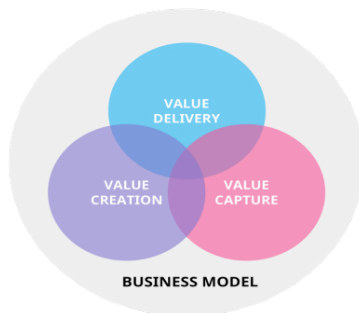
makes more value for customers and businesses. BM design is a vital consideration for everyone starting a new business. The BM framework allows organizations to attribute future consumer and value chain benefits to designing and implementing the BM components<sup>[19,20]</sup>. Business models incorporate critical innovations, business practices, and routines<sup>[10]</sup>.

Moreover, BM is concerned with how a company determines its marketing plan based on the characteristics of services to its market segment<sup>[21]</sup>. The value proposition (i.e., the offering and the customer base classification), the value proposition and distribution mechanism, and the value capture tool are the features of BM<sup>[22]</sup>. BM comprises three interconnected aspects: value proposition, value formation, and value capture<sup>[23]</sup>. The recent business model focuses on value creation by seizing potential markets, emerging businesses, and new revenue streams<sup>[24]</sup>. Also, value capture is the avenue an organization can use to earn revenue from providing goods or services to its customers<sup>[24]</sup>. Value delivery and capture comprise activities in that companies offer products or information to generate income<sup>[25]</sup>. A value proposition would give the measurable social value connected to the firm's economic value. The researchers can deduct from the preceding to define “*BM as a concept that encompasses all activities a company engages in to provide value (goods, services, or knowledge to customers) and establish economic value for the organization*”<sup>[26]</sup>. **Figure 1** depicts various components of the business model.

### 2.2 Business model innovation (BMI)

BMI has recently been a hot topic among innovation management analysts<sup>[7]</sup>. Technology makes it possible to manage a wide range of innovative BM effectively. Simultaneously, increased creativity and global competition have made differentiation more relevant. As a result, BMI is needed to balance opportunities and revenue frameworks to optimize long-term solutions<sup>[8]</sup>. BMI activities involve “*planned, nontrivial changes to core components of an organization's BM and the structure that connects these components,*” which is what BMI stands for<sup>[27]</sup>. Be-

yond product creativity, BMI allows businesses to implement new practices <sup>[28]</sup>. It has been identified as a firm's long-term competitive advantage generator <sup>[7]</sup>. BM is concerned with an enterprise value proposition, while BMI focuses on the novelty in consumer value creation and the logical structuring of the organization <sup>[19]</sup>. BMI is a philosophy that assists companies in comprehending and facilitating the study and preparation of a single BM <sup>[8]</sup>. BMI also comprises a specific way of generating and capturing the value of modifying one or more business model components <sup>[9]</sup>.



**Figure 1.** Components of the business model.

Moreover, BMI searches for unique business processes and novel approaches to generate and capture stakeholder value <sup>[29]</sup>. The value of a company's BM adjusting to evolving market realities, whether demand or supply, is emphasized in this definition. BMI is a tool for organizational change and transition <sup>[30]</sup>. From the preceding arguments and discussion, the researchers described "*BMI as the processes an organization goes through to successfully change from one business operation to another through effective implementation of BM.*" BMI success has increased in recent decades and for an excellent purpose. The concepts of sustainability and long-term viability are currently discussed in academic literature and business studies. These concepts emphasize influencing human activities, reducing production costs, and assisting people in making the best use of the limited resources available to us.

### 2.3 Sustainable business model innovation (SBMI)

Sustainability-related issues have increased dramatically in the last ten years. SBMI can be defined as

*"Identifying value that is not being captured by existing business models and then turning that new perception into value opportunities"* <sup>[31]</sup>. This process will lead to developing new BM with higher long-term value and the result of SBMs. Businesses may significantly promote sustainable customer behavior by improving manufacturing processes, meeting consumer desires differently, and developing new business models <sup>[32]</sup>. SBMI adopts a triple-bottom-line strategy, which considers many stakeholder interests, including the environment and society <sup>[33]</sup>. They play a critical role in generating and implementing corporate sustainability innovation; they can help incorporate business structure and objectives and serve as a competitive advantage driver <sup>[34]</sup>. SBMI outlines how new BMs are developed, and companies transform their existing BMs to achieve long-term sustainability. SBMI also considers anticipating societal changes and responding to sustainability concerns <sup>[35]</sup>.

BM involves developing ways for companies to capture economic potential while also earning profit. SBMI can be viewed by creating three values (i.e., renewable energy and natural resources, practices of low carbon emission, protection, and prevention of air, water, and land pollution) <sup>[11]</sup>. The social value form includes; (diversity and equity, social well-being and development, labor standards, and organizational health and safety). The economic perspective of SBM involves; (profit return of financial investment, financial resilience, long-term business viability, and sustainability) <sup>[31,36]</sup>. Hence in this research, the authors attempt to evaluate what barriers and drivers affect the successful deployment of SBMI in an organization through a systematic review approach. Since few studies exist to provide more insight into this topic, the present research fills this gap in the literature by highlighting the research gaps that scholars can analyze in the future.

## 3. Research methodology

### 3.1 Systematic review process

The researchers conducted a systematic review process (SRP) to identify barriers and drivers to SBMI. The SRP is a methodology that allows for a

thorough evaluation of the state-of-the-art in any given area of research while also identifying gaps in the literature to encourage further study and knowledge expansion [37,38]. The SRP provides a platform that helps to analyze earlier research in a step-by-step approach; starting with identifying the publications; selecting relevant studies; information retrieval; evaluation of the information, and ultimately reporting the results [39,40]. To formulate a conceptual limit and boundaries for this study, two academic experts were consulted at the initial stage of the research. Their role was to help identify and select articles on this topic based on their expertise and advanced knowledge. Therefore, the phases for the retrieval and synthesizing of the study are discussed as follows:

Phase I: Planning the SRP by drawing up the research criteria to identify relevant studies.

Phase II: Assessing studies to evaluate their eligibility (inclusion and exclusion eligibility).

Phase III: Data extraction and final evaluation of pertinent articles.

### 3.2 Planning the SRP

This study's initial stage was establishing the protocols guiding the SRP. First, the study protocols started with the proposition of research questions that will guide the study's objectives, which have been discussed in the first section of this article. Hence, based on the proposed research questions, we identified the search strategy, located salient articles, created the inclusion and exclusion limits, and picked a particular synthesis approach. The study answers the research questions by identifying two up-to-date databases: *Scopus and Web of Science* (WoS) to search for related articles on this topic [40]. To begin with, the authors used the search term "business model" and "barriers" to search these databases. After that, the authors redefined a comprehensive keyword to be utilized as a search string within the study period from 2010 to 2022.

### 3.3 Research screening threshold

The study research was limited to review articles or original articles only. This is because

peer-reviewed academic articles go through a more thorough review process before being published, resulting in the most valuable data for the study. Conference papers, textbooks, and other internet documents were eliminated during the exclusion stage. The exclusion and inclusion criteria have been summarized in **Table 1**.

### 3.4 Data extraction

The search was conducted using Scopus databases and Web of Science (WoS), with a time frame spanning 2010 to 2021. *Scopus and WoS* offer a broader range of study disciplines and the most up-to-date developments and trends, crucial in guiding future research directions. Scopus database and WoS are the most effective and reputable search engines for conducting a literature review [41-43]. The researcher used the following keywords in running the literature search on Scopus and WoS databases. The search inquiry was keyed as: (TITLE-ABS-KEY ("obstacles" OR "barrier" OR "challenges") AND TITLE-ABS-KEY ("business model" OR "business model innovation" AND "sustainable business model")). A total of articles, 184 (Scopus 76 and WoS 108) were retrieved. 61 papers were removed because of duplication during the article screening and selection.

Moreover, 56 papers were found to be unrelated to the subject of discussion in this study after the article's full-text analysis. As a result, the number of articles decreased to 38 publications included in the final synthesis after the inclusion and exclusion criteria presented in **Table 1** were applied. Furthermore, the researchers used the snowball method to locate relevant publications not caught during the article selection stage, resulting in 4 articles. This activity was carried out to supplement the findings of the initial two-stage search to gain complete coverage of the publication worth studying. The snowball exercise is sufficient since it allows for significant state-of-the-art works linked to the study [44]. Finally, 42 papers were included in the study portfolio for analysis and discussion. The steps of the systematic review are depicted in **Figure 2**.

Table 1. Exclusion and Inclusion threshold.

Exclusion (EXC)	Inclusion (INC)
EXC1: Non-peer-reviewed studies	INC1: Peer-reviewed studies
EXC2: Studies not written in the English language	INC2: Studies written in the English language
EXC3: Duplicate studies	INC3: Studies related to SBMI
EXC4: Books, thesis, essays, letters, and editorials	INC4: Literature reviews and original articles focusing on SBMI
EXC5: Project reports, conference articles, white papers, and working papers	INC5: Studies available in their full-text form
EXC6: Studies not related to barriers and drivers of SBMI	INC6: Articles published from 2010 to 2022

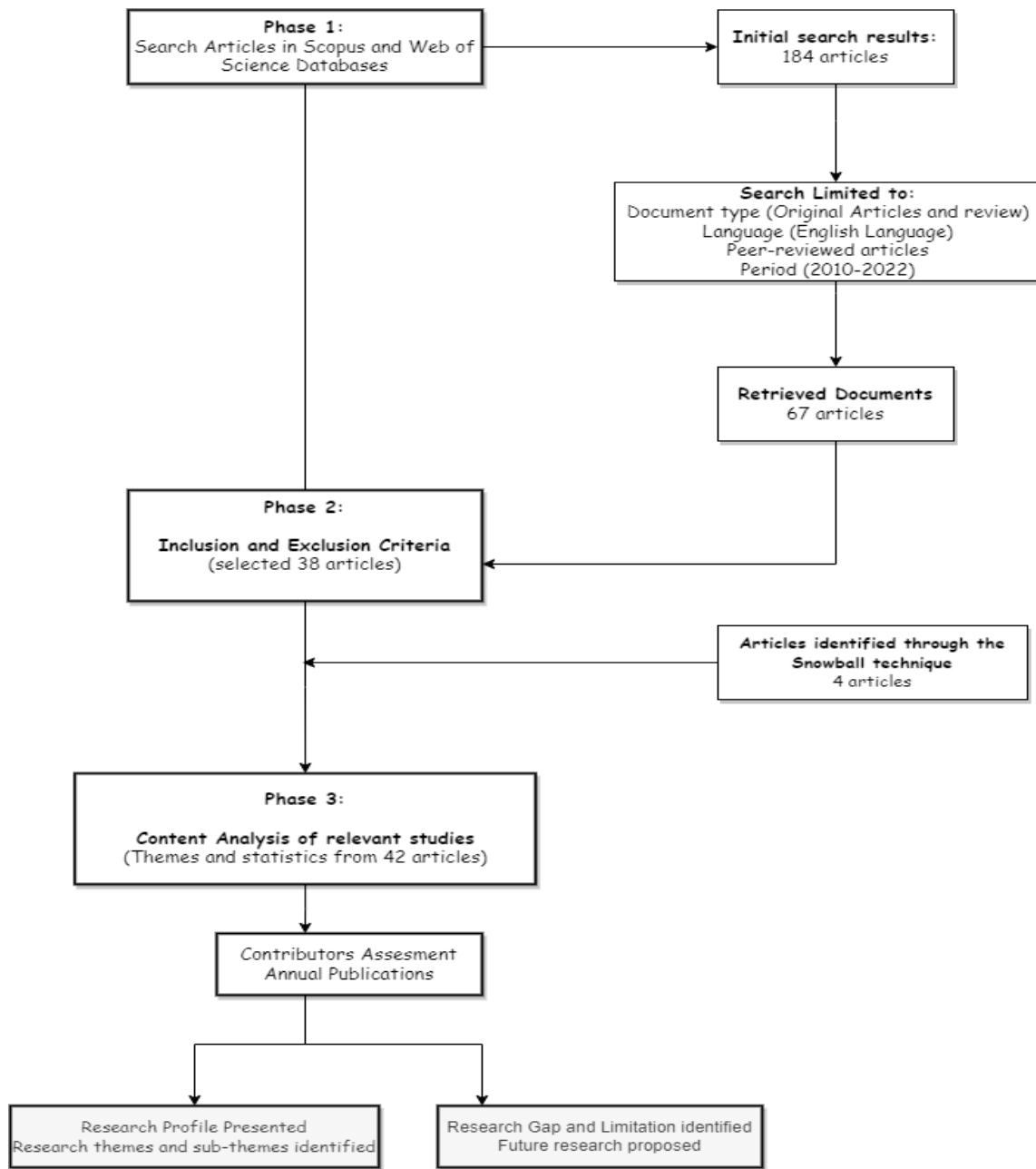
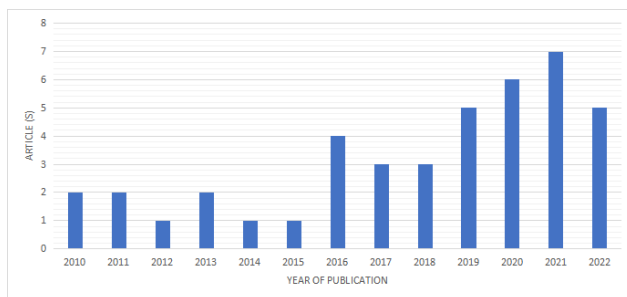


Figure 2. Overall research process.

## 4. Results and discussion

### 4.1 Annual trends of publications

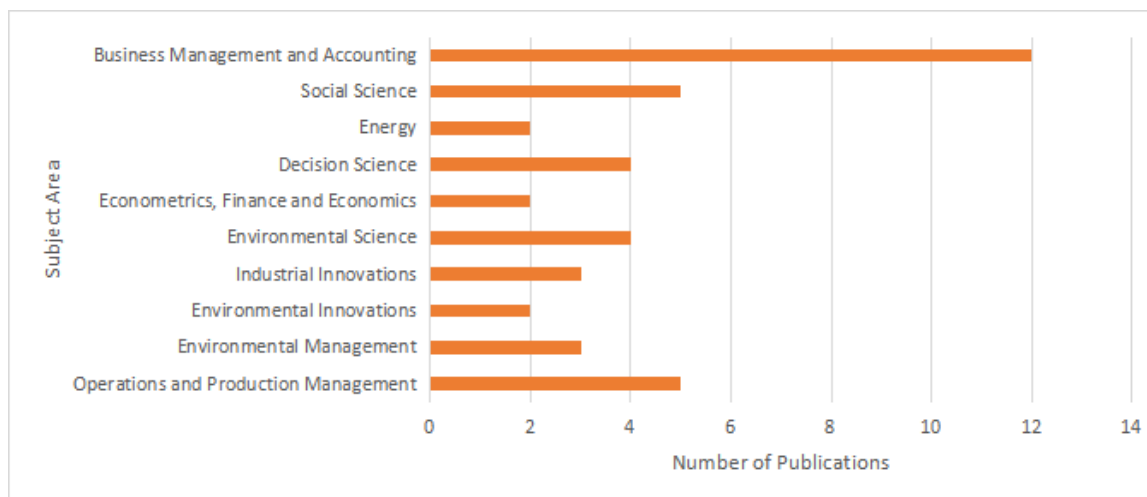
We selected forty-two (42) articles for the review purpose of this paper. **Figure 3** indicates the bar graph of 42 articles published over the years. The analysis of the selected articles revealed that the discussion about SBMI challenges and drivers had been in contention in literature over the last decade. **Figure 3** indicates that the year 2010 had some studies on SBMI, and the discussion of this topic has been expanding over the years. For instance, as of 2010, some leading authors and journals include the *Long Range Planning and European Management Journal* <sup>[25,45-47]</sup>. Many studies are still investigating and looking at the pace; it is predicted to exceed the prior years. This depicts these issues indicating how important SBMI is to current business practices.



**Figure 3.** Distribution of the number of articles per year included in the study.

### 4.2 Current research perspective of SBMI

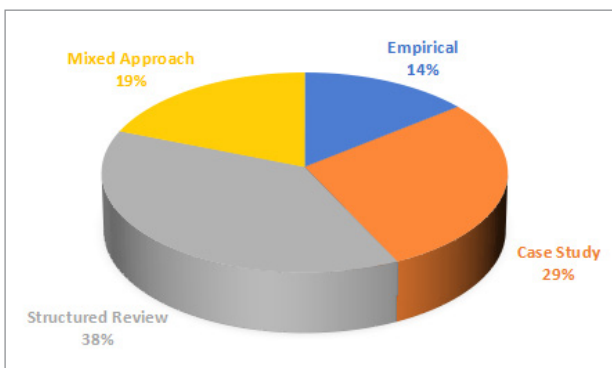
SBMI has become a significant debate among business and other research subject areas. Hence based on the SRP and categorization of the various articles retrieved, the authors classified the papers based on their current subject area. Thus, the authors categorized the articles based on how SBMI expands literature through contributions from multidisciplinary research work. Hence, we identified ten key areas, which are discussed as follows. The analysis indicates that most of the articles on SBMI stem from Business Management and Accounting, followed by Operations and Production Management. Moreover, other essential research includes; Environmental Management, Environmental Innovations, Industrial Innovations, Environmental Science, Econometrics, Finance and Economics Decision Science, and Energy and Social Science, as indicated in **Figure 4**. Moreover, as depicted in **Figure 4**, Business Management and Accounting hold the highest classification with a 12-point average, followed by the medium categories such as Social Science, Decision Science, Environmental Science, Industrial Innovation, Environmental Management, and Operation and Production Management. Energy, Econometrics, Finance, Economics, and Environmental Innovations were the minimum contributors to SBMI.



**Figure 4.** Research perspective of SBMI.

### 4.3 Applied research methodologies used in selected articles

To provide clarity and increase knowledge on this topic, the authors highlight information on the approaches used in the articles under consideration in this study. The analysis results underscored that most of the articles published utilized the structured review approach (38%), followed by a case study (29%), as indicated in **Figure 5**. It was also discovered that 19% of the study applied the mixed approach, and empirical studies accounted for 14%. This analysis has proved that different authors used various methodologies in their research based on the proposed objectives and the circumstances in which the studies were carried out.



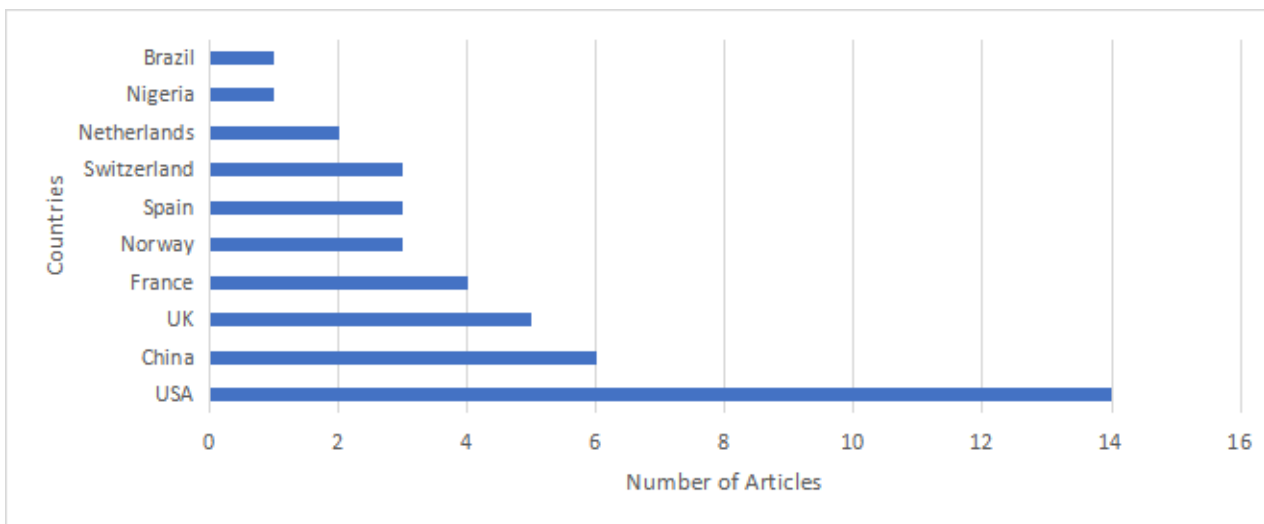
**Figure 5.** Research methods applied.

### 4.4 Geographical analysis of selected articles

The SRP analysis further revealed that research on SBMI is diverse, especially regarding geographical scope. The results from the articles extracted show that a larger number of the studies were carried out in the United States of America-USA (14 articles). The USA contributes to one-third of research in this area because it has positioned itself to take the lead in sustainability matters. Hence firms in the USA have started incorporating environmentally friendly practices into national legislation, generating employment in green companies, and informing the people about their role in making America more environmentally friendly. In addition, countries which include China (6 articles), the United Kingdom (5 articles), France (4 articles), Norway (3 articles), Spain (3 articles), Switzerland (3 articles), Netherlands (2 articles), Nigeria (1 article) and Brazil (1 article) in SBM articles as depicted in **Figure 6**.

### 4.5 Thematic areas

To methodically arrange a diverse variety of discoveries, the authors evaluated all 42 articles for recurrent themes, which aligns with erstwhile studies that applied SRP in their studies<sup>[48,49]</sup>. In the next phase, we employed a content analysis approach to



**Figure 6.** Geographical scope of selected articles.



aggregate the results of the existing studies. The content analysis approach has been argued by previous studies as a process that meticulously helps researchers to classify, code, and identify related textual material regarding a particular topic of interest <sup>[50]</sup>. The study applied a three-step approach that can lead to a fair and transparent literature presentation in various thematic areas <sup>[51]</sup>. Hence, the following steps were followed to categorize the different codes applied

in this study: (1) the authors classify the leading authors and countries into axial codes and provide an assessment matrix to evaluate their contribution to this topic; (2) deductive and inductive techniques were applied to sort out the main variables that act as a barrier to SBMI and (3) lastly, we discussed these axial codes and grouped them into thematic themes. Hence two categorizations were highlighted (barriers and drivers of SBMI), which are presented in **Figure 7**.

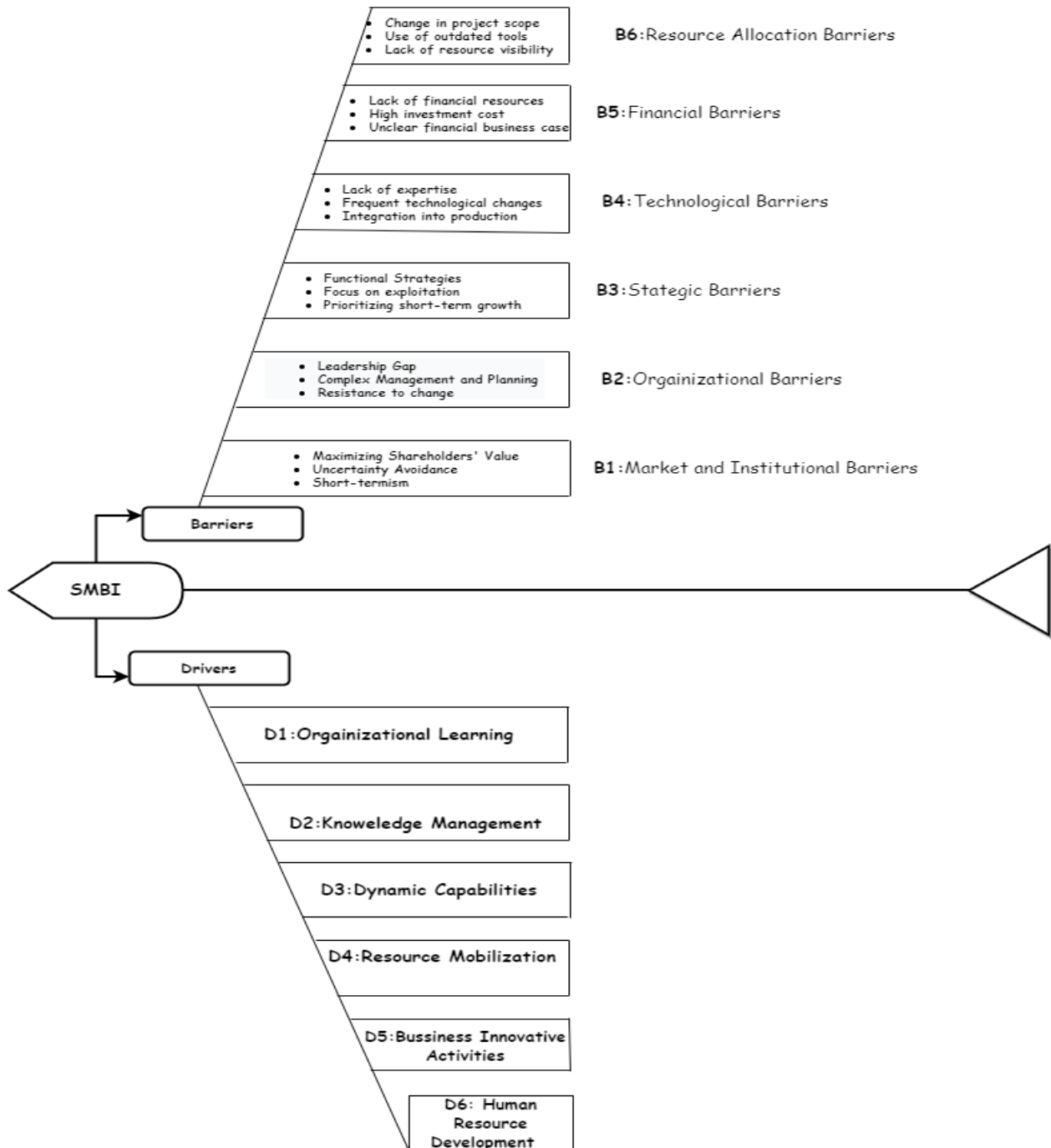


Figure 7. Thematic areas of the research.

## 4.6 Barriers

### ***B1: Market and institutional barriers***

Institutional entry challenges hinder enterprises from understanding or adapting to the laws, social standards, and value systems that contribute to the culture, sequence, and procedures. They exist at numerous levels in a market and govern the relationship between a company and its customers and its relationship with the community<sup>[52]</sup>. Institutions serve as the foundation for order and facilitate interactions between actors, describing the new institutionalism in economics<sup>[53]</sup>. Most SBMIs usually fail because they focus on *maximizing stakeholders' interests*. Thus, SBMI risks concentrating on profit maximization and financial performance indicators to fulfill shareholder value. SBMI is challenging to achieve in and of itself, but the need for SBMI to be profitable complicates matters even further<sup>[54]</sup>. Concerningly, an emphasis on boosting shareholder value leads to an avoidance of uncertainty in terms of attaining financial results in the short term. As a result, financial risk avoidance and poor tolerance for ambiguity influence investment decisions within organizations, leading to *uncertainty avoidance*<sup>[55]</sup>. Furthermore, *short-termism* affects SBMI, which generally occurs when firms prioritize immediate gains and profit in the short term rather than focusing on maintaining these outcomes in the long time<sup>[55]</sup>.

### ***B2: Organizational barriers***

The *leadership gap* is a critical challenge to altering an existing BM; no single individual has the authority and power to innovate BM, especially when the changes are significant and radical. For instance, changing a complex BMI will involve numerous functional departments and require effective inclusion and integration. Such radical changes will call for the involvement of a collective effort from the leadership or management team. Some senior managers who disagree with the suggested amendments may tactfully reverse them<sup>[27]</sup>. Moreover, because managers keep changing in an organization, it can create a

leadership gap where no one is available for the SBMI process<sup>[56]</sup>. Therefore firms must find a way to address this leadership gap to guarantee that business model experimentation is effectively governed and that the outcomes of their trials lead to action inside the organization<sup>[45]</sup>. *Organizational resistance to change* has also been identified as a critical barrier to implementing SBMI. In general, modifying the business model, even if drastic, puts existing positions of power and influence, entitlements, and presumed endowments at stake. Responsibilities, mechanisms, and workflows may need to be modified, leading to *more complex management and planning processes*. All of this can lead to significant employee dissatisfaction and even power struggles, extending or, in the worst-case scenario, impeding SBMI<sup>[57]</sup>.

### ***B3: Strategic barrier***

Another critical factor that influences the successful implementation of SBMI is a strategic barrier. This study identifies three areas as the strategic deterrent of SBMI<sup>[55]</sup>. First is the *functional strategy*; this occurs when companies fail to achieve the purpose of SBMI because there are no precise functions and roles assigned to each division or unit in implementing the process. The second point to mention is the *focus on exploitation*; a strategic focus on utilizing existing potentials came at the cost of launching innovative SBMI capacity<sup>[58]</sup>. Third, the *institutional focus is on short-term growth*, with resources primarily budgeted for large-scale project investments. Furthermore, respondents from their study noted that focusing on short-term expansion resulted in strategy formulation reconsidering steadily maturing initiatives<sup>[54]</sup>. Again, administrative issues like advanced processes, unequal responsibility distribution, skewed reward systems, and a lack of oversight will hinder the integration of innovation into the business model<sup>[59]</sup>.

### ***B4: Technological barrier***

Technology innovation is seen as an external catalyst and an obstacle to firms' ability to innovate their BM. Profitability from a new technology

would justify a company's need to change its BM. New technology or innovation may cause tension in a company's operations because the current BM is configured to work with older technologies<sup>[60]</sup>. The innovativeness of companies and the technological business level could aid BMI<sup>[61]</sup>. BMI is related to capability challenges, including recognizing change drivers, such as technological and regulatory change, and the capacity to develop new BM concepts<sup>[28]</sup>. Thus, another stance is *the rate of frequent technological changes* that occurs in modern business. One business model can change overnight due to a technology change which may affect the operation of the current business model used in an organization.

In most cases, a *lack of technology or technical know-how* is not regarded as a stand-alone barrier because it is closely related to SMEs' lack of resources and time to acquire skill training<sup>[62]</sup>. Technology was identified as one of the most significant factors affecting a company's long-term innovative thinking, and its integration into the business production process might raise employee concerns<sup>[63]</sup>. All technologies adopted by the management are evaluated regarding the amount of energy, water, and raw materials used. These technologies are designed to reduce consumption while generating financial returns for the company. This capability significantly impacted innovations in the company's sustainable products and processes, particularly economics<sup>[64]</sup>.

### **B5: Financial barriers**

Many organizations, particularly small and medium enterprises, have limited budgets, knowledge, and staff and thus cannot undertake BMI if their resources exceed their capabilities. Furthermore, decision-makers in businesses always prioritize what is more profitable. As a result, they will devote more resources to the firm's current BM, significantly if sharing resources between two models could jeopardize its recent BM's returns. This is a problem because, typically, *the gross margins of proposed BM are lower than those of existing ones at the outset*. The power of the financial markets creates a destructive cycle in which top executives are rewarded

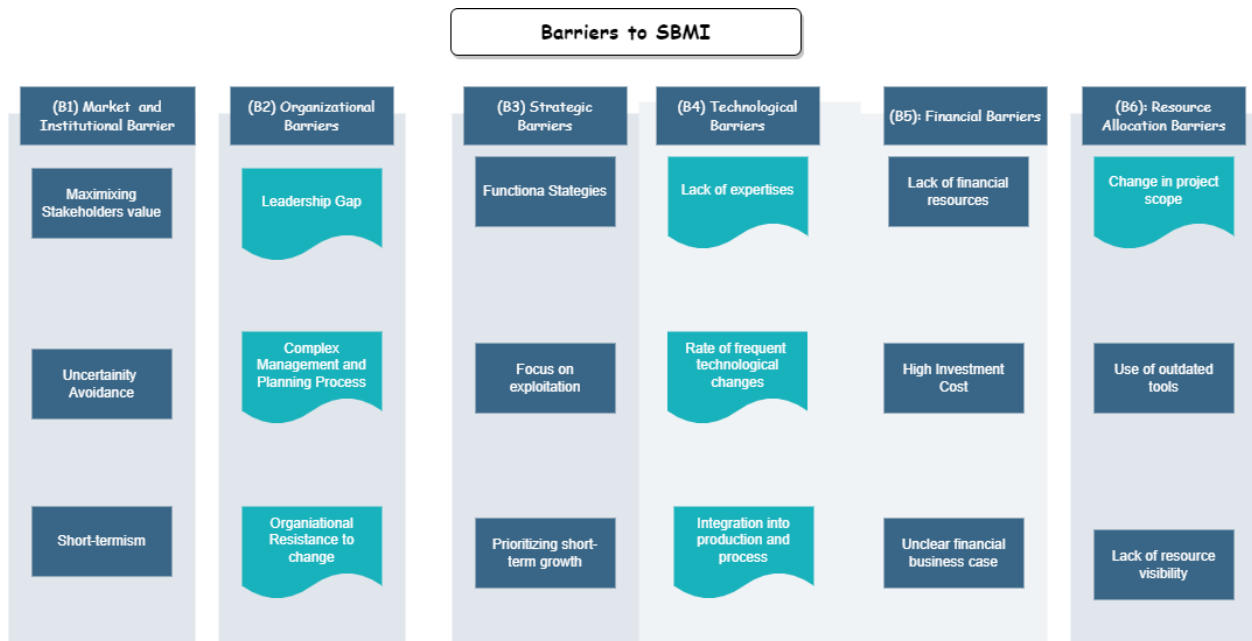
based on quarterly achievement, incentivizing directors to demonstrate their capacity to thrive in the business only within the restriction of the current model<sup>[56]</sup>. Many SBMI fail because of *financial difficulties* that most entrepreneurs and organizations face in today's competitive market. Another impediment of BM is a *lack of funding and colossal investment cost*. Banks are hesitant to help start-ups and small businesses develop and implement a BM<sup>[65]</sup>. The vague market demand for BMs, a significant concern for the case companies, is most likely to blame for the lack of funding opportunities. Financial barriers to SBMI are primarily due to difficulties in making the business model economically viable<sup>[66]</sup>.

### **B6: Resource allocation barriers**

Resources are the most crucial investment for business operations and strategies. As a result, firms try to use them efficiently for profit-making and sustainability purposes. The *improper allocation of a firm's resources* can lead to delays in the high cost of projects delivery of projects and derail business projects in their tracks<sup>[67]</sup>. A company's resource availability severely hampers business model innovation initiatives. Thus, organizations with sufficient resources may face cognitive barriers, resulting in insufficient resource allocation for business model innovation<sup>[45]</sup>. The importance of skilled labour, investment, and resources as the main constraints of SBMI among businesses<sup>[59]</sup>. Their study viewpoint offers one possible explanation for why, in general, these businesses do not devote significant resources to continuous innovation within the business model. A company's production methods are established while available resources are considered in *resource integration*. However, such resource integration is driven by economic considerations<sup>[63]</sup>. When the same resources are used for multiple products, the likelihood of raw materials, equipment, and other resources becoming outmoded, as does the value of modern infrastructure. **Table 2** and **Figure 8** outline the key obstacles and sub-barriers of SBMI. This section also discusses some of these barriers with previous literary works.

**Table 2.** Key barriers impeding the implementation of SBMI.

Code	Barriers	Sub-barriers	Reference
B1	Market and Institutional Barriers	Focus on maximizing shareholder value Uncertainty avoidance Short-termism	[53, 54, 68, 69]
B2	Organization Barriers	Leadership gap Lack of managerial know-how Organizational resistance to change More complex management and planning processes	[27, 59, 62, 68, 70-72]
B3	Strategic barriers	Functional strategy Focus on exploitation Prioritizing short-term growth	[54, 73, 74]
B4	Technological Barriers	Lack of technical know-how and expertise Rate of frequent Technological changes Integration into production processes	[28, 60, 62, 75-77]
B5	Financial Barriers	Lack of financial resources High investment cost Unclear financial business case	[62, 66, 68, 71, 72, 78]
B6	Resource Allocation Barrier	Change in project scope Lack of resources visibility within a matrix firm Use of outdated legacy tools Mismatch in the skillset between capacity and demand	[59, 63, 67, 70, 72]



**Figure 8.** Barriers to SBMI.

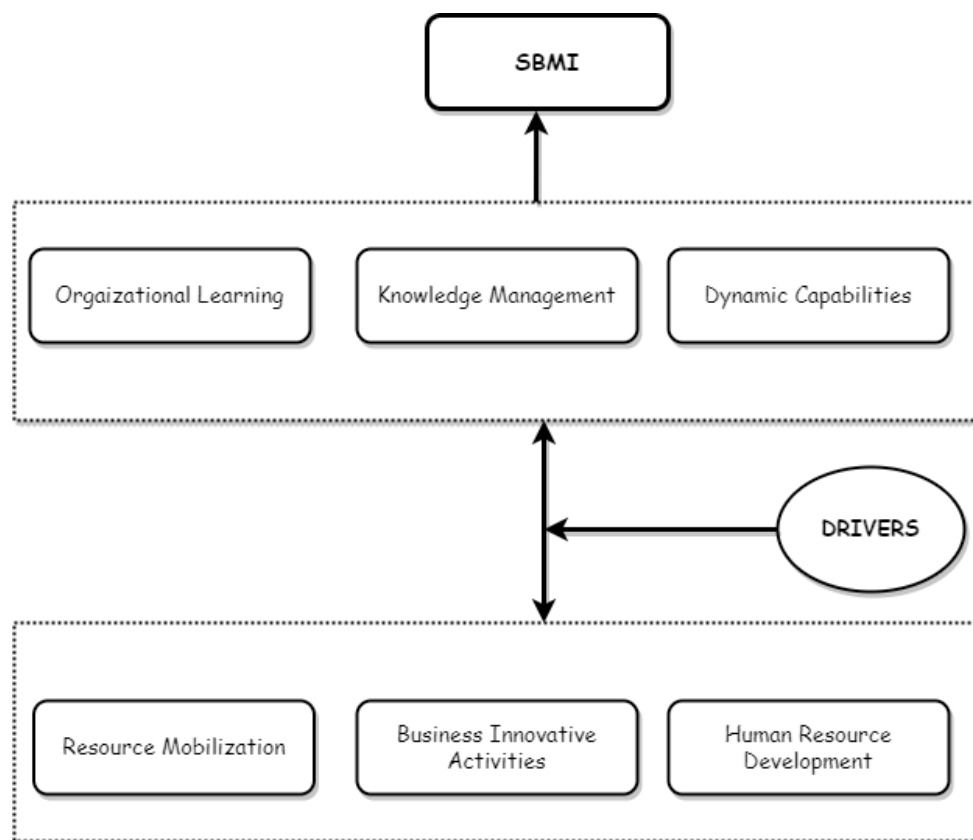
#### 4.7 Drivers

Drivers in this study are the strategies that can help firms transition to the effective deployment of SBMI and overcome the challenges discussed above. The term “transition” can be described as a period of systematic change in an institution’s culture, organizational structure, and structure [58]. Therefore, sustainability transition is a complicated and long-term process involving a network of diverse actors functioning at different system levels. Sustainability measures are not typically included in accounting methods, decision-making, or general company models. Therefore, the successful sustainable business model appears to be more comprehensive [79]. Critical variables that estimate the performance and consequences of BM decisions transparently and concisely can be used to evaluate sustainability. In this section, the researchers discuss ways entrepreneurs and businesses can emulate to implement SBMI, as shown in **Figure 9**, successfully.

#### D1: Organizational learning

Organizational learning (OL) is a critical and fundamental process for processing information and knowledge and changing an organization’s traits, behaviors, capacities, and performance. *Information acquisition, knowledge sharing, and utilization* are a few subprocesses that make up organizational learning [80]. OL is a critical component in defining better performance and long-term competitive advantage for businesses and a key element in explaining success [81]. Organizational learning has been identified as a general approach that can help overcome the barriers to successfully implementing SBMI [16]. A strong relationship exists between OL and SBMI [82]. Organizations must develop *new knowledge and skills* to cope with the highly competitive marketplace.

Furthermore, effective organizational learning strategies and behaviors enable an organization to establish its strategic competency, maintain its competitiveness, and improve performance [82]. Manage-



**Figure 9.** Drivers of SBMI.

ment often focuses on increasing performance or revamping tactics when managing sustainability efforts. They frequently overlook the significance and function of learning in implementing improvements. OL is critical for firms to implement sustainability, yet research in this area is limited. As businesses grow more committed to sustainable business practices, understanding how to learn about sustainability constantly—and how to distribute that knowledge throughout the organization—becomes increasingly important<sup>[83]</sup>. Effective organization learning can help in better implementation of SBMI and help overcome challenges such as organizational barriers and strategic barriers.

### **D2: Knowledge management**

Knowledge evolves through a human evolution process. Knowledge management (KM) is “a combination of procedures, systems, technical, and managerial tools to develop, share, and exploit information and knowledge within and around an organization”<sup>[84]</sup>. Despite its intangibility, KM is regarded as an asset that provides a competitive advantage to the company. *Continuous improvement, process innovation, and product innovation* are all ways to gain a competitive edge. KM for BMI is expected to be the guiding principle for entities and relatively traditional brick-and-mortar organizations confronted with the issue of incorporating their business models into and beyond brick-and-mortar companies<sup>[85]</sup>. KM is a critical function for improving the understanding of SBMI. Entrepreneurs and organizations need to comprehend the exact effect of regulative mechanisms on business activities. Thus, firms need to appreciate the meaning of SBMI and how it can lead to enhanced competitive advantage. *Knowledge management can help firms transition to SBMI by understanding the significant association between environmental and financial performance*. Integrating KM and SBMI can increase a firm’s sustainable competitive edge and help overcome market, institution, and technological barriers.

### **D3: Dynamic capabilities**

An organization can maintain long-term wealth creation and value propositions; it must be prepared to embrace and continuously revitalize its BMs and modify its firms to innovative and attractive propositions<sup>[86]</sup>. SBMI necessitates the development of capabilities that can assist firms in reshaping their BM component to accommodate the different waves of the dynamic business environment and build and strengthen their internal business operations. The strategic interest of BMI is the same as pursuing innovative behavior: to incorporate the firm into an innovation engine<sup>[87]</sup>. The concept of dynamic capabilities (DCs) *can be classified as a company’s efforts to effectively develop its BM while maintaining a high level of performance*. Firms with significant DCs can incorporate external resources and establish a new service system and methods while implementing SBMI. Organizations must overcome institutional barriers to develop cooperative connections with many stakeholders and persuade customers to join BM’s value network<sup>[88]</sup>.

Moreover, DCs of firms help organizations respond to changing business environments swiftly and seize marketing opportunities. Organizations modify business model components by establishing resources and competencies connected to service innovation<sup>[88]</sup>. As industries and markets become more challenging deploying SBMI, the DCs may contribute to establishing sustainability initiatives and technological upgrading, regardless of the industry in which they conduct business<sup>[63]</sup>. DCs can help firms deploy their BM successfully and overcome any technical challenges.

### **D4: Resource mobilization**

Resource mobilizations are the fundamental basis for SBMI<sup>[89]</sup>. Business needs resources to accomplish their objectives; firms must provide a combination of resources to support the successful implementation of SBMI<sup>[90]</sup>. As a result, firms must build a *resource mechanization channel* that is key to BMI’s success. BMI can improve the capabilities of a firm’s value proposition and development, but the possibility of

BM design can only be achieved by *establishing equivalent financial and material resources* <sup>[89]</sup>. When firms possess the needed resources to transition to SBMI, it can help them enhance their sustainability <sup>[90]</sup>. Furthermore, resource mobilization is critical to generating and retaining long-term value for a company. Firms must change their matching resource base when performing BMI. Business strategy can help start-ups interactively adjust available resources and prowess and realize help and innovation matching <sup>[91,92]</sup>. Most entrepreneurs and organizations fail in their SBMI because they cannot find the needed resource to match. Therefore, for firms to successfully implement their SBMI, they need to establish a sound strategic plan to help them raise the necessary funds for successful implementation. To overcome the resource allocation financial barrier to SBMI, firms must initiate plans to get the economic prowess to make their SBMI work.

#### ***D5: Business innovative activities***

A business model's key activities represent what the company must do to make the business model work. These activities may involve the creation of a product, the provision of a service, or a combination of the two. Key activities are any activities that firms engage in with the primary goal of profit. Business activities include operations, marketing, production, problem-solving, and administration. To succeed, a corporation must convey specific initiatives its business model primarily dictates <sup>[92]</sup>. In planning for their SBMI, businesses should consider current social and environmental developments and how they may change with time. Furthermore, companies must imagine radically new, more extreme versions of the future (rather than linearly forecasting trends) to vary their SBMI thinking. Firms must also consider how environmental and societal challenges might evolve in light of these scenarios <sup>[93]</sup>.

#### ***D6: Human resource development***

Employees are resources that must be built and empowered regularly. Providing adequate environments for employees' personal growth and career progress, such as company support or motivation, will increase productivity. Employee empowerment is a long-term investment to improve economic performance and image among customers and employees <sup>[94]</sup>. The personnel policy, part of the firm's overall policy, includes important employee principles and governs the relationship between workers and the company <sup>[95]</sup>. For a business to overcome organizational barriers (i.e., leadership gap and resistance to change), it must focus on training its employees to adapt to change. This can be achieved by organizing training programs for leaders and employees to educate them on implementing the new BM in the organization. Such a training program can help them understand the concept of a radical change that might happen in adopting the new SBMI. Human resource management generally exemplifies how its sustainability performance aligns with leading global frameworks and supports overall business sustainability strategy through these processes <sup>[96]</sup>.

### **5. Research gap and future agenda**

The in-depth evaluation of previous studies provides a thorough understanding and knowledge of the drivers and barriers to the application and implementation of SBMI. As espoused in this research, the authors have identified numerous research gaps which may serve as a potential avenue for future research directions. These penitential avenues and research direction will entice scholars to go deeper into this topic and discuss the consequences of their discoveries for pertinent stakeholders and organizations to make a prudent decision regarding the implementation of SBMI. The current research gaps based on the themes and proposed methodologies identified through the SRP are presented in **Table 3**.

**Table 3.** Highlights of the research gap and future agenda.

Themes	Sub-themes	Research Gap	Future Agenda
Barriers	Market and Institution	(1) Extant studies have not yet examined how the issue of short-termism affects SBMI	<b>RQ1:</b> How does short-termism influence the implementation of SBMI?
		(2) The views and assumptions of stakeholders are critical to the implementation of SBMI. The essence is to evaluate how stakeholders' values can be maximized in implementing firms' SBMI. However, there is scanty research on this topic.	<b>RQ2:</b> What is the effect of stakeholders' values on the implementation of SBMI?
	Organizational Barrier	(1) Previous studies highlighting the extent to which organizational barrier such as leadership gap influences the adoption and implementation of SBMI is nascent	<b>RQ1:</b> How does the leadership gap affect the effective implementation of SBMI?
		(2) Complex management planning and process were highlighted as an organizational barrier to SBMI; nevertheless, few studies have examined these concepts.	<b>RQ2:</b> To what extent do complex management planning and process affect the successful implementation of SBMI?
		(3) Employees of firms are sometimes resistant to changes. However, extant studies have not yet captured the initiatives and strategies needed to respond to the inherent resistance among employees to overcome this menace.	<b>RQ3:</b> What initiatives and strategies can a firm use to promote collaboration among employees to implement SBMI successfully?
	Strategic Barriers	(1) Prior literature has yet to analyze how and why various organizational and functional units fail to achieve their assigned roles in implementing SBMI.	<b>RQ1:</b> How can firms strategize to help various units to function properly to promote the implementation of SBMI
		(2) Existing studies have not explored how firms can exploit employees' potential in achieving the objectives of firms' SBMI.	<b>RQ2:</b> How can enterprises overcome the barrier of "exploitation" in their quest to introduce a planned SBMI?
		(3) Extant studies have not discussed how the short-term growth of a firm affects its implementation of SBMI	<b>RQ3:</b> To what extent does the short-term growth of a firm influence its quest to implement SBMI
	Technological Barriers	(1) Previous literature is nascent on how employees' expertise level influences the implementation of SBMI.	<b>RQ1:</b> To what extent does employees' level of expertise influence firms' decision to engage in SBMI?
		(2) The current dynamic rate at which technology has changed is quite alarming. This situation can disrupt the implementation of SBMI. However, the previous study has not delved into this argument.	<b>RQ2:</b> How should firms adjust to technological changes when planning their SBMI?
		(3) The effective integration of SBMI into firms' production and the process is critical for a successful SBMI program. Yet, prior studies have not captured how these integration activities can be adequately implemented.	<b>RQ3:</b> What initiatives and mechanisms can firms utilize to effectively integrate their SBMI into their business production and process?
	Financial Barriers	(1) Existing studies have identified that financial barriers such as lack of financial resources, high investment costs, and unclear financial business cases affect SBMI. However, the literature has not yet evaluated how these factors affect the implementation of SBMI.	<b>RQ1:</b> How does high investment cost affect the implementation of SBMI? <b>RQ2:</b> To what extent does an unclear financial business case influence SBMI projects?



Table 3 continued

Themes	Sub-themes	Research Gap	Future Agenda
	Resource Allocation	(1) The literature is yet to examine a change in project scope, the use of outdated tools, lack of resources visibility within a matrix firm and mismatch in the skillset between capacity and demand affects the implementation of SBMI.	<b>RQ1:</b> How can enterprises address the issue of resource allocation within their firm matrix to improve the viability of SBMI?
Drivers	Organizational Learning	(1) Researchers must conduct an in-depth analysis of the influential role of organizational learning in enhancing SBMI.	<b>RQ1:</b> What role does organizational learning play in enhancing SBMI?
	Knowledge Management	(1) Previous studies are characterized by few empirical studies on how knowledge management can affect SBMI.	<b>RQ1:</b> Can knowledge management facilitate the effective implementation of SBMI?
	Dynamic Capabilities	(1) Extant studies lack clarity on how dynamic capabilities influence SBMI.	<b>RQ1:</b> What is the impact of dynamic capabilities on SBMI?
	Resource Mobilization	(1) Empirical studies regarding resource mobilization's effect on SBMI are still debatable.	<b>RQ1:</b> How can extant studies empirically evaluate the nexus between resource mobilization and SBMI?
	Business Innovative Activities	(1) Businesses can use various innovative activities to improve their SBMI.	<b>RQ2:</b> What core business innovative activities can the firms use to improve their SBMI?
	Human Resource Development	(1) Employees are a vital part of the implementation of SBMI. Hence the human resource department of a firm should organize training for employees in their quest to implement SBMI.	<b>RQ3:</b> How can human resource development motivate employees to implement SBMI?
Methodological Approach	Qualitative Approach	(1) Prior studies used qualitative and case study approaches to analyze SBMI.	<b>RQ1:</b> How can the researcher empirically explore the association between drivers, barriers, and implementation of SBMI?
	Case Study	(2) Majority of the extant studies employed used a single enterprise as a case study; this methodology limits the generalizability of the research outcome.	<b>RQ2:</b> How can scholars use data from different enterprises to improve the generalizability of the previous outcomes?
	Longitudinal Approach	(3) Erstwhile research primarily applies only a few numbers of longitudinal analyses.	<b>RQ3:</b> How can scholars utilize a longitudinal approach to evaluate the effect of SBMI on firm performance?

## 6. Framework development

SBMI is viewed as a technique of BM discovery, advancement creation, acceptance, modification, revamping, and refinement in which BMI elements are combined with sustainability considerations <sup>[11]</sup>. SBMI explains how new BMs are developed and how existing business models are transformed to achieve long-term viability <sup>[97,98]</sup>. SBMI is a conceptual approach to incorporating social and ecological concerns into an organization's priorities and operations <sup>[98]</sup>. Research on the convergence of SBMI, corporate development, and strategic design has

shown the importance of following particular practices when implementing SBMs <sup>[99]</sup>. The SBMI sector is currently undergoing consolidation, with new reviews specifying the nature and limit. Simultaneously, several resources have been developed to help firms implement SBMI. Hence it is essential to provide a workable framework that can help improve the viability of SBMI in a firm. The proposed framework is a straightforward and systematic representation of SBMI deployment. We applied the actor-network theory to develop a theoretical framework that helps broadens the understanding of barriers and drivers that influence the various components of SBMI (i.e.,

value creation, values, value capturing, and value delivering). The actor-network theory helps understand the interconnections, components, and implications among a proposed framework [72]. As indicated in **Figure 10**, the framework proposed provides an understanding of how firms can overcome various challenges of SBMI and how it can also contribute to achieving value creation, capture, and delivery. This paradigm and proposed framework give prospective researchers a clear research direction to evaluate this subject area further.

## 7. Conclusions and implications

### 7.1 Conclusions

The present SRP sought to evaluate the barriers and drivers connected with implementing SBMI. The study applied rigorous research protocols highlighting prior studies from prominent databases, including *WoS* and *Scopus*. Accordingly, this research

addresses the study **RQ1** by providing a descriptive profile of previous studies on barriers and drivers of SBMI through an SRP approach. The study profile includes annual trends of publications, current research in SBMI, geographical contributions, and methodological approach. The study answered **RQ2** and utilized the content analysis approach through the thematic themes of existing studies. **RQ3** was evaluated by synthesizing previous studies to highlight research gaps and future research propositions. Lastly, the research provides a study framework that analyzes the requirements for proper implementation of SBMI to answer research question **RQ4**. By evaluating thematic themes that incorporate the barriers and drivers of SBMI. Further, we proposed a framework for implementing SBMI based on actor-network theory. The research thus provides substantial recommendations for stakeholders and researchers who are interested in implementing SBMI in their enterprises.

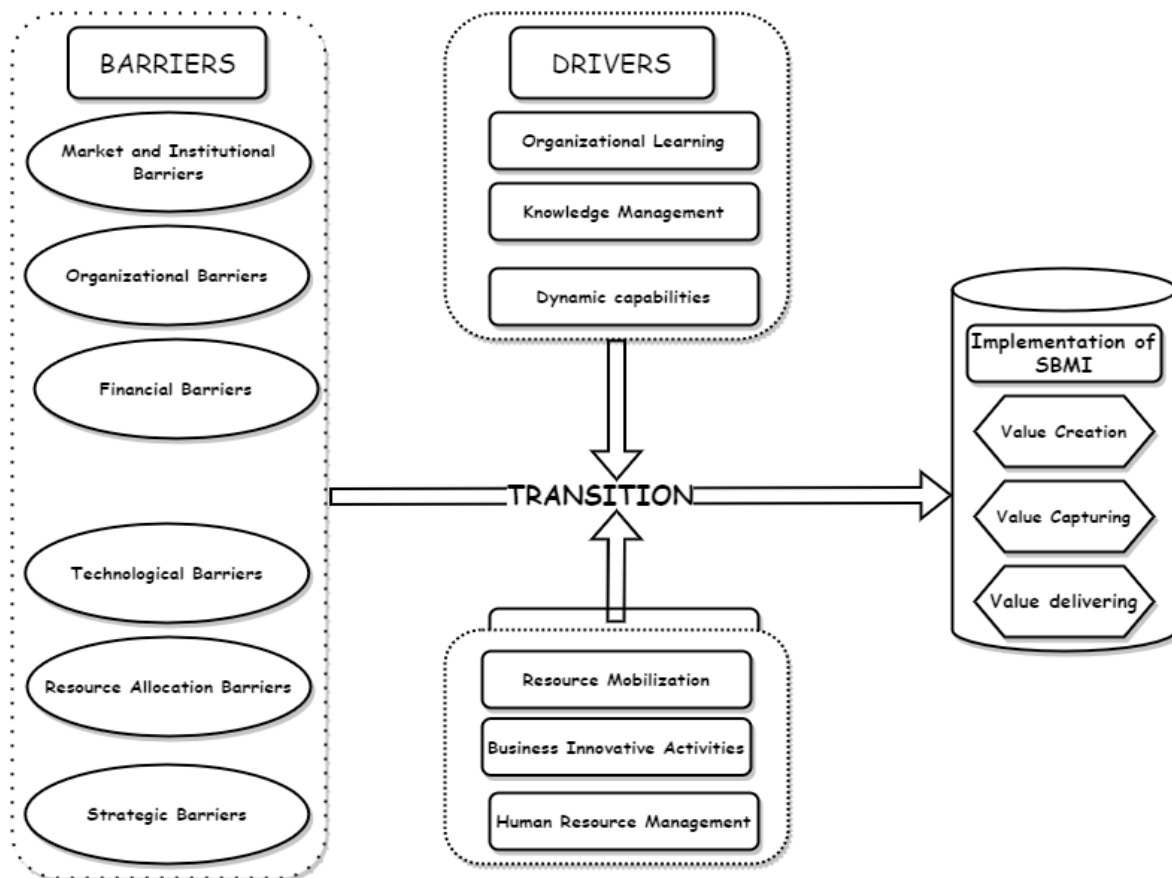


Figure 10. Proposed framework for the implementation of SBMI.

## 7.2 Theoretical implication

SBMI research is rapidly emerging in contemporary business activities, but little initiative has been expended in examining the barriers to successful integration. SBMI depicts a new frontier of business innovation beyond only the invention of goods and services. This study attempts to fill this gap by analyzing key barriers to SBMI deployment. It contributes to the literature and theory on business models in entrepreneurship. This review aims to contribute to scholars' understanding of institutional, organizational, strategic, technological, financial, and resource allocation barriers that hinder the deployment of successful SBMI. The present research proposes drivers enabling entrepreneurs to transition toward the successful implementation of SBMI. A successful SBMI requires firms to adopt the following strategies: organizational learning, knowledge management, dynamic capabilities, resource mobilization, sustainable mindset, and human resource development. Comprehensive identification and understanding of SBMI barriers and drivers add to the body of knowledge in the literature and help explain the idea of the business model in terms of entrepreneurs. The research also theoretically contributes to studies on SBMI and the actor-network theory by providing a framework that encompasses the drivers and barriers of SBMI.

## 7.3 Implications for business strategy

In this research, we recommend that firms and entrepreneurs set clear objectives for their business models. Thus, they should understand and explain the concept of their BM models to their employees. This can be done by developing their human resources through training, symposium, conferences, etc. The study's business implications strategy is that firms must know the challenges and barriers to adopting SBMI and find strategies to overcome them in their quest to implement their BM. Such studies can allow entrepreneurs and firms to plan before implementing any BM. Also, the researchers recommend that the business strategy emphasizes the

degree and complex nature of SBMI and the need to enhance modern BM through experimentation. The best capabilities value of SBMI is realized when the new enterprise model is brought to scale: Thus, involving workers in the organization, all over the distribution chain, and in its ecosystems to increase impact and competitive edge. SBMI should not be implemented haphazardly; instead, it is a complex business activity that needs to be addressed with much focus. As a result, these initiatives will help increase the interest of entrepreneurs seeking to meet the urgent need for stable growth and the transition to more viable industrial operations to address escalating economic, environmental, and social issues. This review also allows policymakers to implement better policies to help businesses overcome such challenges. Companies will also understand SBMI and its challenges to help them plan to overcome such challenges. The current study's findings have important implications because they clarify entrepreneurs' challenges in successfully implementing their SBMI. Finally, firms need to invest in organizational learning, human resource development, knowledge management, dynamic capabilities, resource mobilization, and innovative business activities to overcome challenges in deploying their SBMI.

## 7.4 Limitations and future direction

The limitation of this present study lies first in the methodology used in identifying papers related to SBMI. This method might exclude relevant information from other document types or languages. Secondly, the researchers could not empirically test how these discussed barriers and drivers affect SBMI. Future research will focus on collecting data from enterprises to analyze and understand how these challenges affect their sustainable business model innovation in today's business. Moreover, future studies could address the incentives provided by public policies aimed at more sustainable businesses and achieving SDG 11 (Department of Economic and Social Affairs) <sup>[100]</sup>. Lastly, future studies will provide an in-depth evaluation of the association between research and the institutional distribution of

researchers in this field.

## Author Contribution

Agyemang Kwasi Sampene: conceptualization, methodology, formal analysis, and investigation. Fredrick Oteng Agyeman: methodology, formal analysis and investigation; Fazeelat Aziz: visualization and formal analysis.

## Conflicts of Interest

The authors declare no conflict of interests.

## Data Availability Statement

The data sets used during the current study are available from the corresponding author upon reasonable request.

## Funding

No funding was received.

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