

# Sustainable Business Models and Organizational Boundaries

## A Literature Review

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*Document Version*

Final published version

*Published in:*

Business Strategy and the Environment

*DOI:*

[10.1002/bse.3837](https://doi.org/10.1002/bse.3837)

*Publication date:*

2024

*License*

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*Citation for published version (APA):*

Bjartmarz, T. K., & Bocken, N. M. P. (2024). Sustainable Business Models and Organizational Boundaries: A Literature Review. *Business Strategy and the Environment*, 33(7), 6716-6736. <https://doi.org/10.1002/bse.3837>

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## RESEARCH ARTICLE



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# Sustainable business models and organizational boundaries—A literature review

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## Funding information

Thank you to the Independent Research Fund Denmark (grant number 1127-00024B) for their funding of Thordis Bjartmarz' PhD fellowship. Nancy Bocken was funded by the European Union's Horizon 2020's European Research Council (ERC) funding scheme under grant agreement No 850159, project Circular X.

## Abstract

Social and environmental challenges are forcing organizations to develop sustainable business models (SBMs). Literature on SBMs has identified the importance of stakeholders and collaboration. Collaboration and positions of stakeholders within the value-chain opens the discussion about organizational boundaries and their role in enhancing or hindering sustainable business model innovation. Through a literature review, this study analyzes 53 papers at the intersection of SBMs and boundaries to clarify how SBMs change organizational boundaries, and how these boundaries affect the sustainability values of organizations. We aim to identify key stakeholders, who hold negotiation power at organizational boundaries. The paper identifies important managerial questions that may assist organizations in the process of unpacking sustainable value and broaden their scope of key stakeholders. Finally, we formulate future research areas to advance research at the intersection of SBMs and organizational boundaries.

## KEYWORDS

boundaries, boundary work, organizational boundaries, sustainability, sustainable business models, value chain

## 1 | INTRODUCTION

With increasing evidence of the negative human impact on ecosystems (Crutzen, 2006; Steffen et al., 2015), companies need to rethink their strategies and adopt a sustainable business model (Comin et al., 2020; Hahn & Tampe, 2021). These challenges require radical and transformational innovations and change in how humans relate to the nature and how wealth is distributed, and social injustice minimized (Ergene et al., 2021) in a time where there have mostly been incremental changes and few key actors trying to play a role in the solutions. Concepts such as circularity (Pedersen et al., 2019),

the triple-bottom line of people, profit, and planet (Elkington, 1998; Joyce & Paquin, 2016) and regeneration (Hahn & Tampe, 2021; Konietzko et al., 2023) are pushing business models towards a more holistic approach where the involvement of more diverse set of stakeholders than before becomes part of the solutions of today's ecosystems challenges (Bocken, 2023; Stubbs & Cocklin, 2008). Furthermore, business models are also under pressure to be adapted with increased technological innovations within their elements, for example, use of blockchain in supply chains (Jraisat et al., 2023) and use of big data to drive innovations (Sahoo et al., 2023).

The concept of business models is relatively new in management studies (Zott et al., 2011) and the focus of sustainability within it even newer (Massa et al., 2017). Despite the recent history, the sustainable business model literature is vast and defines sub-categories, archetypes, or general strategies for sustainable business models (SBMs),

**Abbreviations:** BMI, Business model innovation; CE, Circular economy; CSR, Corporate social responsibility; SDGs, Sustainable development goals; TBL, Triple bottom line; WoS, Web of Science.

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such as the bottom-of-the-pyramid strategy or circular business model, where the aim is to assist in identifying ways organizations can move forward in their path for sustainability (Bocken et al., 2014). Although there is not one definition of a sustainable business model (Lozano, 2018), it is clear that it is about value, not only for customers but also for the society, natural environment and other stakeholders such as suppliers, customers, and employees (Stubbs & Cocklin, 2008). Hence, multi-stakeholder management is essential (Evans et al., 2017; Geissdoerfer et al., 2018; Stubbs & Cocklin, 2008), and multiple sustainability values need to be integrated into the business model and value chain (Abdelkafi & Täuscher, 2016; Bocken et al., 2014; Stubbs & Cocklin, 2008).

The role of stakeholders is becoming more important in a business model as their demands, expertise, and individual values impact the overall value each company can and will deliver (Lozano, 2018; Stubbs & Cocklin, 2008). This is further supported by a study by Ordóñez-Ponce et al. (2021) on collaborative business models who found that organizations are realizing the benefit of partnering *beyond their organizational boundaries*. A collaborative business model, where resources are shared across boundaries—especially the sustainability, human, and organizational resources—is considered having the largest positive impact on the environmental challenges and contribute to community sustainability (Ordóñez-Ponce et al., 2021). This guides the key aspect this article will focus on, that is, the role of *organizational boundaries* and *boundary activities* in the development of SBMs. Business models are widely diverse in the way they are structured and organized involving various potential permutations at the levels of the value proposition, value creation and delivery, and value capture to deliver greater levels of sustainability (Bocken et al., 2014; Lüdeke-Freund et al., 2019; Richardson, 2008). Hence, understanding how “organizations work, how they shape and are shaped by the society” becomes an essential question (Meyer & Waldrorf, 2022; p.21). A business model innovation in essence is about a change in boundaries of the firm, where key activities are expanded or added, often at the expense of another business' activity (Zott et al., 2011; Zott & Amit, 2010).

Organizational boundaries represent various demarcations, tensions, influence, and logics that are at play within and around an organization (Santos & Eisenhardt, 2005). They represent the physical boundaries of the organization and can be, for example, impacted by people (boundary spanners/spanning), activities (boundary work), and artifacts (boundary objects). These boundaries are often socially constructed and negotiated by multiple stakeholders (Heracleous, 2004). SBMs depict the core of the business, its organizational values, and the stakeholder relations the organization has in its arsenal. SBMs can, therefore, play a vital role in transforming businesses and human action towards more sustainable development (Bocken, 2023) by understanding, constructing, and negotiating the boundaries at play within and across the business model. The strategic decision on which activities to conduct inhouse and which ones to outsource in business model innovation (Chesbrough, 2017) becomes even more relevant in the field of sustainability where issues go beyond company boundaries and require joint solutions (Bocken & Konietzko, 2022; Konietzko et al., 2020).

So, what is the value of a literature review on this topic? Although literature review articles often face problems and areas for critique, such as lack of relevance, lack of transparency, or selection bias (Haddaway et al., 2020), if well-conceived and executed, they present great opportunities for enhancing theory development (Post et al., 2020). This study aims to advance knowledge on organizations who are in the process of creating and advancing sustainability solutions by looking at which boundary activities are at play in the process of innovating business models for sustainability. The objective is to understand the activities, the players involved in constructing and negotiating the boundaries, and the implications for sustainability. This literature review follows the goal by Post et al. (2020) of *exposing emerging perspectives* to identify emerging theoretical perspectives on phenomena, that is, what can be learnt from studies at the intersection of organizational boundaries and SBMs. This guides the structure of this review which addresses the following research questions: *How are the literature fields on organizational boundaries and SBMs interlinked? How do these linkages help solve sustainability challenges?*

This paper aims to deliver the following theoretical and practical contributions. First, it will provide new insights to the field of Sustainable Business Models (SBMs) by understanding the role of boundaries, boundary activities, and boundary relationships in SBMs. Through this, the paper aims to strengthen the sustainability literature agenda by identifying how various boundaries and relationships within SBMs contribute to (more forms of) value creation. Second, our study contributes to literature on organizational boundaries, a stream that has a long history in academia, where the role of boundaries and boundary activities in advancing an organizational sustainability agenda is analyzed and understood. This leads to the managerial contribution of this article. This study brings to light which organizational boundaries are at play within and across SBMs, and whether those boundaries drive or hinder sustainability impact. The paper also offers guiding questions for management to assist in the process of understanding boundaries within their business model.

The remainder of the article is structured as follows. Section 2 describes the methodology including a detailed description of the decisions and processes. Section 3 is the literature analysis of the 53 articles identified. The final section discusses the research and management contributions, limitations, and future research.

## 2 | METHODOLOGY

The focus of this review is to identify research at the intersection of organizational boundaries and SBMs. By doing so, the research follows a social constructionism philosophy (Morgan & Smircich, 1980) where knowledge is co-created between the data and the researcher to make the “world” intelligible and understandable. The research identifies what kind of boundaries play a role in the literature, and which aspects of SBMs are used to minimize and/or solve sustainability challenges. The aim is to expose and tackle emerging sustainability issues (Post et al., 2020) which are defined in the main literature

sampling. This literature review process follows four steps: (1) sample generation, (2) sample screening, (3) coding/categorizing, (4) analysis.

## 2.1 | Sample generation

The literature review's focus was to identify literature where all three topics (boundaries, business models, and sustainability) were present in an active manner, that is, wording within articles clearly state the use of some boundaries, some aspects of a business model, and some sustainability issue trying to be solved. The literature search process was conducted in Web of Science (WoS) and Scopus. The choice to work with WoS and Scopus is based on the detailed evaluation done by Gusenbauer and Haddaway (2020), who evaluated 28 search databases based on strict quality criteria. Their findings show that only 14 out of the 28 databases are well-suited for evidence

synthesis, like literature review work, meeting all the necessary requirements identified. WoS and Scopus were two of these 14 search databases and considered suitable for principal search system. (Gusenbauer & Haddaway, 2020). Furthermore, Scopus offers the largest pool of scientific papers from a broad variety of journals and WoS brings journals not included in Scopus to the search (Méndez-León et al., 2022). The first part of the search was conducted in July 2022, which meant that the search only included articles published until that time. For the quality of the literature review, a new search was conducted in April 2023 to include the remaining articles published in 2022.

Table 1 gives an overview of the overall process in steps two and three; sample generation, screening, and results from the database selected for this review. The search string underwent four iterations before the final version (see Table 1) was applied. The keywords in the search string were identified from organizational boundary literature (e.g. Jæger et al., 2020) and aimed to include as many versions of

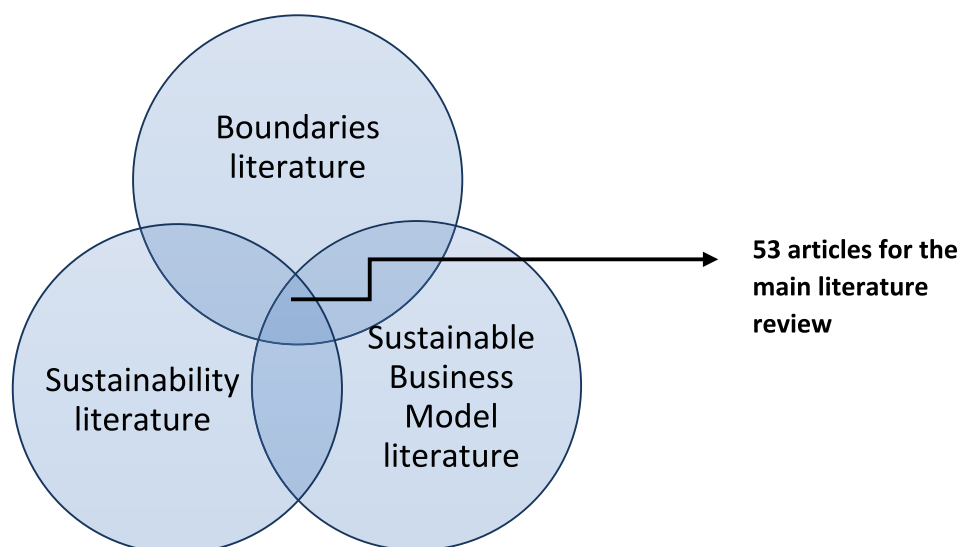
**TABLE 1** Main sample search, screening, and results.

Stage	Activity	Results		
		WoS	Scopus	Total
Search string	<ul style="list-style-type: none"> <li>ALL FIELDS (Boundar* OR "organi?ation* boundar*" OR "boundar* management" OR "Boundar* work" OR "boundar* spanning" OR "Boundar* object" OR "boundar* brokering" OR "boundar* bridg*" OR "boundar* buffering" OR "boundar* crossing") AND (Sustainab* OR "Corporate Sustainab*" OR "Corporate Social Responsib*" OR "Social Responsib*" OR "ESG")</li> <li>LIMITED TO articles, English, YEAR 2002–2022,</li> <li>WoS categories selected: management, business, sociology, social sciences interdisciplinary, business finance</li> <li>scopus categories selected: business, management and accounting, social sciences</li> </ul>	890	3078	3968
Screening 1	Search within all articles on "business model*" limits the findings further down	40	232	272
Screening 2	Search for duplicates: Excluded from Scopus search numbers	20		252
Screening 3	Title/abstract/article screening: Article exclusion criteria <ol style="list-style-type: none"> <li>The article had no mention of business model concepts and had no organizational focus but rather a state, governance, policy focus.</li> <li>The use of sustainability in the article had nothing to do with environmental and/or social sustainability but rather sustainable practices, meaning in continuous.</li> <li>The use of boundaries was not of value (e.g. planetary boundaries, boundaries of study, etc.) or just a brief mention of firm boundaries in the body of the article.</li> </ol>			
	Total excluded	19	190	209
	Total articles included after screening 3	21	22	43
Search 2	New search in April 2023 – Number of articles before screening	4	65	
Screening 4	Screening based on exclusion criteria above	1	7	51
Screening 5	Snowballing method – Manual selection of potentially relevant papers which emerged through "cited in" function, from review articles or papers citing the selected papers			2
Final number	Total articles for the main literature review			53

boundaries as possible. With regards to sustainability keywords, the idea was to keep the keywords broad to include as many subjects as possible. The conscious focus on boundaries and sustainability in the search string, and subsequent search for articles on business models in this broader sample, resulted from the trial-and-error phase, where the use of “business model” term at the start was found to be too restrictive. To follow the quality criteria identified in Gusenbauer and Haddaway (2020) and to eliminate sampling bias, the search process and selection/exclusion criteria are documented to increase *replicability* and *transparency* of the study.

## 2.2 | Sample screening

The next step in the process was to develop an exclusion criterion to determine the final group of articles to be as focused as possible to the literature streams and topics chosen for the literature review analysis. First, the title, keywords, and abstract were analyzed for each article, and if needed, the article was screened to confirm the inclusion/exclusion of the article. The exclusion criterion was divided into three parts: (1) There was no mention of business model(s), parts of business models, but the article instead had, for example, a governance or policy focus; (2) the use of boundaries within the article had little to do with organizational boundaries, but rather, for example, with planetary boundaries, which although of great importance for sustainability does not constitute as organizational boundaries as defined in the literature, or if the boundaries were of organizational nature, the mention throughout the article was only minor and of negligible theoretical importance; (3) the sustainability focus was missing in the article or was about the survival of the organization rather than social, environmental or governance-based sustainability. The strict criteria ensured that the 53 final articles (Appendix A) had a somewhat strong foundation of SBMs and organizational boundaries literature, and all have a sustainability angle, as seen in Figure 1.



**FIGURE 1** Literature streams and their intersection for main literature review.

## 2.3 | Sample coding and categorizing

After the screening and exclusion of the articles, 53 articles remained for the main literature review analysis. These 53 articles were then coded, using Excel. The focus of the coding was on identifying which types of organizational boundaries/boundary activities were presented in the papers, which sustainability aspect the articles tried to address, and which aspect/different types of business models were being analyzed. Besides the identified codes, a categorization on publication journal, publication year, and countries the article focused on was maintained for a statistical overview of the articles in the dataset.

## 2.4 | Data analysis

Data analysis was conducted in two steps: (1) analyzing and depicting the statistical overview of the dataset and (2) deep dive into the codes of *boundaries*, *business models*, and *sustainability*. The first step consisted of analyzing and depicting the statistical overview of the dataset, by analyzing the journals publishing these kinds of articles, the development of work over the years, and the countries being represented in the articles. This overview helps in understanding the background of the literature, the development of the topic over the years, and which journals have been influential in developing the research on SBMs and organizational boundaries.

The next step of the analysis was a deep dive into the codes of *Boundaries*. The aim was to learn and understand which boundaries were at play and how the boundary themes interacted or related to SBMs. Each article was carefully analyzed and then placed under the code of Boundaries with a description of what boundary theory was used. From there, an overview of which boundaries/boundary activities were most written about was created, and how these different boundary themes were linked to the concepts of business models. Under the code of *Business models*, the articles were further analyzed to identify which type or aspects of the business model were being

used in the paper. This allowed for a broader picture of the interlinking of boundaries to different types of business models or parts within the business model. Lastly, under the code of *sustainability*, the sustainability issue or challenge being addressed in the papers was listed up. This allowed the analysis to uncover which sustainability issues appear to have the highest focus within the literature, and to understand where there are potential opportunities and/or gaps lie in utilizing boundaries and SBMs for sustainability solutions. These main analytical steps should contribute to answer the main research questions of the paper.

### 3 | RESULTS: THE INTERCONNECTEDNESS OF BOUNDARIES, BUSINESS MODELS, AND SUSTAINABILITY

#### 3.1 | The literature review – general overview and statistics

The strict literature search criteria identified 53 articles that include business models, organizational boundaries/boundary activities, and sustainability in some active form or another. The various boundaries, business model aspects, and sustainability themes are listed in Appendix A. According to the search, the active interlinking of these literature streams appears to be a relatively new approach, with the first articles published in 2014. Figure 2 lists how the 53 identified publications are spread throughout the years, from the first one identified in 2014 to 2022. The articles published in 2014 and 2015 were focused on environmental sustainability and carbon emissions, but the sustainability focus of the published articles becomes more varied with more articles published each year. In 2022, the sustainability topics included circularity, sustainable energy, social change, sustainable food systems, and sustainable development goals (SDGs), to name a few. An interesting point is the large increase in published articles on the topic from nine articles in 2021 to 15 articles in 2022.

Although the sustainability focus of the articles varied, seven out of the 15 articles (46.7%) used a concept of boundary spanners/spanning, which refers to the actors and/or activities at and across boundaries and their relationships. Further attention to this boundary will be paid in Section 3.2.1.

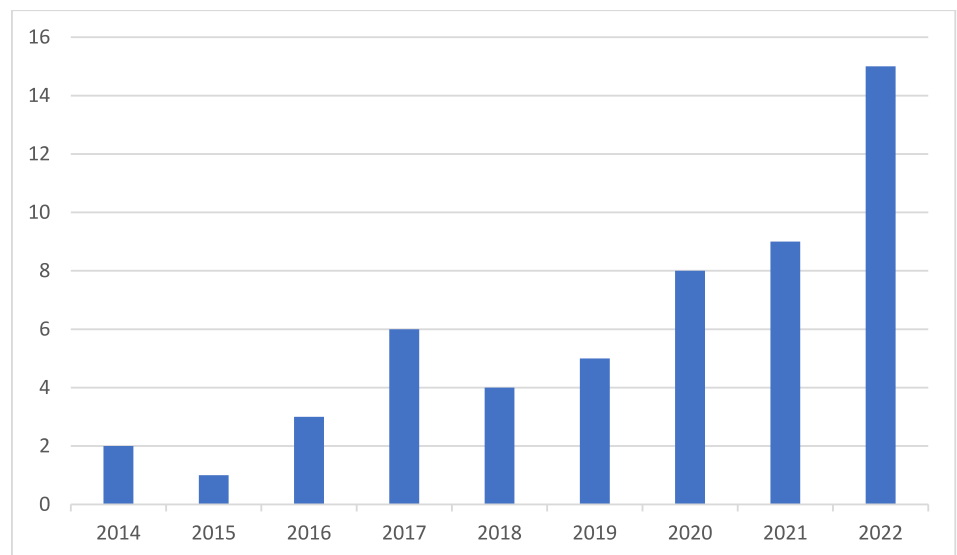
The diversity of where these articles were published is worth mentioning. Out of the 53 articles, 28 articles (52.8%) were published in the same seven journals (Figure 3).

Most papers were published in the journals *Journal of Cleaner Production*, *Sustainability*, and *Business Strategy & the Environment*. Of the five articles in *Business Strategy & the Environment*, three were published in 2022, which shows it is an emerging area. Six articles were divided between *Business & Society*, *Industrial Marketing Management*, and *International Journal of Entrepreneurial Venturing*, each with two articles. The remaining 47% was spread out in various journals ranging from *Corporate Governance* journals to supply chain focused journals, where each journal had one article published on the subject. A full list of journals can be found in Appendix A. Lastly, the division of the papers into conceptual or empirical papers (Figure 4) shows that most papers in the dataset are empirical, indicating that the evidence used in this review has some empirical implications. Out of the 37 empirical analyzed papers, 19 were case studies with 1–10 cases.

#### 3.2 | The literature review – theoretical linkage and results

##### 3.2.1 | Organizational boundaries, boundary activities, and business models

It became clear from reviewing the literature that some aspects of organizational boundaries and boundary activities are more commonly used than others. Table 2 lists the main boundary themes in the dataset, examples of their use, and an established definition in the literature stream.



**FIGURE 2** Number of publications per year (WoS and Scopus).

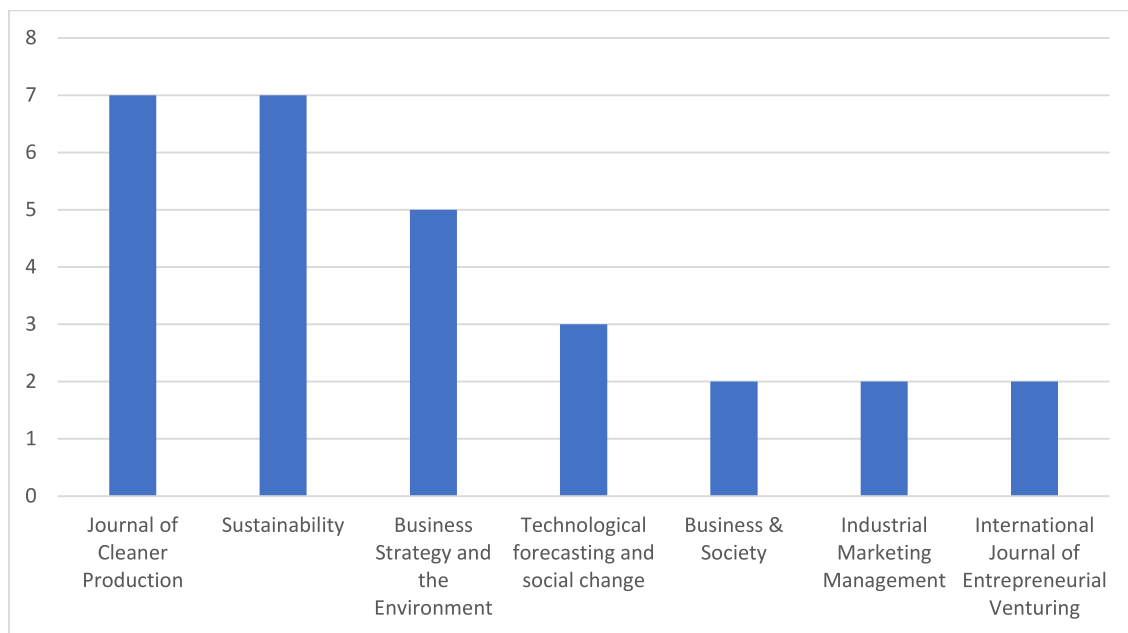


FIGURE 3 Top seven journals where the articles were published.

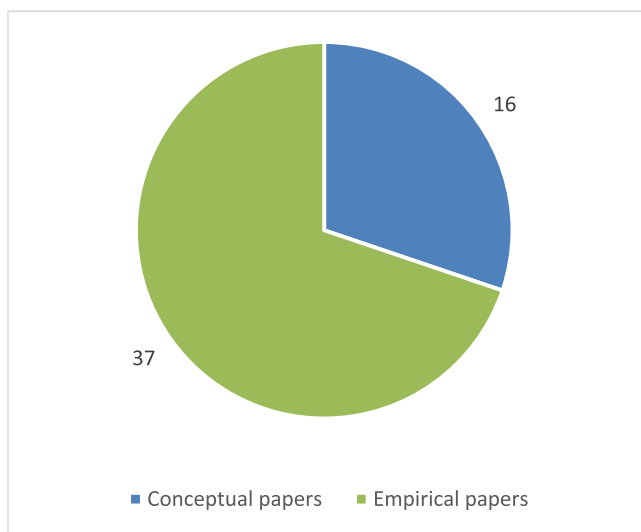


FIGURE 4 Division of papers into conceptual and empirical papers.

The six concepts in Table 2 were derived from the 53 articles in the dataset. The analysis of the themes showed that some themes have a similar meaning despite having different labels, for example, business models as boundaries vs. system boundaries. Both focus on the functional dimensions of the organization in some form or another, that is, departments, stakeholders, group of stakeholders, internal organizational environment, and the external environment.

The first theme (Table 2), *boundary spanners/spanning*, is the most used boundary concept in the literature, either as a main boundary theory or combined with another boundary aspect. Since all the articles have a business model focus, one reason for the high boundary

spanning/spanner focus could be that they build on Zott and Amit's highly cited paper on Business Model Design, (2010) where they view business models as systems of activities and relationships that can span the boundaries of companies and potentially creating new ones, that is, with and through partnerships, customer and/or supplier relationships. Activities, and the stakeholders involved in these activities, that are boundary spanning, create transactions that can lead to an adaptation of, or innovated business model (Pereira et al., 2022), here including SBMs. SBMs help in defining various stakeholders and their relationship to and with the organization, from a broader perspective than just economic. "While most business model concepts take a single-actor or 'egocentric' perspective of one focal firm, some scholars point to the importance of multi-actor concepts and extended value definitions in the context of sustainability" (Breuer et al., 2018, p. 258). Brennan and Tennant (2018) in their paper on sustainable value and trade-offs define business models according to the partners needed to bring forth sustainability and the ways in which these partners use SBMs as boundary spanners to work on shared values for sustainability. It is therefore the value creation of these partnerships and their collaboration that spans the boundaries of the organization. The need for multi-stakeholder (i.e., boundary spanners) involvement in sustainable value creation is supported by other articles in the review, and the role of relationships within and across sustainable business model (innovation) is put forward as important for the advancement of these business models (Lashitew et al., 2020; Velter et al., 2020; Yström et al., 2021). Boundary spanners should "be visionaries and frontrunners, openminded and able to look beyond their own domain or working area" (Yström et al., 2021, p. 1).

The second theme often utilized in the literature is the use of boundaries as physical, or the firm boundary's theme. Schiavone et al. (2022) discuss how the business model in manufacturing changes with



**TABLE 2** Top boundary themes from the literature review.

	Definition	Examples of use	Examples of sources
Boundary spanners	Actors and/or activities at and across boundaries and their relationships (Rosenkopf & Nerkar, 2001; Zietsma & Lawrence, 2010)	Multiple stakeholders and partners are needed to reach shared value creation for sustainability	(Pereira et al., 2022; Lashitew et al., 2020; Velter et al., 2020; Yström et al., 2021)
Physical/tangible boundaries	Formal rules, job descriptions, buildings, gates, budgets, etc. (Hernes, 2004)	The physical placement and businesses need rethinking/re-evaluating to adhere to sustainable practices	(Høgevoid et al., 2015; Ventura, 2021)
Business models as boundaries	Boundaries between departments or functions (also known as functional boundaries in literature) (Cross & Cummings, 2004)	The conceptual tool of the business model allows organizations to analyze their DNA and what should be included/excluded. This allows organizations to identify core values	(Jacob & Teuteberg, 2020; Weigert, 2019; Wesseling et al., 2020)
Boundary work	"The attempts of actors to create, shape and disrupt boundaries." (Zietsma & Lawrence, 2010, p. 190)	Boundary work in sustainable business models is about identifying and accommodating the different perspectives of each stakeholder involved in the business model	(Diepenmaat et al., 2020; Velter et al., 2020, 2021)
System boundaries	The acknowledgment of an organization's ecosystem and the groups/stakeholders needed to adhere to sustainable principles (Broman & Robèrt, 2017)	The impact of an organization and its stakeholders can be localized or internationalized, depending on their scale and resources. This requires different needs to cooperate and coordinate to achieve sustainability goals.	(Bocken et al., 2019; Broman & Robèrt, 2017; Ruiter et al., 2022)
Organizational boundaries	Organizational boundaries are the "tools by which individuals and groups struggle over and come to agree upon definition of reality" (Lamont & Molnár, 2002, p. 168).	Organizational boundaries depict the direct and indirect outlines in the organization and by understanding them, it unfolds how and when these outlines evolve and what affects them.	(Jacob & Teuteberg, 2020; Shi & Chertow, 2017)

the introduction of digitalization and servitization—and with it, the boundaries between the firm, that is, the producers, and the users change and even fade away. Zondag et al. (2017) define implementation of sustainability according to the Triple Bottom Line (TBL) concept and state that, "TBL expands beyond the boundaries of the firm and therefore outside the direct operational control of managers" (Zondag et al., 2017, p. 201). The firm is therefore in need to rely on or work closely with their network of stakeholders. This is supported by Høgevoid et al. (2015), when they say that it is highly important to give attention to the whole business network when viewing sustainable business practices, which means assessing across and beyond boundaries of all business model entities (Høgevoid et al., 2015). Ventura (2021) takes this view even further, stating in her paper that introducing TBL, corporate social responsibility (CSR), or other concepts of the sustainability agenda forces the firm to redefine their boundaries as their traditional boundaries do not mirror their reality. This need for redefinition raises questions about how to best implement sustainability within the business model, which leads to further questions about legal boundaries of the firm with their stakeholders (Ventura, 2021). The innovation and/or expansion of firm boundaries might also lead to challenges as Forcadell et al. (2020) identify in their paper on use of reputation for sustainability to tackle especially digitalization challenges. Introducing digitalization to the business model,

the firm can be seen as aiming for optimizing their costs and, by doing so, *narrowing* their firm boundaries but can have an opposite effect on the boundaries of the business model (or as they call it, the scope of the firm), where new product, new partners, and new markets are introduced (Forcadell et al., 2020). The physical boundary theme in organizational boundaries literature echoes what has been identified by reviewing the first theme (boundary spanners), that is, stakeholders within and across business models play a key role. Their relationships can make or break sustainability implementation as their view on value and value creation impacts boundaries and sustainable business model innovation. It is the boundary spanners who live out the physical boundaries, that is, are placed in an organization or a department and need to reach out to others (spanning physical boundaries) or defining new/fewer organizational entities (boundary brokerage and negotiations).

The third theme often used in the literature is the definition or use of *business models as boundaries* themselves. Business models can also be considered *functional* boundaries (Cross & Cummings, 2004), meaning the boundaries between the various functions of an organization. With the conceptual framework of business models, organizations can define what is in the DNA of the organization and what is not. For many organizations, this also creates a certain limitation, because exploring outside of the business model boundaries and what



is within their DNA does not come easily (Diepenmaat et al., 2020). Wesseling et al. (2020) use business model innovation (BMI) to define the boundaries of the new business model and make them transparent. Throughout the process of BMI, the boundaries are either conformed or transformed, leading to a new business model, with new boundaries (Wesseling et al., 2020). The role of business model exploration (Diepenmaat et al., 2020), innovation (BMI) (Wesseling et al., 2020), or technological advancement (Jacob & Teuteberg, 2020) appears to play key roles in defining and developing the boundaries of SBMs. The involvement of boundary spanners here is also important according to the literature, as the action and activities of the stakeholders are the ones introducing innovation and/or new technology to the business model enhancement. Midgley and Lindhult (2021) say that for innovations to be implementable, there is a need to widen/expand the boundaries of who is considered a stakeholder and what are the needed engagement from these stakeholder groups. This expansion and engagement of new stakeholders are built on new sets of values, or purpose; “*there are always boundaries defining what we consider relevant in any situation, and the setting of boundaries is strongly driven by value judgements, which are associated with our purposes, or what matters to us*” (Midgley & Lindhult, 2021, p. 649). From the literature on business models as boundaries and the role of innovation/adaptation/expansion of the business model, it is clear that value and value creation/definition is of importance. However, as Forcadell et al. (2020, p. 2181) find that “*the dramatic processes of digitalization can generate stakeholder mistrust and loss of confidence*” which may influence perceived value of the firm and of the stakeholders within it.

The fourth theme the literature in the dataset identifies as important is *boundary work*. The literature indicates the importance of *boundary work* in the process of societal innovation towards sustainable development (Diepenmaat et al., 2020) and sustainable business model innovation (Velter et al., 2020, 2021). They identify that partnerships are key in this innovation, and boundary work is the action of these stakeholders across their respective organizational boundaries and business worlds to bring forth the ideal innovation. Velter et al. (2021) dive one step deeper into boundary work and mention that this stakeholder action can be *boundary brokering*—or where stakeholders negotiate about the boundary changes, they want to implement. This demonstrates that boundary work and the relationship among the stakeholders are not one-sided and are subject to change depending on who holds the negotiation power at any given time.

The fifth theme identified in the literature dataset is system boundaries. The concept of *system boundaries* is not clearly defined in the literature sample, although five articles use this concept in their analysis. When reading the literature and how this concept is put into use, boundary systems can relate to few boundary definitions. Ruiter et al. noted in their articles that an organization has many systems, control systems, belief system, and boundary systems, where boundary systems “*are required to direct and control employees in order to search for strategic opportunities in line with the organization's vision. Boundary systems communicate the boundaries that organization members should respect at all times*” (Ruiter et al., 2022, p. 4). The boundary

system should inform and influence how stakeholders act and innovate within the organization and, by doing so, avoid hurtful behavior which may damage reputation and value of the organization. Broman and Robèrt (2017), in their article on frameworks for strategic sustainable development, claim that there is a strong need for clear system boundaries when studying systems, and here they raised valuable questions about what constitutes as “systems.” When defining the system for analysis, one needs to ask what, within our world today, impacts organizations on their path towards sustainable development and allows them to adhere to sustainable principles, should be included in a boundary system (Broman & Robèrt, 2017). To answer this question, a deep knowledge about organizational values and activities is important, as well as defining the sustainability principles organizations want to adhere to. By viewing system boundaries in this way, organizations should be more able to transit into a more sustainable organization, with support of other organizations in their value network which will assist in reaching the desired outcome (Broman & Robèrt, 2017). The relationship between the various systems within the value network appears to be highly important to adhere to selected sustainability principles. Following this thought process, Bocken et al., in their article on sustainable business model experimentation, mention that the approach of allowing stakeholder groups to be critical towards their own system boundaries and the actors affecting these boundaries will open the interaction and create a more inclusive environment for dealing with problems and opportunities (Bocken et al., 2019). With this critical assessment, the system boundaries become dynamic and potentially in a need of redefining. Again, the role of relationship within and across systems is highlighted in the literature as being of key importance.

The sixth main theme identified in the dataset is *organizational boundaries*. The use of the theme organizational boundaries reflected a more general discussion of the concept about business models and sustainability. The concept is often used in the manner of explaining how SBMs, with their environmental, social, and economic values, often exceed organizational boundaries (Jacob & Teuteberg, 2020). Following the definition in Table 2, Shi and Chertow (2017) use the definition of organizational boundaries by marking what is within and outside an organization, which includes functions and roles as well as placements and physical boundaries. The empirical findings by Høgevoid et al. (2015) demonstrated that the sustainable business model “*visualizes an all-embracing perspective on the challenges, complexities and dynamics of implementing sustainable business models within and beyond corporate or organizational boundaries and toward business networks in the marketplace and society*” (Høgevoid et al., 2015, pp. 28–29). Knowing the organizational environment, internal and external, will therefore assist in the transition towards a more sustainable practices.

The six above-mentioned themes stood out in “popularity” when analyzing the literature dataset. Lastly, it is worth mentioning that the literature sample also included themes such as boundary object (3.8%), knowledge boundaries (1.9%), social boundaries (1.9%), and boundary bridging (1.9%) to name just a few, but these presented minor themes.

### 3.2.2 | The sustainability angle

Viewing the two literature streams of organizational boundaries and SBMs, with the lens of sustainability has been a crucial part of the literature review, mainly because the aim has been to understand the intersection between organizational boundaries and SBMs in creating or contributing to solutions to various sustainability issues the societies are facing.

When analyzing the sustainability challenges and issues the papers in the literature review aimed to address, it is interesting to see what is of main importance. Across the different uses of boundary concepts, the sustainability angles in the 53 papers were also broad and covered many aspects of sustainability. The top four aspects included in the sample were the following: (1) general focus on sustainability, (2) inequality and increasing social benefits, (3) environmental sustainability, and (4) circularity/circular economy.

First, 19 of the 53 articles (35.8%) had quite a *general focus on sustainability* as a challenge, where the aim was to enhance the capabilities of people involved in sustainability, to improve certain sectors when it comes to sustainability processes, or to create a general overview of how to improve sustainability via business models, tools, and approaches. Aray et al. (2021), p. 333, for example, discovered that a firm that embraces innovation is “*more inclined to implement sustainability initiatives in its products and processes.*” Mignon and Bankel (2022) further state that companies often lack the internal capabilities to balance economic, social, and environmental interests in their business models, and it is here where boundary spanners come into play. With these key stakeholders spanning organizational boundaries, sharing of knowledge, assets, and value is more likely to happen (Mignon & Bankel, 2022).

Second, increasing *social benefits* and fighting poverty and inequality was an important topic, with six papers (11%) working towards this goal. Within this focus, three papers specialized in Bottom-of-the-Pyramid (BoP) business models and how they can be used to assist local societies in strengthening their social standards. Lashitew et al. (2020) argue that the boundary-spanning capabilities of BoP business models are helpful in driving social value creation, due to capability sharing and possibilities of cost-cutting methods. One interesting note, Lashitew et al. (2020) also mention, is that this boundary spanning for social value creation can come with questions regarding what a fair distribution of value is and how to best manage this distribution. Fontana et al. (2021) who study cross-sector collaboration and nonprofit boundary work identify the importance of “no man is an island” and that partnerships are crucial in delivering sustainability initiatives. Cross-sector partnerships, especially involving NGOs, strengthen the translation of value creation for sustainability and social change to a wider community, which political players may fail to do.

Third, five papers (9%) focused purely on *environmental sustainability*, which includes carbon footprints and emissions. Focusing on the electric vehicle sector, Wesseling et al. (2020) investigate how sustainable business model innovation can transform and stretch boundaries to include stakeholders with greener agenda. Without this

innovative, new approach, the business models appear to adhere to already defined value creation instead of aiming for new and greener dimension of value creation. Høgevold et al. (2014, p.371) find that companies implementing SBMs started to do so with an environmental perspective as their primary reason but always had the economic angle in mind, “*as things are not done necessarily for altruistic reasons.*” It can be argued that when it comes to environmental sustainability, the key would be to find the boundary spanners who are able to negotiate and even inspire other stakeholders in the business model about the need for a stronger sustainability focus and values.

Finally, four papers (7.5%) focus on circular economy and two papers (3.8%) on sharing economy. Although the scholarly output on circular economy and business models is growing, de Angelis (2022, p. 2245) states that “*practitioners are either uncertain or struggling about how to implement circular economy strategies and models.*” This struggle could potentially arise because the boundaries of circular business models are expected to span widely and include a vast network of social and economic actors, and this can create relationship challenges and confusions. Ho et al. (2022), p. 10) identify one of these actors as civil society organizations, as they enter a close collaboration with organizations to become a crucial part of the innovation process towards circularity, and with it are “*more likely to lead to high forms of CE [circular economy] innovation and socio-economic change.*” Beh et al. (2016) discuss how Malaysian retailers within the apparel sector work with mixed business models to increase waste reduction through a second life retailing operations, offering their own brands in one, and second-hand, international brands in the second model. The importance of multi-stakeholder relationships in these mixed business models is high, as the customer group is large, and it entails many supply and retail partners to make it work. With this comes the pressure to manage boundaries, and in this case, technological and knowledge boundaries with and across the business model (Beh et al., 2016).

Throughout the dataset, many more sustainability issues were discussed, such as fast fashion, sustainable energy, eco-innovations, sustainable investments, and CSR to name a few topics. The SDGs, established in 2015 (inside the search time frame), were only a topic of one article in the dataset. This article looks at SDGs and purpose-driven businesses, where purpose is entwined with the business DNA (Rosenbloom, 2022). The definition and realization of what should be a core DNA does, however, not come easily (Diepenmaat et al., 2020) but can be assisted through development and innovation of a sustainable business model. This finding is worth highlighting, especially when reflecting on the strong societal focus on the goals from their establishment. Moreover, international, and local businesses are expressing support and commitment to these goals on websites and in annual reports<sup>1,2</sup> This scant number of articles combining SBMs to the enhancement of the SDGs leaves a lot to question when it comes to the actual commitment to the goals from businesses, or if academic interest in studying the goals is not high.

<sup>1</sup>See example: <https://www.abnamro.com/en/about-abn-amro/product/sustainable-development-goals>.

<sup>2</sup>See example: <https://www.nestle.com/sustainability/regenerative-food-systems/global-goals>.

## 4 | DISCUSSION

With the increasing pressure for action to tackle and even erase sustainability challenges, businesses need to be innovative when it comes to their business model design and value proposition/creation. The literature on SBMs is growing in accordance with this pressure. The literature stream is moving from a pure model focus, that is, definitions and visualizations of key business elements and different values of the organization, to a more relational and/or behavioral focus (see timeline in Bocken, 2023). The findings from this study supports this development by looking deeper into the relational parts of business models and its various boundaries, and the role they play in enhancing sustainability agendas.

### 4.1 | Contribution to theory

We explored the following research questions: “How are the literature fields on organizational boundaries and SBMs interlinked? Which sustainability issues are addressed through the literature at this intersection?”

The study aspired to make contributions to both literature and management, by understanding the role of boundaries, boundary activities, and boundary relationships in SBMs, identifying the value various boundaries and relationships within SBMs may have, and bring to light how these boundaries hinder or advance the organizational sustainability agenda.

First, the role of boundaries within SBMs are manifold. With business models being a tool for visualization, analysis, and communication of the building blocks of the business (Bocken et al., 2014), it can be argued that they assist companies to define their reality and environment. According to Lamont and Molnár (2002), this is the role organizational boundaries also play in companies, when they state that organizational boundaries push individuals to define their organizational reality. Defining organizational reality can be done via innovation, adaptation, and understanding. When analyzing the 53 articles, the literature clearly identifies a need to innovate, adapt, and develop the entities that should be included into a sustainable business model (defining the organizational reality), and most often this is done through boundary spanners, that is, people crossing boundaries and who perform “boundary-brokering” or negotiations of how and where new boundaries should “be placed”. When looking at the ways organizational boundaries and boundary activities are interlinked with sustainable business model literature, it became apparent that the role of relationships, stakeholders, partnerships, and collaborations is becoming more essential to understanding how SBMs can have a real impact on value creation towards more sustainability. This stakeholder focus is also seen in the development of sustainable business model literature from 2020 and onwards (Bocken, 2023) with papers focusing on stakeholder theory perspective and on dynamic capabilities (Bocken & Geradts, 2020; Inigo et al., 2017). One development within boundary literature that is worth noting is that people are starting to question what constitutes an organizational boundary and what roles they should play. As Duke (2016, p. 519) mentions, with intense

interactions of partners “the distinctions between firm members and local stakeholders were blurred.” These “blurring” of boundaries can both be considered positive and negative. The positive is that the vague boundaries create more opportunities to change what is and should be at the “core” of the company, and which stakeholders should be included within the boundaries of the organization. This blurring of boundaries is called “boundaryless” in the work by Dezi et al. (2022, p. 4) where they state that a tool such as Total Quality Management leads to quality within organizations to “become a boundaryless matter, involving in a cycle of value-cocreation both internal stakeholders and external ones.” The “boundarylessness” of these tools allows for enhanced cross-functional, cross-stakeholder group collaborations. The downside of blurred or constantly changing boundaries is that it offers mistrust from some stakeholder groups, especially if their values and ideals are not sufficiently heard. As the process of SBMs becomes more relational and organizational boundaries, values, and meanings are co-created by stakeholders (Meenakshi, 2021), the discussion on what is fair in value creation and distribution when boundaries are changed or expanded can also result in negative impact on the development towards more SBMs.

This leads to the second contribution of the paper; the role organizational boundaries and boundary activities has for SBMs and the value creation of the organization. This study identifies the importance of realizing that value and its creation depend on the how and what each stakeholder group identifies as value and their attitude towards sustainability agenda of the organization (Gatignon, 2022). According to Brennan and Tennant (2018), there is something called “Sustainable Value” which is a combination of tangible structural resources, such as business models, and cultural resources which include ideas and ideology of sustainability principles. The value can be created and captured only when both the structural resources and cultural resources interact with each other (Brennan & Tennant, 2018), which shows the importance of people and their understanding and interpretation of what is important when it comes to create and set sustainability agenda for organizations.

Third, the findings give insight into how boundaries may hinder or advance sustainability agenda. The literature identifies that when it comes to which sustainability issues to tackle, the boundaries of the business model does not restrict the choice but rather aims to help identifying the stakeholders involved, the value creation and delivery the organization can achieve and can be a guiding post to reach the goals. As most articles in the literature review discuss a general approach to sustainability, it can be argued that there still is a need to understand the basic challenges of sustainability, how these relate to the organization and its network, and from there, identify the best option, like a more circular business model, focusing on digitalization, servitization etc.

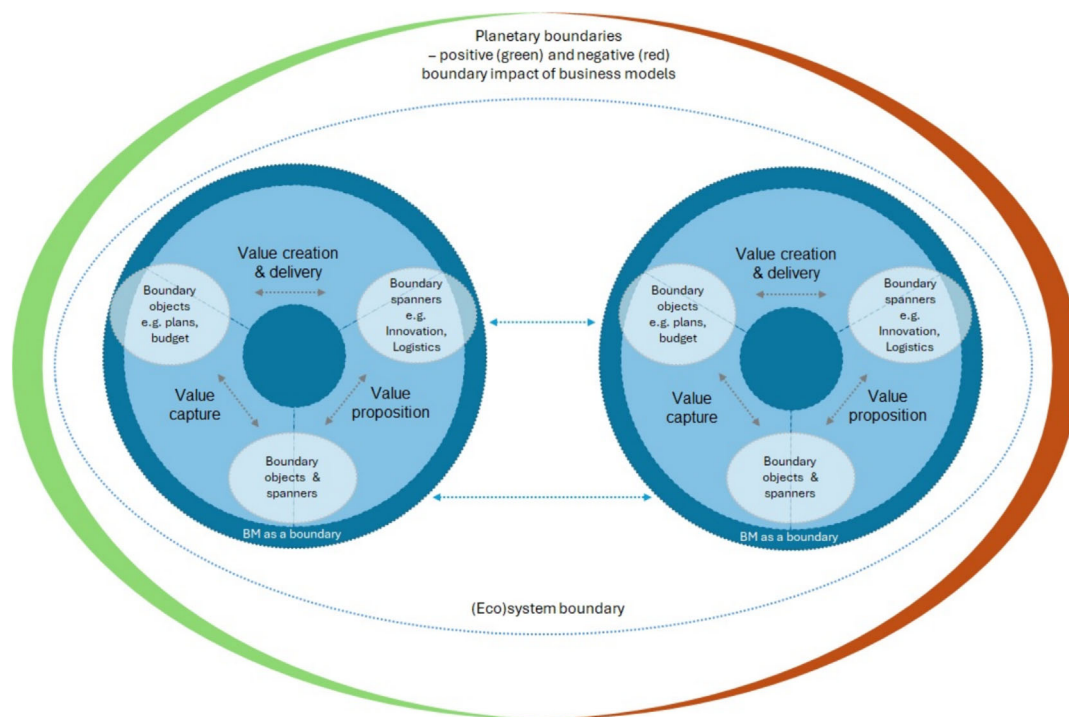
Finally, the red thread throughout these three-parted contributions is the role of people within the business model framework. Human factors, such as co-creation (of values) and negotiations (of boundaries) are the key in having a sustainable business model that has the potential to fight back some of the sustainability challenges societies and businesses face today. When looking at a business

model, however, the different types of boundaries and their placements is almost impossible to depict. As Hernes (2004) identifies, organizations are built around multiple boundaries, and these boundaries are not static. Therefore, based on the findings, if organizations are serious in developing a sustainable business model where boundaries enhance their path towards sustainability, two actions are needed from the organization's behalf: (1) identify the main boundaries and boundary activities within the business model and (2) develop a plan towards boundary maintenance and development. As the analysis depicted, the different types of boundaries and boundary activities are vast, which only supports the need for organizations to create a clear overview of which boundaries are at play within their business models. Boundaries such as system boundaries (Broman & Robèrt, 2017), knowledge boundaries (Carlile, 2002), power/authority/hierarchical boundaries (Hernes, 2004; Santos & Eisenhardt, 2005), and identity boundaries (Santos & Eisenhardt, 2005) are just examples of boundaries that can be at play within the business model, and that organizations need to identify. Organizations can experience different boundary activities at any given time within their organization, which also is important to identify and understand. These activities include boundary spanning (Rosenkopf & Nerkar, 2001; Zietsma & Lawrence, 2010), boundary brokerage/negotiations (Velter et al., 2021), and boundary maintenance (Hannan & Freeman, 1989), which are all of relevance for the long-term success of boundary work towards sustainable development. The literature on boundary maintenance is scarce but implies the importance of maintaining the already established boundaries.

With continuous maintenance and development of boundaries, organizations can quickly identify the need for change and adapt accordingly, that is, which boundaries need to be altered, expanded, or moved, and which boundary spanners (actors) and boundary objects (document/artifacts) are needed for this to happen.

#### 4.1.1 | Conceptual model of boundaries in and around a sustainable business model

The complexity of different boundaries in and around a sustainable business model can be hard to grasp, which Figure 5 seeks to visualize in a simplified manner. Boundaries are created by the business model (e.g., into value creation and delivery entities such as supply chain and marketing), by the relationship between two business models (creating an ecosystem boundary) or by the limitations of our planet (planetary boundaries as defined by Rockström et al., 2009). These boundaries are then impacted by *boundary objects*, for example, sustainability plans, budgets, annual reports, etc., by actions, negotiations, which determine the course of action, and the involvement of *boundary spanners*, who are stakeholders within and/or around the business model shaping the business model. The importance of including the planetary boundaries comes from the realization that all activities that result from boundary maintenance, negotiations, and innovation will impact the development and innovation of sustainable business model, which in return has either negative or positive impact on the planetary boundaries, the ultimate boundaries determining our ways



**FIGURE 5** Business models and boundary issues within the context of planetary boundaries as the ultimate boundaries for businesses. Note. BM refers to business model.



of living. The planetary boundaries help guide business activities and behaviors by “defining a “safe operating space” in which we can continue to develop and thrive” (Steffen et al., 2015: 737).

## 4.2 | Suggestions for practice

The location of boundaries and relationships within the business model can be hard to pinpoint. Figure 5 aims to assist with this process by suggesting boundary activities within and around the sustainable business model. The literature on SBMs has come a long way in guiding practitioners when it comes to identifying and choosing the right business model type, how to more align the organizational goals with sustainability goals, and what practices could and should be implemented to do so. This literature review builds on the previous work while chiseling out the importance for organizations of having clear overview of boundaries, boundary players, and their relationships within and across the chosen business model. Table 3 includes key questions organizations can ask themselves when innovating their business model and maintaining and developing boundaries for sustainability.

## 4.3 | Limitations and future research

The limitation of this study lies within the strict inclusion/exclusion criteria for the literature search. Each of the 53 articles used the concepts of organizational boundaries and other boundary activities actively while studying a whole, or parts of, sustainable business model, with the aim of addressing a sustainable challenge meant that many interesting and valuable articles that could potentially contribute to the overall knowledge were excluded. The relatively recent focus of interconnectedness of these three topics may also present some limitations. Although 53 articles can give a good insight, more data could make the findings more robust.

To further the findings from this study, a deeper knowledge of how boundary maintenance takes place at different aspects of the business model would be of utmost importance. Future research could look deeper into the link between different boundaries and specific SBMs. The aim would be to provide deeper understanding on where and how boundary negotiations typically take place, how boundaries include or exclude certain stakeholders in the value co-creation process, whether certain types of business models lend themselves to more “blurring” of boundaries, and whether this is helpful or harmful for the sustainability agenda. Table 4 includes key pathways for future research.

By focusing on these future research agendas, the literature stream on SBMs can expand to include even more dynamic approaches. This feeds the understanding that business models are not just a conceptual tool for managers: the focus on boundaries allows managers to consider key stakeholders at play in the organizational ecosystem, and how these stakeholders construct and negotiate their way towards more SBMs to reach—potentially overlapping—

**TABLE 3** Key questions for practitioners.

Focus areas	Questions
Value proposition (customer, society, environment)	<ul style="list-style-type: none"> <li>• What are the main (material, pressing) societal and environmental needs be addressed through the sustainable business model?</li> <li>• How does this relate to our core offering? What is the value proposition that the organization wants to deliver, for the customer, society, and natural environment?</li> <li>• Who are the key stakeholders who have the same goal and should be involved?</li> <li>• How does the organization drive positive boundary negotiations with these key stakeholders (e.g., suppliers, customers, NGOs) to create the most sustainable business model to address the main value proposition?</li> <li>• How can organizations maintain and develop their relationships so future negotiations become easier for everyone involved?</li> </ul>
Value creation and delivery (with stakeholders)	<ul style="list-style-type: none"> <li>• Looking at the organization, what boundaries are at play and who are the key boundary spanners (actors) involved?</li> <li>• How powerful are key stakeholders? How should less powerful stakeholders without a clear voice be given representation? (e.g., NGOs as a proxy for society or environment)</li> <li>• What is the value these actors aim for, and how can we co-create this value?</li> <li>• How can organization create a maintenance and development plan, so the co-created value adapts to changing sustainability needs?</li> </ul>
Value capture (to the business, society, environment)	<ul style="list-style-type: none"> <li>• How does the organization avoid the negative impacts of “boundarylessness” (i.e., blurred boundaries) when innovating, expanding, and adjusting the boundaries of the business model?</li> <li>• How can we create a fair redistribution of multiple forms of value (economic, social, environmental) in a sustainable business model, addressing multiple stakeholder needs, while fulfilling the main sustainability goal?</li> </ul>

Note: Linked to elements of a business model (Bocken et al., 2014).

sustainability agendas. Furthermore, these research avenues allow the literature stream on organizational boundaries to develop further, focusing on how boundaries are negotiated and constructed in the context of SBMs and what it takes to maintain a successful approach or relationship for a sustainable future. As seen in Figure 2, the role of planetary boundaries, as the ultimate boundaries to work with and towards, needs to be considered more profoundly in future research, since all outcomes of boundary activities and sustainable business model innovations will either have positive or negative impact on

**TABLE 4** Pathways for future research.

Literature focus	Suggestions for future research questions
Boundary maintenance and development	<ul style="list-style-type: none"> <li>How does boundary maintenance take place? Is continuous maintenance and development taking place for sustainable business models, and if yes, which boundaries are involved and which boundary actors?</li> </ul>
Sustainable business models (SBM)	<ul style="list-style-type: none"> <li>How and where are different boundaries being brokered/negotiated within various types of sustainable business models?</li> <li>In which ways do different types of SBMs experience the same organizational boundaries and who are the main boundary actors/spanners involved?</li> </ul>
Co-creation of value	<ul style="list-style-type: none"> <li>How can organizations ensure that a co-creation process takes place and who are the main players in making this happen? Are some stakeholders excluded/ignored in the process, and why? How could this be resolved?</li> <li>What roles do different stakeholder groups play in the co-creation and how does the organization ensure fair value?</li> </ul>
Organizational boundaries and boundary activities	<ul style="list-style-type: none"> <li>Which, if any, SBMs are experiencing “blurring” of boundaries or “boundarylessness” and what (positive or negative) impact does it have on business model innovation?</li> <li>How are SBM and their boundaries depending on key boundary actors/spanners, and what happens if these key people leave the organization/change roles?</li> </ul>
Sustainability and ultimate planetary boundaries	<ul style="list-style-type: none"> <li>Who are the key boundary actors/spanners within the organizational value chain, and what role do they play in defining the sustainability value and goals?</li> <li>To what extent are the blurring of boundaries or boundarylessness harmful or helpful for organizations and their stakeholders in reaching their sustainability agenda?</li> <li>With planetary boundaries as the ultimate boundaries, what role can organizational boundaries take in addressing these ultimate boundaries? Should planetary boundaries be considered organizational boundaries in future research? How do they affect the business models innovations by firms and their stakeholders? How might planetary boundaries be operationalized at an organizational and business model level?</li> </ul>

these boundaries. This will strengthen both the organizational boundary literature and sustainable business model literature, as well as an understanding of how to do business within planetary boundaries.

## 5 | CONCLUSION

This literature review study explored the interconnectedness among organizational boundaries, SBMs, and sustainability issues. This interconnectedness is relatively new in the literature, and what it highlights is the clear importance of people within organizations and business models and the relationships at and between the boundaries within the organization. It is important for organizations to realize that stakeholders may have a bigger role in their success when it comes to delivering a successful sustainable business model. One pathway that could be beneficial is boundary maintenance and development. This study identified avenues for future research on the interconnectedness of SBMs, boundaries, and the value co-creation needed to solve current sustainability challenges and the relationships boundary activities and SBMs have on the ultimate boundaries, the planetary boundaries. It also provides key guiding questions for businesses to practically deal with boundary issues when innovating their business models for sustainability.

## ACKNOWLEDGMENTS

We acknowledge the constructive anonymous reviewer comments. In particular, we would like to thank an anonymous reviewer for his/her

helpful suggestions to explore planetary boundaries. Furthermore, the authors would like to acknowledge the Independent Research Fund Denmark (grant number 1127-00024B) and the European Research Council, Horizon 2020 (grant number 850159) for their funding.

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**How to cite this article:** Bjartmarz, T. K., & Bocken, N. M. P. (2024). Sustainable business models and organizational boundaries—A literature review. *Business Strategy and the Environment*, 1–21. <https://doi.org/10.1002/bse.3837>

## APPENDIX A

Full list of article names, journals, authors, publication year, boundaries, business model focus, and sustainability angle.

Author(s)	Year	Title	Journal	Boundaries	Sustainability focus	Business model angle
De Angelis, R	2022	Circular economy business models as resilient complex adaptive systems	<i>Business Strategy and the Environment</i>	Boundaries of the firm, business models as boundaries	Circularity	Circular business models
Ho, CH; Bohm, S; Monciardini, D	2022	The collaborative and contested interplay between business and civil society in circular economy transitions	<i>Business Strategy and the Environment</i>	Circular economy as boundary work	Business and civil society in circular economy transition	Circular business models
Mignon, I., Bankel, A.	2022	Sustainable business models and innovation strategies to realize them: A review of 87 empirical cases.	<i>Business Strategy and the Environment</i>	Boundary spanning/spanners	General sustainability focus	Business model innovation for sustainability
Pereira, GI; Niesten, E; Pinkse, J	2022	Sustainable energy systems in the making: A study on business model adaptation in incumbent utilities	<i>Technological Forecasting and Social Change</i>	Boundary spanning/spanners	Sustainable energy	Business model adaptation for sustainable transition
Schiavone, F; Leone, D; Caporuscio, A; Lan, S	2022	Digital servitization and new sustainable configurations of manufacturing systems	<i>Technological Forecasting and Social Change</i>	Boundaries of the firm	General sustainability focus	Digital servitization business model
Gatignon A	2022	The double-edged sword of boundary-spanning corporate social responsibility programs	<i>Strategic Management Journal</i>	Boundary spanning/spanners	Corporate social responsibility	Partnerships (parts of a business model)
Fehrer J.A., baker J.J., Carroll C.E.	2022	The role of public relations in shaping service ecosystems for social change	<i>Journal of Service Management</i>	Boundary spanning/spanners	Social change	Public relations towards value creation
Spicka, J	2022	Cooperation in a minimum-waste innovation ecosystem: a case study of the Czech hemp cluster	<i>International Journal of Emerging Markets</i>	(Eco)system boundaries	Waste reduction	Minimum waste business model in an ecosystem
Ellstrom, D; Carlborg, P	2022	Manufacturer go green: A typology of offerings and capability requirements.	<i>Industrial Marketing Management</i>	Operating boundaries, organizational boundaries	Environmental sustainability	Green manufacturing business model
Bayne L.	2022	Understanding reporting boundaries in annual reports: a conceptual framework	<i>Accounting, Auditing and Accountability Journal</i>	Boundary setting	Corporate social responsibility reporting	Reporting impact on business models

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Author(s)	Year	Title	Journal	Boundaries	Sustainability focus	Business model angle
Rosenbloom A	2022	Marketing scholarship and the sustainable development goals: Thoughts on moving forward	<i>Australasian Marketing Journal</i>	Boundary spanning/spanners	Sustainable development goals	Purpose-driven
Herens M.C., Pittore K.H., Oosterveer P.J.M.	2022	Transforming food systems: Multi-stakeholder platforms driven by consumer concerns and public demands	<i>Global Food Security</i>	Boundary spanning/spanners	Sustainable food system	Multi-stakeholder platforms impact on business models
Stock C., Hossinger S., Werner A., Schell S., Soluk J.	2022	Corporate social responsibility as a driver of digital innovation in SMEs: The mediation effect of absorptive capacity	<i>International Journal of Entrepreneurial Venturing</i>	Boundary spanning/spanners	Corporate social responsibility	Low resource digital innovation on business models
Dezi L., Hysa X., Calabrese M., Mercuri F	2022	Open total quality management in the circular economy age: A social enterprise perspective through the case of Patagonia	<i>Total Quality Management and Business Excellence</i>	Organizational boundaries, Boundaryless	Circular economy/triple bottom line	Circular economy business model
Ruiter H., De Feijter F., Wagenveld K	2022	Management control and business model innovation in the context of a circular economy in the Dutch construction industry	<i>Sustainability</i>	System boundaries	Circular economy	Business model innovation
Nobre, FS; Morais-da-Silva, RL	2021	Capabilities of bottom of the pyramid organizations	<i>Business &amp; Society</i>	System boundaries	Long-term and short-term sustainability values	Bottom-of-the-pyramid business model
Meenakshi, N	2021	Post-COVID reorientation of the sharing economy in a hyperconnected world	<i>Journal of Strategic Marketing</i>	Blurring of boundaries	Sharing economy, re-use of resources	Sharing economy business model
Aray, Y; Veselova, A; Khatko, D; Levchenko, A	2021	Drivers for adoption of sustainability initiatives in supply chains of large Russian firms under environmental uncertainty	<i>Corporate Governance - The International Journal of Business in Society</i>	Boundary spanning/spanners, firm boundaries	General sustainability focus, environmental sustainability and uncertainty	Integration of sustainability into supply chain (parts of business model)
Fontana, E., Heuer, M., Koep, L.	2021	Cross-sector collaboration and nonprofit boundary work for female workers in developing countries: Evidence from Bangladesh	<i>Sustainability Accounting, Management and Policy Journal</i>	Boundary work	Social benefits, gender-focused sustainability initiatives in developing world	Cross-sectoral business, partnerships (parts of business model)
Midgley, G; Lindhult, E	2021	A systems perspective on systemic innovation	<i>System research and Behavioral Science</i>	Boundary expanding	Sustainability transitions and ecoinnovations	Business model innovation, value creation
Ventura, L	2021	Supply chain management and sustainability: The new boundaries of the firm	<i>Uniform Law Review</i>	Physical and legal boundaries of the firm	Legal frameworks and supply-chain management to drive sustainability	Greener supply chain and procurement (parts of business model)



Author(s)	Year	Title	Journal	Boundaries	Sustainability focus	Business model angle
Velter, MGE; Bitzer, V; Bocken, NMP; Kemp, R	2021	Boundary work for collaborative sustainable business model innovation: The journey of a Dutch SME	<i>Journal of Business Models</i>	Boundary work	General sustainability focus	Collaborative business model innovation
Jacob, A., Teuteberg, F.	2021	Towards a taxonomy for design options of social networking technologies in sustainable business models	<i>Sustainability</i>	Business models as boundaries	General sustainability focus	Technologies in sustainable business models, the integration of key stakeholders
Yström, A., Agogué, M., Rampa, R	2021	Preparing an organization for sustainability transitions—The making of boundary spanners through design training	<i>Sustainability</i>	Boundary spanning/spanners	General sustainability focus	Business model adaptation
Forcadell, F.J., Aracil, E., Ubeda, F.	2020	Using reputation for corporate sustainability to tackle banks digitalization challenges	<i>Business Strategy and the Environment</i>	Boundaries of the firm	Corporate social responsibility	Impact of digitalization on business models
Laasch, O; Pinkse, J	2020	Explaining the leopards' spots: Responsibility-embedding in business model artefacts across spaces of institutional complexity	<i>Long-Range Planning</i>	Boundaries of space	General sustainability focus and corporate responsibility	Business model artifacts, responsible business models
Lashitew, AA; van Tulder, R; Muehe, L	2020	Social value creation in institutional voids: A business model perspective	<i>Business &amp; Society</i>	Boundary spanning/spanners	Societal grand challenges	Bottom-of-the-pyramid business models
Press, M; Robert, I; Maillefert, M	2020	The role of linked legitimacy in sustainable business model development	<i>Industrial Marketing Management</i>	Boundaries of the firm	General sustainability focus	Sustainable business model development across ecosystems
Wesseling, JH; Bidmon, C; Bohnsack, R	2020	Business model design spaces in socio-technical transitions: The case of electric driving in the Netherlands	<i>Technological Forecasting and Social Change</i>	Business models as boundaries	Environmental	Business model innovation
Velter, MGE; Bitzer, V; Bocken, NMP; Kemp, R	2020	Sustainable business model innovation: The role of boundary work for multi-stakeholder alignment	<i>Journal of Cleaner Production</i>	Boundary work, boundary spanning/spanners	Multi-stakeholder alignment for sustainable agenda	Sustainable business model innovation
Ostuzzi, F., Hoveskog, M.	2020	Education for flourishing: An illustration of boundary object use, peer feedback and distance learning	<i>International Journal of Sustainability in Higher Education</i>	Boundary object	General sustainability focus	Sustainable business model innovation
Diepenmaat, H; Kemp, R; Velter, MGE	2020	Why sustainable development requires societal innovation and cannot be achieved without this	<i>Sustainability</i>	Boundary work, boundary spanning/spanners, business models as boundaries	General sustainability focus	Business model innovation for societal change

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Author(s)	Year	Title	Journal	Boundaries	Sustainability focus	Business model angle
Kohtanaki, M.; Parida, V.; Oghazi, P.; Gebauer, H.; Baines, T	2019	Digital servitization business models in ecosystems: A theory of the firm	<i>Journal of Business Research</i>	Boundaries of the firm, digitalization impact on boundaries	General sustainability focus, waste reduction	Digital servitization business model
de Lange, DE	2019	A paradox of embedded agency: Sustainable investors boundary bridging to emerging fields	<i>Journal of Cleaner Production</i>	Boundary bridging	Sustainable investments	Investors as chance agents (parts of business model)
Bocken, N., Boons, F., Baldassarre, B.	2019	Sustainable business model experimentation by understanding ecologies of business models	<i>Journal of Cleaner Production</i>	Business models as boundaries, system boundaries	General sustainability focus	Sustainable business model innovation/experimentation
Weigert, M.	2019	Jumia travel in Africa: Expanding the boundaries of the online travel agency business model	<i>Tourism Review</i>	Business models as boundaries	Bottom-of-the-pyramid market	Digital business model
Javaid, A., Javed, A., Kohda, Y.	2019	Exploring the role of boundary spanning towards service ecosystem expansion: A case of Careem in Pakistan	<i>Sustainability</i>	Boundary spanning/spanners	Sharing economy, reuse of resources	The ecosystem of business models
Brennan, G.; Tennant, M	2018	Sustainable value and trade-offs: Exploring situational logics and power relations in a UK brewery's malt supply network business model	<i>Business Strategy and the Environment</i>	Boundary spanning/spanners	General sustainability focus	Network centric business model, sustainable business models
Breuer, H.; Fichter, K.; Ludeke-Freund, F.; Tiemann, I	2018	Sustainability-oriented business model development: Principles, criteria and tools	<i>International Journal of Entrepreneurial Venturing</i>	Boundary spanning/spanners	General sustainability focus	Interactive business model
Brehmer, M., Podoyvitsyna, K., Langerak, F.	2018	Sustainable business models as boundary-spanning systems of value transfers	<i>Journal of Cleaner Production</i>	Boundary spanning/spanners	General sustainability focus	Value creation and capture of business models
Reficco, E., Gutiérrez, R., Jaén, M.H., Auletta, N.	2018	Collaboration mechanisms for sustainable innovation	<i>Journal of Cleaner Production</i>	Boundary spanning/spanners	General sustainability focus	Move from "normal" to sustainable business model
Kyvik, O., Gjoesaeter, A.S.	2017	Environmentally sustainable innovations in offshore shipping: A comparative case study	<i>Journal of Innovation Management</i>	Boundary spanning/spanners	Sustainable development in the maritime industry	Sustainable business models
Busse, C.; Meinelshmidt, J.; Foerstl, K	2017	Managing information processing needs in global supply chains: A prerequisite to sustainable supply chain management	<i>Journal of Supply Chain Management</i>	Boundary condition	Sustainability uncertainty	Sustainable business models, supply chain management

Author(s)	Year	Title	Journal	Boundaries	Sustainability focus	Business model angle
Zondag, MM; Mueller, EF; Ferrin, BG	2017	The application of value nets in food supply chains: A multiple case study	<i>Scandinavian Journal of Management</i>	Boundary condition, boundary expansion	Sustainability focus in the food industry	Collaborative business models
Broman, G.I., Robert, K.-H.	2017	A framework for strategic sustainable development	<i>Journal of Cleaner Production</i>	System boundaries	General sustainability focus	Framework for strategic sustainable development (FSSD) as a support for business model development
García-Torres, S., Rey-García, M., Albarreda-vivo, L.	2017	Effective disclosure in the fast-fashion industry: From sustainability reporting to action	<i>Sustainability</i>	Organizational boundaries, moving beyond physical boundaries	Challenges of fast fashion	Fast-fashion business model with focus on supply chain
Shi, L., Chertow, M.	2017	Organizational boundary change in industrial symbiosis: Revisiting the Guitang Group in China	<i>Sustainability</i>	Boundary brokerage	Use of symbiosis as a driver for sustainability	Symbiosis and business models
Duke, D	2016	Why do not BOP ventures solve the environmental problems they initially set out to address?	<i>Organization and Environment</i>	Blurring of boundaries	Increasing social welfare	Bottom-of-the-pyramid business model
Beh, LS; Ghobadian, A; He, QL; Galleary, D; O'Regan, N	2016	Second-life retailing: a reverse supply chain perspective	<i>Supply Chain Management - An International Journal</i>	Functional (business model) boundaries, technological and knowledge boundaries	Waste reduction, minimize consumption	Entrepreneurial business model/exploring the "return-to-origin" in supply chains
Joyce, A; Paquin, RL	2016	The triple layered business model canvas: A tool to design more sustainable business models	<i>Journal of Cleaner Production</i>	Boundary objects	General sustainability focus	Triple layered business model canvas
Høgevold, N.M., Svensson, G., Padin, C.	2015	A sustainable business model in services: An assessment and validation	<i>International Journal of Quality and Service Sciences</i>	Boundaries of the firm, organizational boundaries	Environmental, carbon footprints	Sustainable business model - with high focus on the role of stakeholders
Høgevold, NM; Svensson, G; Wagner, B; Petzer, DJ; Klopfer, HB; Varela, JCS; Padin, C; Ferro, C	2014	Sustainable business models, corporate reasons, economic effects, social boundaries, environmental actions and organizational challenges in sustainable business practices	<i>Baltic Journal of Management</i>	Social boundaries	General sustainability focus	Sustainable business models
Haslam, C., Butlin, J., Andersson, T., Malamatenios, J., Lehman, G.	2014	Accounting for carbon and reframing disclosure: A business model approach	<i>Accounting Forum</i>	Operating boundaries	Carbon disclosure, carbon emission	Carbon disclosure impacts on business models and stakeholders