SUSTAINABLE BUSINESS MODELS

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Abstract: In the recent years, both academics and practitioners have looked for sustainable business models and business models for sustainability. In the literature on corporate responsibility and sustainable development, there is a gap about sustainable business models and their effectiveness in achieving competitive advantage of enterprises. The aim of the article is a synthetic presentation of various sustainable business models based on the literature

Keywords: sustainable development, business model, enterprise

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Introduction

The contemporary companies and corporations are looking for new business models that give them an advantage over competitors. Corporations and companies are more than ever requested to contribute to the achievement of sustainable development. With no doubt sustainable development is not possible without sustainable development of corporations and smaller companies. One of the options that combines economic, environmental and social issues are sustainable business models. Therefore, business managers and policy makers thinking should support the creation of valuable solutions to cope with environmental and social challenges. The aim of the article is to present the essence of a sustainable business model and the possible perspectives of sustainability.

A business model concept

Academic research and corporate practice are increasingly addressing a business model as a unit of analysis offering a systemic perspective on how to “do business” (Zott, Amit, Massa 2011, p. 1019-1042), mainly with the aim of understanding how to improve the ability of companies to create financial value (Wirtz et al. 2016, p. 36-54) and how to create a value Teece (Teece 2010, p. 179). The value-based view of the business model explain „how a business creates and delivers value, both for the customer and the company” (Johnson 2010, p. 22) or as “the way individuals or organizations communicate, create, deliver, and capture value out of a value proposition” (Abdelkafi, Makhotin, Posselt 2013, p. 13).
value-based view includes value dimensions and their elements. Generally, three value dimensions of the business model are usually proposed:
(1) customer value proposition;
(2) value creation, value architecture, or business infrastructure;
(3) value capture or profit generation (Abdelkafi, Makhotin, Posselt 2013, p. 1-41).

The researchers also add two extra elements: value delivery and value communication (Abdelkafi, Täuscher 2016, p. 74-96).

According to G. Hamel a business model is, associated with customers, a composition of core strategy, strategic resources and value network (Hamel 2000, p. 683-713). According to Osterwalder et al. „A business model is a conceptual instrument to help explain how a firm does business and it is usable for analysis, comparison and performance assessment, management, communication, and innovation” (Osterwalder et al. 2011, p. 22-30).

The business model is a comprehensive concept that formulates a framework for logic of conducting business and its features such as innovation and competitiveness (Nogalski 2009). The business model is a conceptual tool that includes a set of components and their relationships, presenting a schematic business idea for a specific company. It therefore constitutes a static model of the phenomena, in contrast to the strategy of company’s expressing the actions and behaviour in relation to changing environmental conditions and its interior (Brzóska 2009, p. 13; Brzóska, Jelonek 2015; Seroka-Stolka, Krawczyk-Sokołowska, Grabowska 2016, p. 122).

Generally, four main elements of business models are indicated in the literature. These are as follows: value proposition, value network, value capture, value creation and value delivery (Bocken et al. 2014, p. 42-56; Boons, Lüdeke-Freund 2013, p. 9-19) (Figure 1).

**Figure 1. Elements of business model framework**

Source: (Bocken et al. 2014, p. 42-56; Boons, Lüdeke-Freund 2013, p. 9-19)

In summary, “a business model helps understand of how a company does business and how it creates values and formulates the business logic and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the company delivering that value” (Teece 2010). In the literature, there is no agreement about the common definition of the business model.

At the same time, there is a lot of literature about business models and approaches to corporate sustainability. Companies are face to new challenges for sustainable development that requires rethinking of their business logic.
The sustainable business models concept

The researchers claim that sustainable business models should not only integrate social, economic and ecological aspect but there is also a necessity of a complex approach to cope with the challenges of a sustainable future (Bocken et al. 2014, p. 42-56; Skowron-Grabowska et al. 2016).

Dyllick and Hockerts present the model based on the concept of corporate sustainability (balancing and integrating the areas of enterprises’ activity) presented in the form of a triangle. This model recognizes three key elements in the model: business case, natural case and societal case. The authors take into account not only the environmental effectiveness of the company's operations but also the social and economic efficiency in this model (Dyllick, Hockerts 2002, p. 130-141).

McDonough and Braungart introduce a model of corporate sustainability in the form of a fractal triangle in which the corners are: ecology – ecology, equity – equity and economy - economy. Between the corners of the triangle are intermediate states, taking into account the marginal conditions described in the corners. The different approaches are characterized in that (McDonough, Braungart 1998):

- economy – economy approach focuses on factors arising out of generated profits,
- equity – equity approach focuses on improving the quality of life of all stakeholders and restoring the condition of ecosystems,
- ecology – ecology approach means the respect for the laws of nature and creative behaviour in a given location (eg. local aspects).

This model strongly emphasizes the importance of the economic factor (profits), but also widely recognizes environmental aspect and its importance in maintaining the balance in the human being’s ecosystem.

Some proposals of sustainable models that take into account the environmental efficiency factor. The first so-called pro-efficiency model of social and environmental responsibility (business) is built with the emphasis on the validity of the assumptions of sustainable development and the CSR objectives achievement. This model assumes the integration of the effectiveness of environmental, social and economic operations, so focus on efficiency. The second model so called enterprising model of social and environmental responsibility (business), is an explication of the first model with emphasis on the role of innovative attitude (Chodyński 2011, p. 155). Both models include eco-efficiency factor but they differ only in their entrepreneurial mindset. Moreover this entrepreneurial mindset emphasises the role of human capital (Bahrami, Nosratabadi, Illés 2016, p. 111-115). However, in business practice, it will be difficult to distinguish these two business models.

S. Schaltegger et al. (Schaltegger, Lüdeke-Freund, Hansen 2012) argue that a business model for sustainability can create economic success through a certain

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1 Sustainability is best known for its ecology-related interpretation, which also means, in a broader sense, the flexibility and sustainability of the organization's life or even its reincarnation.
environmental or social action and business models for sustainability support voluntary activities which solve or moderate social and/or environmental problems (Schaltegger, Lüdeke-Freund, Hansen 2012, p. 112). This proposition is close to proactive models and strategies. According to these researchers proactive strategies represent an holistic view of environmental or social objectives as a part business logic in order to contribute to sustainable development of the economy and society.

S. Schaltegger et al. (Schaltegger, Lüdeke-Freund, Hansen 2012) link voluntary social and environmental activities and corporate economic effects together (Schaltegger, Lüdeke-Freund, Hansen 2012, p. 112). They explain that a business model for sustainability helps describing, analyzing, managing, and communicating (a) a company’s sustainable value proposition to all stakeholders, (b) creation and delivering this value, (c) capturing economic value (Schaltegger, Lüdeke-Freund, Hansen 2012, p. 112).

Schaltegger et al. (Schaltegger, Lüdeke-Freund, Hansen 2012) point out that a business model for sustainability is characterised by three common requirements. First of all, the company should act voluntary. These voluntary actions can contribute to the solution of environmental and societal problems and give a positive business effects or a positive economic performance. Such positive corporate effects can provide to “the increase of sales and competitive advantage, cost savings, preferable profitability, customer behaviour or reputation” (Schaltegger, Lüdeke-Freund, Hansen 2012, p. 112). Mentioned authors emphasise that the cause and effect relationship between voluntary activity and economic profits can be direct or indirect. However, these effects must be reasonable measured but not speculative. It means that a certain management activity lead or will lead to societal or environmental effects, and the economic effects. Furthermore, there are identified key drivers that economically justify a sustainability-oriented business model like: cost reduction, increase sales and revenues, risk and risk reduction (Schaltegger, Synnestvedt 2002), reputation, attractiveness as employer, and innovative capabilities (Schaltegger, Lüdeke-Freund, Hansen 2012, p. 98). In sum, a business model for sustainability creates positive business effects but it requires active management then it will create customer and social value by integrating social, environmental, and business activities (Schaltegger, Lüdeke-Freund, Hansen 2012, p. 98). The creation of sustainable value is mostly achieved through product, process, and technological innovations. (e.g., Hansen, Große-Dunker, Reichwald 2009, p. 683-713; Schaltegger, Lüdeke-Freund, Hansen 2012, p. 95-119). Sustainable value as an element of business model is usually achieved by product, process, and technological innovations. Nevertheless, innovation are not sufficient to transform industries, societies and organizations. (e.g., Hansen, Große-Dunker, Reichwald 2009, p. 683-713; Schaltegger, Lüdeke-Freund, Hansen 2012, p. 95-119).

Nevertheless, innovation business models may help reduce the use of natural resources in the short term. They may also cause a bound effect that increases the consumption of products and services by making them more cheap and accessible and be a key to create a strategic impact effect (Hansen, Große-Dunker, Reichwald 2009, p. 683-713).
F. Boons, F. Lüdeke-Freund widen a sustainability business innovation model and propose: organizational, technological, and social innovation element of business models (Boons, Lüdeke-Freund 2013, p. 9-19). It is important to recognize that these elements of the model do not stand separately. Technological innovations might depend on organizational change or support social value propositions. Unfortunately, new technologies are not sufficient to change production and consumption systems. However, business model acts as a mediator between consumption and production technologies. The changing the business model paradigm towards sustainability is possible but as say Boons et all “business model change on the organizational level is about the implementation of alternative paradigms […] that shape the culture, structure and routines of organizations and thus change the way of doing business towards sustainable development” (Boons, Lüdeke-Freund 2013, p. 15). A sustainable business model is the aggregate of different corporate approaches to business. Social innovations and eco-innovations are perceived as a key to creating and transforming markets towards sustainable development.

N. Bocken et al. introduce types of a sustainable business model from an efficiency perspective. The archetypes are:

− “energy and material efficiency,
− creating value from ‘waste’,
− substitute with renewables and natural processes,
− deliver functionality rather than ownership,
− adopt a stewardship role,
− encourage sufficiency,
− re-purpose the business for society/environment,
− develop scale-up solutions” (Bocken et al. 2014, p. 42-56).

Recent literature presents business models for sustainability from a system dynamics perspective. According to N. Abdelkafi and K. Täuscher (Abdelkafi, Täuscher 2016) a business model for sustainability should create value for different stakeholders and the natural environment. but natural environment in this proposition is an essential element. This concept of a business model is based on the specific causal loop between the value captured by the company, and the value to the natural environment and the created value to the customers (Abdelkafi, Täuscher 2016, p. 74-96; Abdelkafi, Makhotin, Posselt 2013, p. 1-41).

Several scientific contribution confirm the dynamic and complex nature of business models (Demil, Lecocq 2010, p. 227-246; Cyfert, Krzakiewicz 2014, p. 16) and the natural environment (Seroka-Stolka, Krawczyk-Sokolowska, Grabowska 2016, p. 122) and the complexity by the integration of sustainable development into the business model (Porter, Derry 2012, p. 33-53).

Contemporary companies act in dynamic environments and conditions and must become more and more sustainable, however so far little is known about a business model from perspective of the marketplace and its dynamics. According Schaltegger et al. (Schaltegger, Lüdeke-Freund, Hansen 2016) the dynamics of business model is propelled by three mechanisms: variation, selection and
retention. These evolutionary mechanisms support the dynamics between business model innovation and sustainability transformation of markets (Schaltegger, Lüdeke-Freund, Hansen 2016, p. 264-289; Abdelkafi, Makhotin, Posselt 2013, p. 1-41; Demil, Lecocq 2010, p. 227-246).

Another proposition of the sustainable business model is presented by N. Roome and C. Louche (Roome, Louche 2016). They present business models for sustainability through the interactions between individuals and groups inside and outside companies. This new business model consists of three elements: “building networks and collaborative practices for learning and action around a new vision, the deployment of new concepts drawn from outside the company, and elaborating an implementation structure within a reconfigured network” (Roome, Louche 2016, p. 11-35). Moreover, Roome, Louche (2016) propose extra element of the sustainable business model: value destruction (Roome, Louche 2016, p. 11-35). Some researchers propose examine the corporate sustainability from a multilevel perspective (Starik, Kanashiro 2013, p. 7-30) and the try to integrate multiple theories from other disciplines to achieve a broader view of sustainability (Sharma, Starik, Husted 2007, p. 18-19).

Concluding, the review of the literature highlights two key aspects of sustainable business models. Firstly, the sustainable business model that not only links production and consumption but also link stakeholders and their expectations from non-business areas and consequently firm’s profit generation.

Sustainable business models are presented from different perspectives and levels to integrate of different disciplines to achieve a wide view of sustainability. Secondly, the process of value creation is central to any sustainable business model and provides a direct connection to the firm’s value proposition. Revised literature (Bocken et al. 2014, p. 42-56; Boons, Lüdeke-Freund 2013, p. 9-19; Roome, Louche 2016, p. 11-35) indicates that all elements of the business model as value proposition, value network, value capture, value creation and value delivery are important for sustainable business models. If we add a new element of the business model for sustainability – value destruction, an “old” framework of sustainable business can be enriched (Figure 2).

![Figure 2. Elements of sustainable business model framework](source: Own elaboration based on (Bocken et al. 2014, p. 42-56; Boons, Lüdeke-Freund 2013, p. 9-19; Roome, Louche 2016, p. 11-35))

**Successful sustainable business models**

Nowadays, there has been a big debate on whether sustainability efforts have a positive or negative impact on the company’s financial performance. We can ask the fundamental question: what is a successful (sustainable) business model? The
successes of conventional company may be measured by economic performance operating profits and corporate value.

The successful sustainable business model seems to be more sophisticated because in general sustainability measure are not usually incorporated into accounting practices, decision making, or general the business models. Sustainability can be measured by indicators that estimate the performance and effects of business model decisions in a simply and clear way (Upward, Jones 2016, p. 97-123). First of all, competitive advantage and economic performance should be given for companies via successful business models. However, it should be taken into account the fact that low environmental performance corresponds to a high-economic performance which is called as an inverted U-shaped curve (Wagner, Van Phu, Amazohou, Wehrmeyer 2002). Notwithstanding there is no consensus about this relationship among economists. Moreover, Schaltegger and Synnestvedt (Schaltegger, Synnestvedt 2002) argue that voluntary ecological actions can increase the firm’s financial performance but only until a peculiar optimum point after which profitability starts declining with every additional ecological activity (Schaltegger, Synnestvedt 2002, p. 339-346). So, it is an open question how to improve voluntary practices within existing business models (Lüdeke-Freund 2010; p. 339-346).

Success of sustainable business models depends on the approaches to sustainability. There can be indicated two types of sustainability “weak” and “strong” sustainability related to sustainable business models. First of all, it should be clarified differences between “weak” and “strong” sustainability. “Weak” sustainability means including environmental goals into the structures and systems of business. “Strong” sustainability integrates all the activity of the company into environmental or socio-ecological systems. This “strong” approach to sustainability is based on the whole system thinking of the firm and is incorporated in its business logic. It is characterized by a more radical change. In contrast, the “weak” sustainability is more based on incremental changes and use only some sustainability elements (Roome 2012, p. 620-621; Upward, Jones 2016, p. 97-123). A “strong” sustainable business model must supply the organization a base for leading the co-creation of value with all an organization’s stakeholders: customers, shareholders, social, and others actors in the organization to create value. A “strong” sustainable business model is proposed from four elements: stakeholders, learning and development of the product and processes, and measurement each of the elements. To sum up, environmental, social, and financial economic aspects are an important elements of the sustainable business model (Upward, Jones 2016, p. 97-123).

To conclude, the literature indicates that a successful sustainable business model has “strong” perspectives on economic success, in comparison to “weak” perspective. These two perspectives of sustainable business model are positions on the same continuum. “Strong” sustainability demands an understanding of the broader macro-economy (Upward, Jones 2016, p. 97-123).

Furthermore, there is a need for favourable conditions for companies in the marketplace for sustainable business models. Moreover, successful sustainable
business models should be adapted to external environments. The important factors affecting successful business models are fulfilment of external stakeholder’s expectations, changes in the competitive environment, regulatory forces influencing external stakeholders and changes in the competitive environment. What more, regulatory forces are more relevant than technological or market-related forces and opportunities brought about by new technologies. Nevertheless, successful sustainable business models may appear under conditions of threats as well as opportunities (Upward, Jones 2016, p. 97-123). However, it must be pointed out that a successful sustainable business model is insufficient to guarantee competitive advantage for firms because of their transparency for other companies which can imitate them. There is an agreement to some degree that even a successful business model cannot guarantee competitive advantage in the long period.

Conclusions
Companies and in particular corporations are forced to contribute to the achievement of sustainable development more than ever. To achieve sustainability, companies has to transform its entire business logic. So far, the literature distinguishes two archetypes of sustainable business models from narrow (weak sustainability) to broad perspectives (strong sustainability) and indicates “strong” sustainable business model as the most successful. There is a need for the diffusion of new sustainable business models in the market to achieve the “strong” sustainable business models. Three mechanism of the evolutionary processes (variation, selection, and retention) can support the diffusion of sustainable business models in mass market but it is still open question how to generate economic performance.

Literature


ZRÓWNOWAŻONE MODELE BIZNESU

Streszczenie: W ostatnim czasie badacze i praktycy biznesu poszukują modeli biznesu dla zrównoważonego rozwoju, które są coraz bardziej złożone i kompleksowe. W literaturze dotyczącej odpowiedzialności korporacyjnej i zrównoważonego rozwoju istnieje wciąż luka poznawcza na temat zrównoważonych modeli biznesu oraz ich skuteczności w osiąganiu przewagi konkurencyjnej przedsiębiorstw. Celem artykułu jest syntetyczna prezentacja różnych zrównoważonych modeli biznesu na podstawie literatury przedmiotu.

Słowa kluczowe: zrównoważony rozwój, model biznesu, przedsiębiorstwo