The concept of a sustainable business model: Opportunities and challenges

JEL classification: L200

Keywords: business model, sustainability, sustainable business model

Abstract
The concept of sustainable development is considered one of the most important and urgent challenges facing humanity today. Therefore, solutions that promote sustainable business are of particular importance. The purpose of this article was to explore the concept of a business model as a potentially promising way of shaping the contribution of businesses to sustainable development. A systematic literature review method was used to identify, analyze and critically evaluate the first theoretical proposals for the concept of a sustainable business model. Fundamental differences between the proposed conceptualizations were identified, stemming from different understandings of the business model concept on the one hand, and from its embedding in different, partly contradictory approaches, to corporate contributions to sustainable development, on the other. The article adapts the holistic approach of corporate sustainability and the understanding of the business model as a representation of the essence of business including the proposition, creation, delivery and capture of value. As a result, key elements of the emerging new ontology of the sustainable business model have been identified and defined. The proposed concept of a sustainable business model primarily means adopting a different logic of business, and the basis for defining the various...
elements of the business model is the reconstruction of the concept of value. The sustainability of a business model is thus referred to the extent to which this model maximizes benefits while reducing economic, social, and environmental damage, and creates value not only for the company and its customers but also for various stakeholder groups. The main part of the article is a systematic identification of the opportunities and challenges associated with the new proposal. These are discussed according to the key elements of the sustainable business model, which are: the value proposition, value creation and value capture.

1. Introduction

A business model (BM) is considered as a holistic conceptual tool expressing the business logic and representing the essence of business activities that propose, create, deliver and capture value (Zott and Amit, 2010; Osterwalder and Pigneur 2013). The concept of the sustainable business model (SBM) is currently being developed by researchers and practitioners (Bocken et al., 2014; Evans et al., 2017; Ferlito and Faraci, 2022). However, the proposals of SBM developed to date are embedded in different, partly conflicting, approaches to business sustainability. What is more, the discussion on the validity of the BM concept for transforming the organization into a more sustainable one, on its strengths and limitations in this respect, is very limited.

This paper explores the concept of the business model as a potentially promising framework for the contribution of business to sustainable development. The study was carried out through an extensive literature review. The conceptualizations of the sustainable business model (SBM) are discussed in the context of different business sustainability (BS) approaches, and the key elements of the emerging new ontology of the SBM are identified and defined. Finally, the opportunities and challenges of the new proposal are discussed.

2. Theoretical framework of the research

2.1. Business sustainability

Business sustainability (BS) is a complex, multifaceted phenomenon, integrating several often contradictory and conflicting aspects. There are different approaches to BS in the literature and management practice. Some researchers recognize the creation of long-term shareholder value as the essence of BS, where social and environmental concerns are important in the context of the opportunities and risks, benefits and costs, that are crucial for building this value. BS refers here to the survival and development of the organization as a system (Ihlen, 2015). This is an instrumental approach. A radically different perspective is presented by those who see the organization as “a mesoscale social artifact in need of consideration
as a possibly potent means of approaching sustainable development” (Parrish, 2007, 848). According to Dyllick and Muff (2016), a truly sustainable organization has a significant positive impact in areas which are critical and relevant to society and the planet. In this context, although the organization has to generate the profit necessary for its functioning and development, the overriding objective of the organization is a commitment to the development of the broader socio-ecological system. This is a holistic approach.

There are also intermediate approaches between the extremes of instrumental and holistic. The prevailing one is a win-win approach, the essence of which is the simultaneous, synergistic, and systematic provision of economic, social, and environmental benefits (Sekerka and Stimel, 2011). The win-win approach focuses on finding cost-effective areas for the organization which are also socially and/or environmentally beneficial (Porter and Kramer, 2011). This approach avoids a deeper reflection on the systematic responsibility of the organization; it is based on the current assumption of acting in its own interest. This brief analysis helps to emphasize that all methods, techniques, and tools developed for the formation of BS have their context, which results from the specific approach. In this paper, BS refers to the participation of the business in sustainable development and a holistic approach is adopted.

2.2. Business model

A business model (BM) is a crucial element of a company’s strategy. There is no universal definition of the BM, as it can be analyzed from different perspectives. The first one is the purpose of conducting economic activity, which can be simplified to either maximizing profit (in the continental model) or maximizing value for the shareholders. In this context, BM is defined as a method or description of how a company generates profits (Zott and Amit, 2010). BM is also defined as a description of a company’s operations, structure, and value creation (Slávik and Zagoršek, 2016). Additionally, BM is defined in the context of its connections to strategy or strategic management (Smith et al., 2010). The lack of a universal definition of BM means that any discussion should be preceded by an explanation of how BM is defined (Osterwalder and Pigneur, 2013, 19). The starting point for the theoretical discussion in this article is the definition proposed by Osterwalder and Pigneur (2013, 19), which states that BM is “a strategy sketch to be implemented within the structures, processes, and systems of an organization”. Finally, the definition of BM by Zott et al. (2011, 216), as a system of interdependent activities that extend beyond the firm or mechanism of actions that enable value creation, is adopted. The most important element of any BM is the value proposition, which is a set of benefits offered by the company to its customers (Osterwalder and Pigneur, 2013). Based on the value proposition, customers choose between products and of-
fers from companies. BM focused on financial results makes increasing value its key goal, taking into account all stakeholders and creating the best possible value proposition for customers. The four groups that have the greatest importance and impact on shaping BM are owners or shareholders, customers, competition, and the legal environment.

Attempts to adapt BM to the current market conditions and its continuous change have become the beginning of new directions of development. Currently, the literature focuses on the following concepts in the field of BM: business model dynamics, business model innovation, and sustainable business model.

3. Research methodology

The concept of a sustainable business model (less commonly “business model for sustainability”, “sustainability-oriented business model” or “sustainability business models”) is currently being developed (Bocken et al., 2014; Evans et al., 2017; Ferlito and Faraci, 2022; Neesham et al., 2023).

To define and characterize the concept of SBM, an analysis of articles, books and conference proceedings retrieved from Scopus and WoS was conducted. The words “business AND model” and “sustainab*” were searched for in the titles of papers from 2004 to 2023, limited to business and management fields, in English (accessed March 6, 2023), resulting in 179 papers from WoS and 458 from Scopus. A detailed review of the abstracts aimed to isolate papers dedicated to defining the concept and its basic elements. A total of 65 scientific items were obtained.

4. Results of the research

4.1. Sustainable business model

The notion of sustainability in BM research is widely adopted in the way that abstracts from the contribution of business to sustainable development, only the long-term success of the business is considered. Secondly, the conceptual studies do not lead to one single, unambiguous definition of SBM. Thirdly, the papers to date are mainly reviews, with a relatively small, but from 2019 dynamically increasing, proportion of articles presenting empirical research results. Cross-sectional research results are rarely reported, and papers referring to single case studies, mainly in a European context, predominate. The empirical papers are very diverse, and often difficult to compare, as the proposed solutions cover a variety of industries (both goods and services, high-tech and mature, mainly agriculture, food, energy, water, fashion, automotive, banking and logistics), both SMEs and large organizations, start-ups and mature organizations, and are developed from the perspective of a single organization, a cooperative, a network or a supply chain. The lack of
consistency in the empirical studies is largely due to the lack of a clear theoretical basis as to the nature of the SBM concept. An in-depth analysis of the literature on the subject resulted in a selection of the most significant definitions (see Table 1).

### Table 1. Selected sustainable business model definitions

<table>
<thead>
<tr>
<th>Source</th>
<th>Definition of SBM</th>
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<tbody>
<tr>
<td>N. Abdelkafi, K. Täuscher (2016, 75)</td>
<td>A business model for sustainability “incorporate sustainability as an integral part of the company’s value proposition and value creation logic. As such, provide value to the customer and to the natural environment and/or society.”</td>
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<tr>
<td>N.M.P. Bocken, S.W. Short, P. Rana, S. Evans (2014, 42)</td>
<td>SBM incorporates “a triple bottom line approach and considers a wide range of stakeholder interests, including environment and society.”</td>
</tr>
<tr>
<td>S. Evans, D. Vladimirova, M. Holgado, K. van Fossen, M. Yang, E.A. Silva, C.Y. Barlow (2017, 605)</td>
<td>SBM is described with five propositions: “1. Sustainable value incorporates economic, social and environmental benefits conceptualized as value forms. 2. SBMs require a system of sustainable value flows among multiple stakeholders including the natural environment and society as primary stakeholders. 3. SBMs require a value network with a new purpose, design and governance. 4. SBMs require a systemic consideration of stakeholder interests and responsibilities for mutual value creation. 5. Internalizing externalities through product-service systems enables innovation towards sustainable business models.”</td>
</tr>
<tr>
<td>M. Geissdoerfer, D. Vladimirova, S. Evans (2018, 403–404)</td>
<td>SBMs are “business models that incorporate proactive multi-stakeholder management, the creation of monetary and non-monetary value for a broad range of stakeholders, and hold a long-term perspective.”</td>
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<td>S. Schaltegger, F. Lüdeke-Freund, E.G. Hansen (2016, 268)</td>
<td>A business model for sustainability “helps describing, analyzing, managing, and communicating (i) a company’s sustainable value proposition to its customers, and all other stakeholders, (ii) how it creates and delivers this value, (iii) and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries.”</td>
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<td>W. Stubbs, C. Cocklin (2008, 103)</td>
<td>A sustainability business model is “a model where sustainability concepts shape the driving force of the firm and its decision making [so that] the dominant neoclassical model of the firm is transformed, rather than supplemented, by social and environmental priorities.”</td>
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<tr>
<td>A. Upward, P. James (2016, 106)</td>
<td>A strongly sustainable business model is “a systemic model of necessary and sufficient concepts that both describe and guide the business as a social system within its containing systems of economy, society, and environment.”</td>
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Source: own research.

There is a lack of common understanding of the SBM concept. First of all, as pointed out, there are significant differences in the conceptualization of BM and its key elements (Breuer et al., 2018). In this paper, BM is considered as a holistic conceptual tool expressing the business logic and representing the essence of business activities that propose, create, deliver and capture value (Zott and Amit,
2010; Osterwalder and Pigneur 2013). Therefore, these highlighted aspects are considered crucial for the conceptualization of SBM in this paper. Secondly, the proposed definitions of SBM developed to date are embedded in different, partly conflicting approaches to business sustainability. Some of them are manifestations of a win-win approach (e.g. Bocken et al., 2014; Boons and Lüdeke-Freund, 2013), while others represent a holistic approach (e.g. Abdelkafi, Täuscher, 2016; Evans et al., 2017; Stubbs and Cocklin, 2008; Upward and Jones, 2016). Only a holistic approach explicitly links the sustainability issue in the SBM concept to the business contribution to sustainable development. Therefore, the holistic approach should be the basis for conceptualizing the key elements of SBM.

In such a case, SBM means adopting a different logic of an organization’s existence: “the purpose-driven logic” (Sternad et al., 2016), instead of “the money-earning logic” (Osterwalder and Pigneur, 2013). Thus, what is taking place is not only a redefinition of the organizational results and practices, but more importantly a redefinition of organizational commitments to the broader system. Business is perceived as a social system situated within and interconnected with the economic, social, and natural environment systems (Upward and Jones, 2016).

The notion of value is central to the concept of SBM. In SBMs, value refers to “the degree to which a business model maximizes benefits while reducing damages in economic, social, and environmental terms” (Méndez-León et al., 2022, 26), and is created “not just for the firm and its customers but for multiple categories of stakeholders” (Neesham et al., 2023, 2). SBM describes what value is to be created or destroyed for which stakeholders, enabling or hindering their ability to meet their needs (Upward and Jones, 2016).

SBM describes the processes of value co-creation with different stakeholders and value destruction through interactions with the containing systems. It characterizes the tangible and intangible resources and ecosystem services that the organization uses to co-create value, however, the limitations on the ultimate biophysical stocks (sources and sinks) are incorporated (Upward and Jones, 2016). The organization is considered a part of a network of interdependencies among stakeholders, and productive, long-term, and positive relationships with stakeholders are seen as a process of creating shared value (Sulkowski et al., 2018). SBMs require a systemic consideration of stakeholder interests and responsibilities for shared value creation and a value network with a new purpose, design and governance (Evans et al., 2017).

Value capture in SBMs requires the definition and measurement of tri-profit using a multidimensional set of units of flourishing (economic, social, environmental), as stakeholders measure success in different units, not just monetary (considering benefits and harms) (Upward and Jones, 2016).

Ultimately, two definitions of SBM can be adopted: a concise one by Upward and Jones (2016) and a more comprehensive one by Evans et al. (2017) (see Table 1).
4.2. Opportunities and challenges of a sustainable business model

In this section of the paper, we will focus on the challenges and opportunities of SBM development. A detailed review of the literature in this area is summarized in Table 2. Challenges are, in a sense, limitations and critical barriers to the success of a given BM. Opportunities, on the other hand, are the existing potential for further development, scaling up, utilization and dissemination. (Todeschini et al., 2017). In SBM, the (sustainable) value proposition is key. A company defines it through the decisions it makes about the products and services offered (Schaltegger et al., 2016; Boons et al., 2013). Since the value proposition in SBM should provide not only economic benefits but also social and environmental benefits to an extended group of stakeholders, defining it is all the more challenging for a company on how to balance the aforementioned benefits (Evans et al., 2017). On the other hand, defining the value proposition with these three benefits in mind provides an opportunity to expand the potential stakeholder base (Geissdoerfer et al., 2018).

A key challenge of the value proposition in a SBM is the company’s ability to create economic, social, and environmental benefits simultaneously (Hart and Milstone, 2003; Evans et al., 2017). This is the so-called triple bottom line approach, which aims to create value by integrating these three aspects, rather than prioritizing profit solely from the company’s point of view (Schaltegger et al., 2016; Boons and Lüdeke-Freund, 2013). However, integrating economic, social, and environmental aspects is quite challenging because they can contradict each other and in companies the money-earning logic often wins over the sustainability logic (van Bommel, 2018).

If the economic, social, and environmental aspects can be integrated, the company has a chance to build a value proposition based on strategies that generate sustainable value (Hart and Milstein, 2003), i.e. strategies related to clean technologies, pollution prevention, product management and, finally, a vision of sustainable development. Strategies based not only on economic but also on social and environmental aspects aim to reduce the environmental footprint, reduce poverty and eliminate inequality, distribute and consume resources equitably, reduce waste and pollution, and build civil society (Hart and Milstein, 2003). Creating sustainable value using the above strategies opens up new opportunities for product, technology, market, and process innovation (Berns et al., 2009), providing the chance for growth and access to new markets and customers (Hart and Milstein, 2003). With that said, a significant challenge for SBM, in this case, is the need to raise customer awareness of the sustainable value of the product (customer education) and to meet customer expectations. After all, not all customers are convinced by the beneficial impact of sustainable products on the environment, their increased durability and lifespan, or waste reduction (Todeschini et al. 2017). Excessive
consumer expectations of the utility and value of sustainable products over existing unsustainable products already on the market can also be an issue (Ansett, 2007).

A major challenge for companies implementing SBM is the integration of technological innovation with business model innovation. SBM needs to be achieved not only through technological, product, or service innovation, but also through innovation of the BM itself (Girotra and Netessine, 2013; Yang et al., 2014). This requires changes in the various components of the BM concerning relationships with stakeholders, including customers and other business partners in the value chain. Business model innovation is increasingly recognized as a critical factor in achieving a high degree of social and environmental sustainability (Lüdeke-Freund, 2010).

Companies that succeed in integrating economic, social, and environmental aspects through business model innovation and sustainability in the creation of

<table>
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<th>Challenges</th>
<th>Opportunities</th>
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<td><strong>Value proposition</strong></td>
<td><strong>Value creation</strong></td>
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<tr>
<td>– Triple bottom line approach (Hart and Milstein, 2003; Schaltegger et al., 2016)</td>
<td>– Prevailing mind-set in the company (Johnson et al., 2008; Boons and Lüdeke-Freund, 2013)</td>
</tr>
<tr>
<td>– Integrating technology innovation with business model innovation (Girotra and Netessine, 2013; Yang et al., 2017)</td>
<td>– Limited resources (Chesbrough, 2010; Zott et al., 2011)</td>
</tr>
<tr>
<td>– Consumer education and expectations (Todeschini et al., 2017)</td>
<td>– Business modeling methods and tools (Girotra and Netessine, 2013; Yang et al., 2014)</td>
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<tr>
<td>– Conflict between the previously unsustainable BM and the new SBM</td>
<td>– Aligning values along the supply chain (Battistella et al., 2018)</td>
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<tr>
<td><strong>Opportunities</strong></td>
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<tr>
<td><strong>Value proposition</strong></td>
<td><strong>Value creation</strong></td>
</tr>
<tr>
<td>– Product, market, and process innovation (Berns et al., 2009)</td>
<td>– Strengthened brand positioning and improved corporate image (Berns et al., 2009; Kotler et al., 2012)</td>
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<td>– Stronger relationships with stakeholders (Gao and Bansal, 2013; Berns et al., 2009)</td>
<td>– Increased employee satisfaction, morale and retention (Berns et al., 2009; Zającz, 2010)</td>
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<tr>
<td></td>
<td>– Higher productivity (Berns et al., 2009; Sekerka and Stimel, 2011; Majumdar and Marcus, 2001)</td>
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Source: own research.
their value proposition are likely to build stronger relationships with stakeholders (Berns et al., 2009), which contributes to the development of intangible resources and capabilities and reduces conflicts with stakeholders (Gao and Bansal, 2013).

However, at the value creation stage, limited resources are a major challenge for companies seeking to build SBMs. While large companies have enough potential to bypass this barrier, SMEs are unable to implement sustainability strategies due to limited financial and human resources, low efficiency of organizational structures and not very strong organizational culture, as well as insufficient knowledge and competence in business management and even lack of understanding of the SBM benefits (Battistella et al., 2018). In addition, there is a lack of appropriate incentives, from both governments and the market, and the formal and legal requirements for implementing environmental tools, such as environmental management systems (e.g., ISO 14000 series, EMAS) or social responsibility standards (e.g., ISO 26000, SA 8000), are very complex and costly (Johnson and Schaltegger, 2016).

In terms of organizational culture, the mindset that prevails in a given company is also a constraint in implementing SBM. Business rules, guidelines, behavioural norms and performance metrics dominate the mindset of companies and inhibit the introduction of new BMs (Evans et al., 2017). Existing business modelling methods and tools, e.g. Osterwalder and Pigneur (2013) and Johnson et al. (2008), are also few and rarely sustainability-driven.

Another challenge when creating value in the SBM is the need to align value along the supply chain. To do this, it is essential to build real cooperation among suppliers, as well as to implement mechanisms and ways to share knowledge, resources and skills (Battistella et al., 2018).

Companies that are able to create sustainable value within the SBM framework have the opportunity to build a distinctive, strong brand and improve their corporate image (Berns et al., 2009; Kotler et al., 2012). At the same time, thanks to their ability to collaborate in the value chain, they have the opportunity to build sustainable relationships with customers, employees, suppliers, communities, and other stakeholders, for whom interaction is a key value (Gao and Bansal, 2013). An additional opportunity is increased productivity as a result of green technologies (Berns et al., 2009; Sekerka and Stimel, 2011; Majumdar and Marcus, 2001), as well as increased employee satisfaction, morale and retention (Berns et al., 2009; Zając, 2010).

Engaging in extensive interactions with external stakeholders and the business environment requires additional efforts and is a major challenge at the value capture stage (Evans et al., 2017). Technological, organizational, and social factors of SBM innovation, such as the use of renewable resources, flexible work arrangements, and ethical trading, enable companies to capture value from various stakeholders, such as shareholders, employees, customers, suppliers, other business partners, as well as society, the environment, government and the natural en-
vironment (Battistella et al., 2018). This, in turn, offers great opportunities for cost reduction and minimization of economic risks (e.g., independence from specific resources, reduced risk of penalties, reputational risk management) (Lo and Sheu, 2007) on the one hand, and great opportunities for higher product valuation by the market, on the other (Elfenbein and McManus, 2010). Kotler et al. (2012) note that this kind of value capture offers an opportunity for increased attractiveness to investors and financial analysts.

5. Conclusions

An in-depth analysis of the literature confirms that the SBM concept is in a developmental phase. There is still no universally accepted SBM definition or consensus on its elements. The key reason for the differences in SBM concepts is that they are embedded in different approaches to business sustainability. In this paper, the holistic approach is adopted as the one that universally addresses the business contribution to sustainable development. The most promising definitions of SBM were identified as those proposed by Evans et al. (2017) and Upward and James (2016), both of which require a shift in business logic from money-earning to purpose-driven. As a result, key elements of SBM have been defined in line with these definitions, including value proposition, value creation and value capture (Evans et al. 2017; Méndez-León et al. 2022; Neesham et al. 2023; Sulkowski et al. 2018; Upward and Jones, 2016). It should be emphasised that classical business modelling methods and tools (e.g. Oserwalder and Pigneur) are not conducive to the development of SBM (Girotra and Netessine, 2013; Yang et al., 2014). This is primarily due to:

– a different understanding of the concept of value (among others, SBM requires the consideration of value co-creation and co-destruction);
– limited inclusion of human and non-human ecosystem actors in the business stakeholder group (resulting in a lack of consideration of their needs);
– setting the boundaries of the BM only within the economic system, while SBM requires viewing business as a social system situated within and interconnected with economic, social, and natural environment systems (business co-creates value with and for the wider system);
– understanding organizational performance primarily through the lens of financial performance, while SBM requires consideration of financial, social, and environmental benefits.

A fundamental shift in the understanding of the BM concept, following its transformation into a SBM, reveals the importance of recognizing the opportunities and challenges of SBMs development. The second part of this paper aims to identify and discuss these opportunities and challenges. It is extremely difficult to determine the significance of individual opportunities and challenges. On the one
hand, they are very diverse and, as a result, difficult to compare. On the other hand, they may have different significance for different types of businesses, depending on their size, maturity, sector, and even ownership type.

Although new SBM concepts and frameworks are being developed in the literature and in practice, there is little empirical validation of their understanding and applicability (limited to individual case studies). A more detailed study of the challenges and opportunities of implementing the SBM concept in companies is required. In particular, the prospect of a comparative analysis of the entire process of value proposition development, value creation and value capture, on the one hand, in companies with a mature BM and, on the other hand, in start-ups that are just searching for a replicable and scalable SBM, seems particularly promising, as the views of researchers in this field are not only different but often contradictory (e.g. Todeschini et al., 2017).

Therefore, this paper is a preparation for an empirical study of managers’ understanding of the SBM concept as a whole and its core elements, and the identification of opportunities and challenges for the development of SBM in line with the holistic BS approach.

References


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