

Sustainable Business Model Innovation

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Sustainable business model innovation is a complex and multifaceted phenomenon; thus, it is important to understand its various manifestations. Sustainable business models generally aim to integrate economic, social and environmental aspects in their value creation and/or value capture processes. However, these aspects can manifest as different combinations, and some may be more dominant than others.

Keywords: sustainable business model innovation ; business model ; umbrella review ; systematic literature review ; sustainability ; circular economy ; sharing economy ; social business ; lean business model

1. Introduction

The objective of this study was to conduct an umbrella review of 57 systematic literature reviews related to sustainable business model innovation. The relatively large number of existing reviews suggests that academic discourse in this area is growing.

The business model concept has been discussed in the literature for more than six decades ^[1]. However, developments in the global economy such as technological advances, economic downturns and the sustainable development agenda are shifting the focus of business models to those that are able to address contemporary challenges ^{[2][3]}. The concept of business model innovation introduces much-needed dynamism by emphasising the ability of organisations to design new or transform existing business models ^[4]. However, as pointed out by several authors, the concept of sustainable business model innovation is a multifaceted phenomenon ^{[4][5][6]}.

To this end, this paper aims to catalogue the various sustainable business model manifestations as well as their antecedents and outcomes and bring them together into an integrative framework. Section 2 provides a conceptual overview of the different manifestations. Section 3 introduces the review methods. 5 concludes the paper with a discussion of future research avenues.

2. Conceptualisation of Sustainable Business Model Innovation

Sustainable business model innovation is a complex and multifaceted phenomenon; thus, it is important to understand its various manifestations ^[5]. For example, Bocken, et al. ^[7] developed eight sustainable business model archetypes according to the type of innovation on which the business model was based; that is, whether the innovation was technological, social or organisational in nature. ^[8] identified 45 sustainable business model patterns that were then assigned by experts to different groups along ecological, social and economic dimensions of sustainability. Thus, sustainable business models may be considered an umbrella category that brings together different manifestations of business models with varying foci on social, environmental and economic aspects cf., ^{[6][7]}.

A base (bottom) of the pyramid business model aims to simultaneously alleviate poverty and increase profitability by developing radical innovations to cater to the needs of poor and other vulnerable communities ^[9]. Bottom of the pyramid business models mainly operate in developing countries to convert the unaddressed needs of marginalised communities into profitable business opportunities, thus tapping into an unrealised market potential ^[10]. The value propositions generated by a bottom of the pyramid business model tend to be based on cost-effective solutions ^[9]. The innovation process related to this type of business model is underpinned by the vision of co-creating solutions by iteratively engaging with communities and other stakeholders ^[11].

A circular business model is built on circular economy principles. To achieve circularity, it utilises mechanisms such as reduce, reuse, recycle and remanufacture ^[12]. As a consequence, circular business models aim to create value by relying on production inputs that are reusable, renewable and/or recyclable as well as by extending the life span of outputs. In other words, value proposition, value creation and value delivery are designed to achieve circularity and ecological value ^[13].

A lean and green business model is built on the tenets of lean philosophy. It aims to maximise customer value by minimising waste ^[14]. Therefore, it applies lean principles such as waste reduction, quality improvement, continuous learning and continuous product improvement to create value ^[15]. Originally, lean philosophy was developed to increase productivity in the production and operations function.

A product–service system, also known as a function-oriented business model, aims to create new sources of revenue for organisations by fulfilling customer needs in an integrated and customised way by building customer loyalty and innovating rapidly ^[16]. A product–service system consists of three broad types of business model: product-oriented, use-oriented and results-oriented business models. Product-oriented business models focus on the sales of products with additional service components such as lifetime warranties and maintenance services. Given that product–service systems promote sharing and circular principles, they are often included in studies on sharing and circular economies ^{[4][17]}.

A sharing economy business model aims to achieve sustainability by promoting sharing and collaborative consumption and production. Therefore, a sharing economy business model aims to unlock the economic potential of idle, unused and/or underutilised assets by transferring the rights to access and use. This process is facilitated by different forms of sharing such as intimate sharing, compensated sharing, uncompensated sharing and product–service system–based sharing ^[18]. Driven by technological developments, the operations of sharing economy business models are enhanced by the adoption of online platforms, including peer-to-peer, business-to-customer and business-to-business platforms ^{[19][20]}.

The social business model, also known as social enterprise, aims to address social goals by increasing the relational and mutual interactions among market participants. Therefore, social business models tend to prioritise the creation of tangible and intangible social value over economic value ^[21]. These business models are built on trust, and their governance model strives to ensure that the organisation fulfils its responsibilities towards its stakeholders, including society at large as well as the environment ^[22]. Therefore, social business models combine a social mission with market value to generate a social value proposition for the betterment of people, the planet and profit ^[23].

An integrative business model balances all three aspects of sustainability ^{[24][8]}. Several conceptual approaches are available to help organisations identify trade-offs and areas that need further development ^{[24][25][26]}. This is particularly important because prioritising any one of the three aspects of sustainability may lead to serious unintended consequences ^{[27][28]}.

As outlined at the beginning of this section, all the business model manifestations discussed may be included under the umbrella of sustainable business models. Against this background, we intend to capture existing systematic reviews related to any of these seven archetypes and catalogue the collective knowledge in this area. A special focus is given to the antecedents and consequences of sustainable business models.

3. Review Methods

Given the relatively large number of existing systematic reviews related to the various manifestations of sustainable business models, an umbrella review approach was deemed appropriate.

We followed the protocols by Sinkovics and Reuber ^[29] adapted from Jones, et al. ^[30] to conduct the umbrella review. Sinkovics and Reuber ^[29] utilised a partial pattern-matching logic ^[31] to derive a thematic inventory from the literature. A partial pattern-matching logic was also relevant to our study because it facilitated the categorisation and synthesis of themes identified in our sample of systematic literature reviews.

First, we carefully selected keywords related to sustainable business model innovation, including its different manifestations. The text search was conducted in two steps: first, we searched for the document type 'articles', and second, we searched for the document type "reviews" (see Appendix A). This two-step process was necessary to capture all relevant systematic literature reviews, which are listed as both articles and reviews in the Web of Science database. This process yielded 57 systematic literature reviews for the final analysis, as shown in Appendix B.

We utilised the antecedents–phenomenon–consequences framework ^{[29][32]} to organise the themes emerging from the analysis. Under the antecedent category, we included the factors that enable the implementation of sustainable business model innovations. Under consequences, we coded the outcomes generated by sustainable business model innovation along the dimensions of the triple bottom line. Thematic coding was carried out using the qualitative data analysis software NVivo.

4. Discussion and Conclusions

The aim of this study was to capture the various manifestations of sustainable business model innovation and integrate their properties, antecedents and outcomes into an ontological framework. Our analysis revealed tensions between the more socially oriented and the more ecologically oriented manifestations in terms of their outcomes. This is in line with existing modelling efforts that show that emphasising social outcomes without considering the environmental impact of solutions will hinder the achievement of the UN SDGs by 2050 [33][34]. Therefore, future research is needed to identify the conditions that foster the design and implementation of integrative sustainable business model innovation.

This suggests that business and management studies are still not paying sufficient attention to sustainable business model innovation. Future research will need to survey the business and management literature to identify which aspects of the ontological framework are discussed and to what extent. Future research will need to identify areas of integration between disciplinary silos. For example, international business and global value chain research are well positioned to widen the scope of investigation to the cross-border implementation of circular economy principles in global industries [35].

Further, advances in information and communication technologies as well as Industry 4.0 technologies appear to play a significant role in sustainable business model innovation. Although the importance of these technologies has been acknowledged in business and management studies, future researchers may wish to examine to what extent they are investigated in relation to sustainability. It is especially important to explore how advanced technologies can contribute to the transformation of global value chains [3][27].

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