



CENTRE FOR REGIONAL ANALYSIS (CRA)
SCHOOL OF BUSINESS, ECONOMICS AND LAW
UNIVERSITY OF GOTHENBURG
www.cra.handels.gu.se

CRA Working Paper 2021:01

What is a business model and what's in it for regional development?

Niklas Åkerman

What is a business model and what's in it for regional development?

Niklas Åkerman, Centre for International Business Studies, University of Gothenburg

Abstract

This working paper outset in describing the core constituents of the business model literature in an account striving to offer an understanding of what the business model of a company is and why it makes sense to connect the business model literature and regional development. This is extended by the inclusion of dynamism in business models, popularly reported for under the business model innovation label. While these are the core streams of the business model literature, other areas have also been successively intertwined with the business model literature. More specifically, this paper addresses the overlaps between business models and servitization, digitalization and sustainability, respectively. This description is concluded by highlighting some areas of development that may deserve particular attention in order to understand what business model dynamics bring for regional development.

Keyword: Business Model, Business Model Innovation, Regional Development

Introduction

A number of global trends are putting strain on the business model of many established firms. Globalization, digitalization, servitization and sustainability orientation are examples of trends that put traditional ways of doing business on the verge of their capability to create value. New ways of working and new customer expectations put pressure on business models to change. For example, the servitization trend pushes product-oriented companies to offer their product packaged together with services, or even in the form of product-as-a-service. The latter can be seen for example in the car industry (car-sharing platforms such as the Volvo car sharing service “M”), lighting industry (such as the Philips “Light as a Service” concept) or in cloud platforms for storing of digital information (such as Amazon Web Services) among many others. All of these examples have traditionally been focused on the sales of products (cars, light bulbs and physical data-storage devices). However, technological development and other trends have pushed firms to a higher degree of service content in their customer offer, to complement the products. Such fundamental change drives the need to develop new business models. For servitization, the developments of function-oriented, rather than product or transaction-oriented, business models is one way to incorporate the service components. This can be exemplified with the introduction of SKF’s fee-based business model in 2019, where the sales of individual ball bearing are being replaced by recurring fees for SKF to provide a specified performance of bearing-based solution that includes the physical product but also all the service and monitoring required to reach the performance target (evolution.skf.com).

In popular science, the notion of business models was frequently discussed during the booming IT-era by the end of the 20th century. Most often this referred to technical advancements and solutions that did not yet have a clearly defined business model or to business models that did not have an appropriate timing to be successful. Since then, the concept of a firm’s business model has gained significant attention among practitioners as a way to conceptualize what the firm “is doing”, which facilitates the creation of new businesses and development in firms that are already existing. The business model as a starting point to discuss how to develop companies has become widely spread in diverse business-related fields – within business incubators and business support programs (see e.g. drivhuset.se and almi.se) as well as among business-development consultants (e.g. strategyzer.com). It is apparent that the business model concept has attracted a widespread audience that have found it to be a valuable tool for business development. It can be used as a template for rapid prototyping of how to put a business idea into practice, by allowing to design and test the feasibility of various set-ups (Osterwalder & Pigneur, 2010). The first of the subsequent sections of this paper is dedicated to outlining what a business model is.

Change along trajectories of technological development, and the example of servitization, can be somewhat foreseen but there are instances when less predictable external factors put an immediate stress to established business models. The situation of the Covid-19 pandemic offers an example of this. Cut-of supply chains and restrictions that disable the normal patterns of customers makes it impossible for many companies to retain normal operations. Instead, these companies are forced to find new solutions rapidly. Hence, the currently and previously used models may need to be reevaluated in the light of both short-term and long-term changes in the surrounding business context. This calls for the second section in

this paper focused on dynamism in business models, in which the notion of business model innovation is one central theme.

The third section of the paper addresses the lines of development in which business models and business model innovation are central components. Servitization, as briefly outlined above, is one of these. Other areas are digitalization and the increasing attention given to sustainability matters. Digitalization offers new developments of business models and a business model logic can offer opportunities to operationalize a sustainability vision into an organization. These topics are discussed in the third section

Lastly, this paper connects the business model logic, business model innovation and regional development, in particular focusing on identifying questions that deepens our understanding of the relation between business models and regional development in the wake of industrial restructuring trends, such as increased servitization and sustainability focus.

1. What is a business model?

Defining business models

Every existing company has a business model. It is a conceptual logic for how the company works, i.e. the logic for creating value and making money (Linder & Cantrell, 2000). The business model of a firm can be regarded as the “blueprint of how a company does business. It is the translation of strategic issues, such as strategic positioning and strategic goals into a conceptual model that explicitly states how the business functions.” (Osterwalder, Pigneur, & Tucci, 2005, p. 4). Emphasizing the role of a business model not only as an instrumental description of numbers but the importance of a narrative that describes the function of integrated aspects of what constitutes the company, Magretta (2002, p. 4) defines business models as the “stories that explain how enterprises work”. Definitions that have gained substantial support are based on the business model as the description of how a firm creates, delivers and captures value (Foss & Saebi, 2018; Osterwalder & Pigneur, 2010; David J. Teece, 2010).

The suggested value of the business model (Osterwalder et al., 2005) as an idiosyncratic element relates to the possibilities it creates for managers and researchers. It facilitates an understanding of the core logic of a business that can be made explicit enough to share with others. It also allows for analyses of businesses with the business model as a specific unit of analysis. Moreover, the business model allows for managers to have a reference point in reacting to external events, which also facilitates a platform for future developments of the company and possibly, in some industries, offer a potential for patent protection of core elements in the business model.

When the concept of business models started to gain significant attraction, most of the dawning work can be traced back to the strategy literature. Many notable contributions were published in a number of special issues on the topic. For example, in the Long Range Planning Special Issue on Business Models (2010, Volume 43, Issue 2-3), the Strategic Entrepreneurship Journal Special Issue on Business Models: Business Models within the Domain of Strategic Entrepreneurship (2015, Volume 9, Issue 1) and the Long Range Planning Special Section: Business Models and Business Model Innovation: Wider Implications for Research and

Practice (2018, Volume 51, Issue 1). In the wake of this movement, a large number of literature reviews have been done on business models such as Onetti et al.(2012), Zott et al. (2011), Foss and Saebi 2017, Massa, Tucci, and Afuah (2017). Since the first steps were taken, the concept has been applied in many theoretical contexts and the diversity in more recent publications follows from that. There has, for example, been a notable number of publications on sustainable business models in the Journal of Cleaner Production during the recent years.

How business models relate to strategy

A complementary question that needs to be addressed is the relation between business models and strategy. Chesbrough and Rosenbloom (2002) argue that there are three main dimensions that distinguish between strategy and the business model. Firstly, the focus on value differs. While the business model is focused on value creation, strategy rather considers the capture of value in a maintainable manner. Secondly, while the business model focused on customer value, strategy is predominantly oriented to shareholder value. Lastly, while strategy assumes analytical abilities alongside information access, the business model assumes cognitive bias and cognitive limitations. This contributes to path dependence which cements established logics in the organization. Also, it is argued that business models, as opposed to strategy, does not take competitors into account (Magretta, 2002).

Similarly, Casadesus-Masanell and Ricart (2010) considers strategy and the business model as temporally separate entities, where the business model follows as a reflection of strategy. At the core of this argument is that strategy is a matter of “the choice of business model through which the firm will compete in the market place” (p. 196). Richardson (2008) holds in a similar vein that the business model is the link between the business idea and the activities of the firm, i.e. the business model is a tool for the implementation and execution of strategy. The business model can hence be regarded as an enabler of strategy (Onetti, Zucchella, Jones, & McDougall-Covin, 2012). The intertwined nature of designing and selecting a business model alongside business strategy is emphasized by David J. Teece (2010), suggesting that the key element is about sustaining the competitive advantage that a business model can give over competing business models. One or several business models offer the possibility to analyze, test and validate the choices made in strategy work (Shafer, Smith, & Linder, 2005)

A comment on the diversity in empirical application of business models

The business-model concept has a strong foundation in the business literature, more specifically in the strategy literature. However, the logic that drives the concept lends itself also to other areas. Business models can be applied to the development of non-business organizations, such as non-profit organizations, initiatives centered on social entrepreneurship, the culture sector and similar situations. Regardless of whether an organization exists to make profit or not, there is still a need to outline what value is offered, how this is created and the financial aspects of doing so. This broad application of business models is widely applied in for example entrepreneurship and business development education.

Two main perspectives on business models have emerged

As is the case with many theoretical concepts in its early phases of development, the business model literature has diverged in different theoretical directions and the conceptual focus differs

among business-model publications. This boils down to different business model ontologies and the separation can be broadly divided into two dominating streams of literature: an activity-system perspective versus a componential perspective on business models.

An activity-system perspective on business models

The activity-oriented perspective on business models build to the founding work of Amit and Zott (2001) who regard a business model as “the design of transaction content, structure, and governance so as to create value through the exploitation of business opportunities” (p. 511). This reasoning has been developed further suggesting that a business model describes how the company does business framed as an ‘activity system’ of interconnected and interdependent activities (Amit & Zott, 2012). The activities captured in the business model are directed to customer needs and are performed by a specified actor. This can be described as a “structural template” for how the business of a company is run (Clauss, 2017, p. 386). Wirtz, Pistoia, Ullrich, and Göttel (2016, p. 41) describes the business model as “a simplified and aggregated representation of the relevant activities of a firm”.

Central to the activity-system perspective is the decisions related to the focus, locus and modus of the different activities manifesting the business model (Onetti et al., 2012). The focus dimension refers to the allocation of resources that are used to perform the activities of the firm. The locus decision introduces a spatial dimension to the business model, centered on locational decisions for where activities are to be performed. The modus dimension includes aspects such as the decision of choosing to what extent activities are performed within or outside the boundary of the focal company. From this follows that for activities to be performed inhouse, the balance between capital- or labor-intensive activities need to be decided. When choosing to use external partners to perform the activities, factors such as the interfirm relationships become central. Since the sum of these decisions are specific to a firm it offers a possibility to differentiation and competitive advantage.

A componential perspective on business models

This perspective on business models takes a foothold in business models being built on a number of specific but interlinked components as the central elements critical to the business. These elements and the architecture that connects them are the pivotal points of business models (Foss & Saebi, 2017; Saebi, Lien, & Foss, 2017). The architecture captures the functional relationships between the elements of the business model (Foss & Saebi, 2018) Put together, this gives a conceptual description of the components and the architecture that “allows expressing the business logic of a specific firm” (Osterwalder et al., 2005, p. 17). Chesbrough and Rosenbloom (2002) argues that the business model contains reasoning about the value proposition, market segment, value chain, profit and cost as well as the company’s position in the network of interlinked actors (competitors as well as customers). This describes how the company create and captures value (Chesbrough, 2007) from elements that are connected in a system-like manner (Desyllas, Salter, & Alexy, Forthcoming).

One aspect that drives the componential perspective on business models is that it allows for simplification how a firm does business. The complexity can be reduced by the definition of the most critical components into formal conceptual representations (Massa et al., 2017). Many versions of how to describe the component compositions have seen the light of day since

the initial work. Morris, Schindehutte, and Allen (2005) found that four to eight components typically were used, including the most common elements such as value offering and economic model. Osterwalder and Pigneur (2010) suggests a set-up of 9 components (called the business model canvas, more on that below) which have received substantial attention among scholars and practitioners alike.

The Business Model Canvas

In the componential perspective, one specific take on business models have gained significant attraction in both academia and among practitioners – the business model canvas (Osterwalder, 2004; Osterwalder & Pigneur, 2010). The business model canvas builds on a componential logic of interrelated parts that is also utilizing a graphical illustration that enables straightforward communicability of the business model. There are indeed other graphical illustrations (see e.g. Täuscher and Abdelkafi (2017) for an overview of visual business-model tools) but few have gained the same traction across different settings as the business model canvas.

Building on the definition outlined above, centered in business model being a description of how value is created, delivered and captured, the business model canvas (Osterwalder & Pigneur, 2010) consists of a number of interrelated building blocks. The centerpiece is the value proposition, i.e. what value is offered to the customers. To this is added a set of components that captures customer interaction, these being the definition of customer segments, how to build relationships with these segments and what channels are used for communication and distribution to these segments. Moreover, the business model canvas includes infrastructure for producing value. The production infrastructure captures the key activities, key resources and key partners that are necessary for the creation of value. The inclusion of key partners emphasizes the connection between the company and external actors, i.e. not everything is performed within the boundary of the company but includes also other actors in the surrounding business environment. Also, the resources necessary for value creation may be external to the firm. This points at a balancing act between keeping resources internally to perform key activities and utilizing external actors and external resources to perform essential value-creating processes in order to keep a “lightweight” internal organization. Finally, the business model contains the economic aspects of value capture, as costs and revenue streams. The cost structure depends on how the production is organized and the revenue streams are related to factors such as what the customers are being charged for and the pricing model applied. The revenue streams may differ for a core product depending on the business model, for example by differentiating between models that are based on product sales and models that are based on a product-as-a-service logic. The graphical illustration of the business model canvas is presented in Figure 1 below.

THE BUSINESS MODEL CANVAS

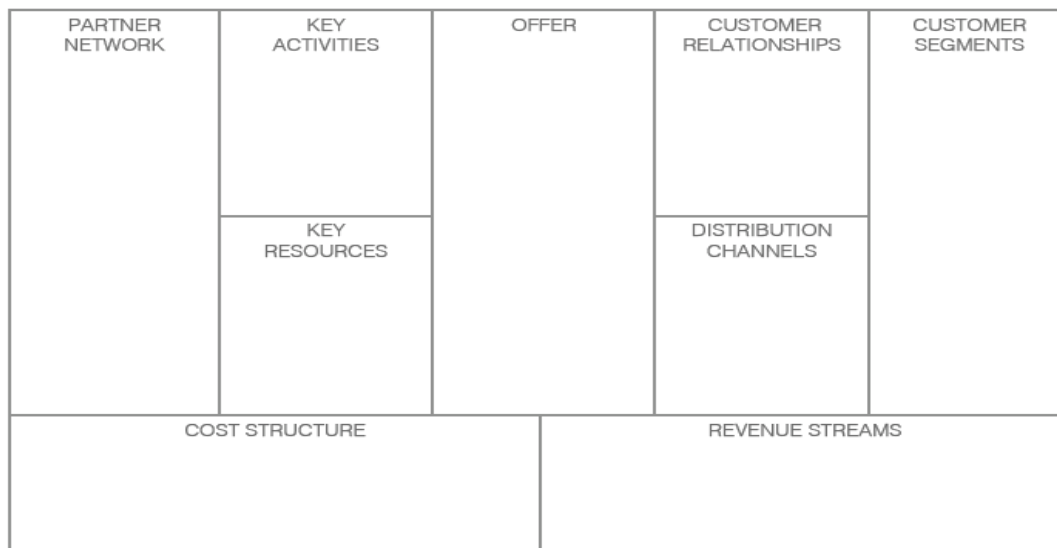


Figure 1. Business model canvas (Osterwalder & Pigneur, 2010)

One central feature of the componential logic is that not only the components themselves are essential but also how they interrelate, as discussed above. The components need to match in a coherent manner so as to create a system of interrelated components that together embodies the business model.

Summary

The business model of the firm is a conceptual description of the logic of how the firm functions, oriented to the creation of customer value. The business model is itself considered a specific unit of analysis and while the business model is strongly connected to strategy it is a feature that is distinct from the company strategy.

2. How to conceptualize dynamism in business models?

Innovation is central for any company that wants to develop. This can take place in an incremental form, where new solutions build strongly on the existing ones and the development is done in minor steps, or innovation can be radical, with new solutions that are weakly related to the existing ones and development are done in big shifts. The relevance of innovation often refer to technological innovation but the term and the importance of innovation stretches further than that, to also be a matter of business model innovation (Chesbrough, 2007). As a company's business model is exposed to change in the external business environment it may need to change accordingly, either reactively or proactively. Hence, when considering the market business model innovation may appear more suitable so as to understand how the firm changes to address external change.

Addressing new markets means addressing new customers with new needs, using a new business model (Costas Markides & Oyon, 2010). Changes in business models are often labeled business model innovation although other labels that capture different types of change should

also be recognized, such as business model reconfiguration (e.g. Casadesus-Masanell & Ricart, 2010), business model renewal and transformation (e.g. Doz & Kosonen, 2010), and business model adaptation (e.g. Landau, Karna, & Sailer, 2016; Saebi et al., 2017). Still, business model innovation appears to have attracted the greatest degree of interest from the scholarly community. This interest has led to that also business model innovation has received the attention to merit special issues, for example in *R&D Management* (Volume 44, Issue 3, 2014). In the editorial Spieth, Schneckenberg, and Ricart (2014) argues that business model innovation plays a role in order to facilitate, organize and communicate the diverse functions of a business model, i.e. “explaining the business, running the business and developing the business”. The concept of business model innovation refers not only to different functions of the firm but also to the function of the business model, which explains the logic of how the company, by addressing three dimensions: innovation in the value proposition, the architecture for value creation and the revenue model (Spieth & Schneider, 2016). From an activity perspective on business models, business model innovation concerns the establishment of new content in the business model, i.e. new activities, new structures in the business model, i.e. new ways of linking activities, new governance, i.e. changing who performs activities (Amit & Zott, 2012).

Foss and Saebi (2017) review the business-model innovation literature, arguing that innovation have been addressed as innovation regarding business-model components as well as innovation of the architecture that is connecting the components. From this notion they define business model innovation as “designed, novel, and non-trivial changes to the key elements of a firm’s [business model] and/or the architecture linking these elements” (p. 216). From this definition follows that concept of business model innovation does not capture any change in the firm but more specifically innovation that is about key aspects of how the firm is doing business, the components that are used or the logic that connects the components. The definition also points out that the change taking place needs to have some degree of novelty, to the industry or at least to the firm, and that change does not happen by coincidence only. Instead, pointing to business innovation being designed emphasizes that to some degree business model innovation is deliberate. The business model innovation is influenced by antecedents (internal as well as external to the firm) and produce outcomes in terms of competitive advantage. These relationships are influenced by moderating factors on macro-, firm-, and micro-level

In order to classify business model innovation in relation to the innovativeness it brings, Foss and Saebi (2017) suggests a dimensionalization built on novelty and scope. Using the novelty dimension connects to previous work on business model innovation, e.g. Zott and Amit (2007). The scope dimension regards the amount of change that the business model innovation brings, i.e. whether change is made in individual components of the business model or if change is made also in the architecture that links the components. Figure 2 below illustrates the typologies that are derived by Foss and Saebi (2017). Evolutionary business model innovation concerns minor change that is fine-tuning the existing model. Adaptive business model innovation is focused on more substantial change to address external change, it is new to the firm but not new to the industry. Focused business model innovation regards innovation in individual components aimed to “disrupt market conditions”. The disruptive nature of the change is included also in complex business model innovation, although changing the whole logic of how the firm creates, delivers and captures value by changing the architecture of the business model. Hence, the typology captures the variation in which business model can take

place, from minor adjustments of individual elements of the business model to overturning the logic for how the company functions and what components this logic rests upon.

Novelty	Scope		
		Modular	Architectural
	New to firm	Evolutionary BMI	Adaptive BMI
	New to industry	Focused BMI	Complex BMI

Figure 2. Business Model Innovation Typology (Foss & Saebi, 2017, p. 217)

Based on the reasoning of Cavalcante, Kesting, and Ulhøi (2011), suggesting four different types of change in business models, it can be argued that business models are not only created but also released in the situation of core processes becoming obsolete. Their suggestion rests on four types: “1. business model creation; 2. business model extension; 3. business model revision; and 4. business model termination” (p. 1328) This pinpoints that change in business models and its core processes are not only about creating new business models or developing the existing ones, but also a matter of terminating business models that no longer allows for the firm to create customer value.

Business model innovation processes

The internal orchestration of business model innovation relies on making a number of decisions based on a number of choices and their consequences. The evolution that follows from these choices are directed towards adding competitive advantage (Casadesus-Masanell & Ricart, 2010). In that respect, strategically infused dynamism in a company, business model innovation can be strongly related to the dynamic capabilities (e.g. Eisenhardt & Martin, 2000; David J Teece, Pisano, & Shuen, 1997) of a company in that it concerns strategic reconfiguration that is honed to create competitive advantage. Like in the dynamic capability literature, learning is promoted as being a central facilitator of business model innovation Single- and double-loop learning drives different degree of business model innovation (Landau et al., 2016) and the exploration vs. exploitation of organizational knowledge influences what business model innovation that takes place (Cao, Navare, & Jin, 2018). However, there are likely to be cognitive barriers that limits the possibility to identify the most suitable business model in all situations and experimentation is a driving force for business model innovation (Chesbrough, 2010).

The process of business model innovation can be regarded as a learning based trial-and-error process, in which there is a separation between the exploration of new features and the implementation of an innovative business model (Sosna, Trevinyo-Rodríguez, & Velamuri, 2010). This reasoning pinpoints that although both are needed to facilitate business model innovation, creating an innovative business model and implementing that model are two separate activities. The creation of innovative business models has been regarded as an effectual process (Sarasvathy, 2001) of experimentation with learning as a driving force (Chesbrough, 2010). This notion suggests that business model innovation is a process that is to a high degree unpredictable and non-linear. Experimentation allows to test new ideas in the exploratory phase of development. Regarding the exploration phase, a plethora of visual tools for business model

innovation have been presented on the basis that visualizations help managers to facilitate change. One example of a visual tool is the Business Model Canvas illustrated above. For a more comprehensive list of tools, Täuscher and Abdelkafi (2017) presents an overview of a vast array of visual tools that have been suggested.

On the use of multiple business models

Constantinos Markides and Charitou (2004) highlights that the use of parallel business models requires reflections on strategies for separation and integration, separation of the business models into separate organizations if they are in a high degree of conflict and integration if the markets served are to a high degree similar. Separation and integration decisions can be made based on factors such as localization and value chain activities, which capture an ambidexterity challenge for the firm (C. C. Markides, 2013). In a similar vein, Casadesus-Masanell and Tarzijan (2012) argues that it is necessary to keep similar business models apart and complementary business models integrated. This distinction is based on the extent to which the business models share physical assets and to what extent resources and capabilities are compatible across the business models.

It is argued that the link between the reconfiguration of business models and the performance effects of doing so is complex. It is nested in curvilinear relationship that include previous performance and the degree of innovation that the reconfiguration represents (Desyllas et al., Forthcoming). Although changes in a business model may be necessary due to external factors, predicting its performance effect seems to be far from an easy task.

External actors in business model innovation

Business model innovation is not an isolated internal process in a firm, instead external influence plays a major role to innovate the business model. Interaction with current customers, potential customers and other external stakeholders is crucial to, e.g. identify new business opportunities and drive business model innovation (Spieth et al., 2014). However, it is likely that different external actors predominantly contribute to different aspects of the business model innovation. Clauss (2017) argue that suppliers and external partners belong to the value-creation domain while customers belong to the value-proposition domain of the business model. A similar distribution can be expected when it comes to business model innovation. Suppliers and external partners may be more likely to introduce new ways to create value and the customers may be more likely to suggest new business opportunities. On a similar note, public actors can be expected to influence business model innovation in different ways, for example by support for new technology application and business development and by introducing restrictions and laws that requires new solutions to continue doing business.

This reasoning opens the door to considering what could be described as business model fit. There is a need to have a fit with the local or regional context (i.e. fit with local resources and actors) and fit with local customers. For business model innovation the relation to existing resources and process in the firm may also be of importance, i.e. a sort of internal fit in the organization. External actors seem to contribute differently in the creation of this fit.

Summary

Contrasting the two main theoretical perspectives on business models and the implications for business model innovation suggests that from an activity-system perspective, business model innovation refers to new activities or new structures for how these activities are connected. Consideration regarding what actor performs a specific activity can also be a relevant aspect. From a componential perspective, business model innovation concerns changes in the different components or changes in the architecture for how these activities are connected. Both perspectives consider changes in parts and the whole, although the focus differs between activities or components. The results of business model innovation drive new markets or adaptations to changes in existing markets. For any focal company this can lead to a portfolio of multiple business models aimed at different markets.

3. Lines of development in the business-model related literature

Foss and Saebi (2017) highlight a number of fields where the application of business models has gained a strong foothold. These fields are Entrepreneurship, Open innovation, Servitization and Sustainability. Among these, it is argued, the fields of entrepreneurship and open innovation are inherently related to business models, and in particular, to business model innovation. The creation and selection of new business models can be regarded an entrepreneurial act. In a similar vein, open innovation concerns the development of new forms of value in a close collaboration with external actors. Whenever this is aimed at creating new value propositions or changing the ways in which value is delivered or how value is captured, it can be described as a matter of business model innovation. Servitization and sustainability, on the other hand, may be less apparent in their connection to business models. Therefore, these areas are in focus for a more in detail discuss the application of business models in the areas of servitization and sustainability in the following. Additionally, outside of these areas, but strongly connected to the field of servitization, is the relevance of digitalization for business models. This motivates an inclusion also of the area of digitalization. Hence, business models in connection to servitization, digitalization and sustainability is briefly outlined in the following to highlight some lines of development containing the logic of business models.

Business model innovation and servitization

Servitization relates to ‘service business model innovation’, which concerns the inclusion of an increasing amount of service components in the offering, in addition to products, to the customers (Visnjic, Wiengarten, & Neely, 2016). The overlap of business model innovation and servitization has gained significant attention among scholars. Possibly, this development can be explained based on that the logic of business model innovation speaks clearly to the need to understand the necessary changes in a company in order to facilitate the shift towards servitization. As services are integrated elements in the offering, alongside the product rather as an add-on to the product, a complementary dynamics is created that appears to be valuable for the company, also in terms of profitability (Kastalli & Van Looy, 2013)

Service business model innovation addresses the interest of traditional purchasers of products to instead seek for service contracts instead of products (Barnett, Parry, Saad, Newnes, & Goh, 2013). Some examples of this from practice were given in the introduction to this paper

(e.g. Volvo, SKF and Philips). On top of those, initiatives like the Rolls Royce Power-by-the-Hour (charging airplane operators per flight hour instead of selling aircraft engines) (rolls-royce.com) are examples of how product sales are translated into service offerings that utilized the product as one out of several components that create the functionality for the customer. The Rolls Royce example shows that this is by no means a new idea, the “Power-by-the-Hour” initiative was established already in the 1960’s, but the theorization in the business model literature is a more recent development. It can be expected to continue. The strategic importance of service innovation is argued to increase, in particular among manufacturing companies as a way to create differentiation and, thereby, increased competitiveness and performance (Carlborg, Kindström, & Kowalkowski, 2014)

Digitalization appears to be an essential driver of servitization. Digitalization lays the foundations for new services to be created, services that builds on and extends the resources and capabilities that are related to the product (Paiola & Gebauer, 2020). Digitalization in this context offers possibilities to develop not only product-focused business models but also to develop business models that are both process and outcome oriented. Along these lines, digitalization and the extension into the technology of Internet-of-Things are essential drivers of outcome-oriented business models like SKF’s fee-based model and Rolls Royce Power-by-the-Hour. One reason is that these technologies enable the development of service-related predictive maintenance, something that has been far more difficult without the recent developments in data communication and data processing. For business models that offer platform-based services, like Volvo’s car-sharing initiative, digitalization is of course paramount to offer the required functionality. Hence, servitization and digitalization seem to go hand-in-hand in the context of business models.

Digitalization and business model innovation

Digital factors, and in particular e-business, has been part of the business model literature basically from inception. Essentially, e-business and the increasing digitalization of businesses spurred some of the early trend-setting contributions to the business model literature (e.g. Amit & Zott, 2001). In more recent developments, the role of digitalization in business models, and in particular in business model innovation, addresses the way value is created, delivered and captured in the wake of Industry 4.0 (Ibarra, Ganzarain, & Igartua, 2018). Digitalization and big data facilitates both incremental innovation to established business models but also the development of radically different business models that disrupts the prevailing business logic (Loebbecke & Picot, 2015). New ways to gather and use data make it possible to develop new business models that were previously not feasible.

However, to create a transformation towards a higher degree of digitalization in the business model may require new competences. Digitalization drives a need for employees with a different set of skills, which influences how future requirements are outlined in terms of recruitment of new personnel (Rachinger, Rauter, Müller, Vorraber, & Schirgi, 2019). The skills needed previously need to be complemented with skills in dealing with the integration and use of digitalization in companies. In particular, big data appear to be a digitalization factor that matters for business model innovation (Bouwman, Nikou, Molina-Castillo Francisco, & de Reuver, 2018).

Sustainable business models

Sustainable business models may be the branch of the business model literature that have received the steepest increase in attention lately. Several special issues on the topic of sustainable business models have been published, such as “Sustainable Innovation and Business Models” in *Journal of Cleaner Production*, Volume 45, April 2013 and “Business Models for Sustainability: Entrepreneurship, Innovation and Transformation” in *Organization and Environment*, Vol 29 Issue 1 March 2016. Recent literature reviews on the topic is offered by Geissdoerfer, Vladimirova, and Evans (2018), Bocken, Short, Rana, and Evans (2014) and Nosratabadi et al. (2019)

So what does the notion of sustainable business models contain? Geissdoerfer et al. (2018, p. 407) “define sustainable business models as 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.” This definition can be argued to take into account a wider array of stakeholders, as compared to generic business model literature. This means that the aim of a sustainable business models is a combination of creating value for the company, the society and the environment in parallel, not value for one at the expense of another. Companies that let social environmental values, and not only economic value, to permeate the company’s purpose and vision are argued to have a sustainable business model (Stubbs & Cocklin, 2008).

This view on business models considers profit as a mean to create sustainable outcomes rather than a goal in itself. In order for this to happen not only the internal structure and culture need to be developed, the whole eco-system surrounding the company need to support this. It can be described as a conceptual logic of business models that enables an integration of parallel and heterogeneous value creation logics, logics that may also include elements that build on a governmental logic (Laasch, 2018). The use of the business model concept to address sustainability allows researchers as well as practitioners to capture the drive to interconnect the value creation in economic terms with the simultaneous creation of social and environmental value (Massa et al., 2017).

It has been argued that while many company executives may perceive a transformation to sustainability a costly exercise that risk the company’s competitive advantage, it can be argued that, instead, sustainability can drive business model innovation and increased competitive advantage (Nidumolu, Prahalad, & Rangaswami, 2009). The Ocean Cleanup (theoceancleanup.com) is an example of an initiative that was started focusing on solving an environmental problem, plastic garbage in the oceans, and is selling this plastic as recycled input for the production of plastic products. The financial returns of the sales are channeled back into further ocean clean-up. This is an example of an integration of monetary and non-monetary value in a sustainable business model and an innovative business model that was developed by taking sustainability, rather than profit, in focus.

As a sub category of sustainable business model, circular business models have received substantial interest. Circular business models build on a circular, rather than a linear, logic for how (natural) resources are used to create products and services. Instead of regarding the use of resources from cradle-to-grave, products and, the resources they utilize, are reused and recirculated. This circular logic is integrated as parts of the business model, for example as the sales of refurbished clothing and the re-use of textile fiber for clothes that are beyond repair.

For a literature review focused specifically on circular business models, Rosa, Sassanelli, and Terzi (2019) offers some work, in particular focused on the classification of circular business models.

The sustainable business models can take many shapes and forms. Generic business model archetypes built on the three pillars of sustainability (Bocken et al., 2014; Ritala, Henttonen, Salojärvi, Sainio, & Saarenketo, 2013). To exemplify, one of the archetypes is addressing the delivery of functionality rather than ownership much like the initiative M by Volvo or fee-based business model by SKF.

However, one weakness of regarding generic and distinct strategies as an avenue forward in practical terms is that they do not address the interlinks between the three types of sustainability. In practice, for a company to develop a sustainable business model the balance between economic, social and environmental value needs consideration. Emerging from the componential perspective on business models and leaning more specifically on the business model canvas, Joyce and Paquin (2016) suggest a triple layered business model that capture the economic value, being the centerpiece of most business models, but also ecological and social sustainability. The three layers follow the same logic with interrelated parts but addresses this from different directions. For example, where the economic layer takes cost into account, the additional layers take social and environmental impact into account. Conversely, where the economic layer considers revenue streams, the social and environmental layer includes social and environmental benefits. The full list of corresponding components is found below, in Table X. The central notion of the triple layered approach is that not only does a business model need to be coherent within the economic layer, all three layers need to be coherent both within each layer but also across layers. Hence there needs to be a coherent story for how customer value can be created delivered and captured while at the same time integrating social and functional value in a coherent way. This logic allows for analyzing and understanding the social and environmental impacts and benefits while at the same time offer a tool for structured business model innovation, much like the original business model canvas. This is certainly not the only available visual tool for sustainable business model innovation, but serves well to exemplify how the social and environmental dimensions are becoming intertwined into business model innovation.

Economic layer	Social layer	Environmental layer
Value Proposition	Social Value	Functional value
Customer Segments	End-User	Use phase
Customer Relationships	Societal Culture	End-of-Life
Channels	Scale of Outreach	Distribution
Activities	Governance	Production
Resources	Employees	Materials
Partners	Legal Communities	Supplies and Out-sourcing
Revenues	Social Benefits	Environmental Benefits
Costs	Social Impacts	Environmental Impacts

Table 1: Corresponding constituents of the triple layered business model canvas (Joyce & Paquin, 2016)

Summary

The logic of business models has been applied in different streams of literature. Some recent developments in the overlap of business modes and servitization, digitalization and sustainability have received significant attention. The integration of service components in the value proposition have led to the development of novel business models. Digitalization relates to this development as the use of digital platforms, Internet-of-Things and big data serves to facilitate the creation of new business models and the development of existing ones. The notion of sustainable business models encapsulates the creation of monetary and non-monetary value in parallel, that serves to offer value to different stakeholder simultaneously, rather than for one stakeholder at the expense of another.

4. Why should regional developers care about business models?

At a first glance it may appear as if business models of companies are entirely distinct from development on a regional level. However, from the text above it may come through that the connection between business model, and business model innovation in particular, and regional development is likely to be substantial. Some of the connections are outlined in the following and some potential research problems that follows are presented. This is done in an attempt to address the question: what are the implications for regional development of a focus on business models and business model innovation?

Traditionally, regional innovation systems focus mainly on technological innovation. However, to one technological innovation or product innovation different value propositions and different customer interaction and production infrastructures can be applied. Hence, many different business models are possible around one core technological innovation. Moreover, a core proprietary technology may not even be needed as innovation can take other forms that are not necessarily embedded in technological progress but in novel and superior use of generic technological tools. If we acknowledge that innovation is not restricted to technology there is a need to develop a better understanding of how regional innovation systems support, and

possibly restrict, business model innovation. This raises some questions that may be of relevance to consider in the overlap of business models, business model innovation and regional development:

- What demands are put on the regional innovation system when companies shift towards sustainable business models. Many industries are likely to move in that direction. What actors and infrastructure are needed to facilitate this transformation among companies in a region? Sustainability is not likely to happen unless all parts of the “upstream” production infrastructure and the “downstream” customer interaction can be supported by partners that applies equally sustainable operations. These will need to be aligned and connected in order to enable a sustainable business model.
- How can a regional innovation system enable service business model innovation? This transformation is already in the making and is likely to require a service-oriented mindset that can complement a product-oriented. As mentioned above, servitization is a strong trend among manufacturing companies which is a substantial part of the regional industry structure. Hence, there needs to be available support for transformations of business models to a service logic. As the servitization goes hand-in-hand with digitalization, it is likely that there is a need to understand how digitalization competencies can support this transformation. There is a need to understand the access to relevant actors in the geographical proximity as many manufacturing companies embrace the looming trend of servitization.
- Adding to the above, the transformation of regional industries in the lines of the digitalization, servitization, and sustainability trends is likely to put forward new requirements regarding competences of employees. The need for updated competences can be expected also in the business-support systems, financiers, chambers of commerce etc. Hence, the regional innovation as a network may need new competences to support business model innovation, which suggests that we need to know: what new competences are needed in regional companies and in the regional support system to enable business model innovation?
- How does business model innovation influence the additional geographical establishment of regional companies? This question addresses the role of proximity between a company, external partners and external resources. Onetti et al. (2012) argues that the spatial aspects of deciding on locational matters is an integrated aspect of a company’s business model, i.e. it must be decided where to perform central activities. Sánchez and Ricart (2010) suggests that business models can be more or less connected to the local ecosystem, arguing that isolated business models rely predominantly of internal resources in the company while interactive business models utilized internal resources in combination with resources from the local business environment. This notion connects to the use of, and relation to, regional resource configurations and their impact on business models. It is likely that the possibilities of localization of sustainable business models and service business model innovation is influenced by prerequisites in the surrounding business environment. Hence there is a need to understand the regional embeddedness of business models and how strongly this is tied to regional resources as this may influence the possibilities for international expansion.

- Given the industry structure in the Gothenburg region it may be especially relevant to consider the focus of large companies such as Volvo and SKF on servitization and sustainability. However, there seem to be differences in business model innovation for start-ups vs. established firms (Sosna et al. 2010). Therefore, the regional innovation system should probably not be expected to be a kind of ‘one size fits all’, although some business model innovation knowledge and practices may spill over from the large established companies to small and recently founded companies.

List of references

- Amit, R., & Zott, C. (2001). Value creation in E-business. *Strategic Management Journal*, 22(6-7), 493-520.
- Amit, R., & Zott, C. (2012). Creating value through business model innovation. *MIT Sloan Management Review*, 53(3), 36-42.
- Barnett, N. J., Parry, G., Saad, M., Newnes, L. B., & Goh, Y. M. (2013). Servitization: Is a Paradigm Shift in the Business Model and Service Enterprise Required? *Strategic Change*, 22(3-4), 145-156.
- Bocken, N. M. P., Short, S. W., Rana, P., & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. *Journal of Cleaner Production*, 65, 42-56.
- Bouwman, H., Nikou, S., Molina-Castillo Francisco, J., & de Reuver, M. (2018). The impact of digitalization on business models. *Digital Policy, Regulation and Governance*, 20(2), 105-124.
- Cao, L., Navare, J., & Jin, Z. (2018). Business model innovation: How the international retailers rebuild their core business logic in a new host country. *International Business Review*, 27(3), 543-562.
- Carlborg, P., Kindström, D., & Kowalkowski, C. (2014). The evolution of service innovation research: a critical review and synthesis. *The Service Industries Journal*, 34(5), 373-398.
- Casadesus-Masanell, R., & Ricart, J. E. (2010). From Strategy to Business Models and onto Tactics. *Long Range Planning*, 43(2), 195-215.
- Casadesus-Masanell, R., & Tarzijan, J. (2012). When one business model isn't enough. *Harvard Business Review*(January-February), 132-137.
- Casadesus-Masanell, R., & Ricart, J. E. (2010). Competitiveness: business model reconfiguration for innovation and internationalization. *Management Research: Journal of the Iberoamerican Academy of Management*, 8(2), 123-149.
- Cavalcante, S., Kesting, P., & Ulhøi, J. (2011). Business model dynamics and innovation: (re)establishing the missing linkages. *Management Decision*, 49(8), 1327-1342.
- Chesbrough, H. (2007). Business model innovation: it's not just about technology anymore. *Strategy & Leadership*, 35(6), 12-17.
- Chesbrough, H. (2010). Business Model Innovation: Opportunities and Barriers. *Long Range Planning*, 43(2), 354-363.
- Chesbrough, H., & Rosenbloom, R. S. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. *Industrial and Corporate Change*, 11(3), 529-555.
- Clauss, T. (2017). Measuring business model innovation: conceptualization, scale development, and proof of performance. *R&d Management*, 47(3), 385-403.

- Desyllas, P., Salter, A., & Alexy, O. (Forthcoming). The breadth of business model reconfiguration and firm performance. *Strategic Organization*, 0(0), 1476127020955138.
- Doz, Y. L., & Kosonen, M. (2010). Embedding Strategic Agility: A Leadership Agenda for Accelerating Business Model Renewal. *Long Range Planning*, 43(2), 370-382.
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic Management Journal*, 21(10-11), 1105-1121.
- Foss, N. J., & Saebi, T. (2017). Fifteen Years of Research on Business Model Innovation: How Far Have We Come, and Where Should We Go? *Journal of Management*, 43(1), 200-227.
- Foss, N. J., & Saebi, T. (2018). Business models and business model innovation: Between wicked and paradigmatic problems. *Long Range Planning*, 51(1), 9-21.
- Geissdoerfer, M., Vladimirova, D., & Evans, S. (2018). Sustainable business model innovation: A review. *Journal of Cleaner Production*, 198, 401-416.
- Ibarra, D., Ganzarain, J., & Igartua, J. I. (2018). Business model innovation through Industry 4.0: A review. *Procedia Manufacturing*, 22, 4-10.
- Joyce, A., & Paquin, R. L. (2016). The triple layered business model canvas: A tool to design more sustainable business models. *Journal of Cleaner Production*, 135, 1474-1486.
- Kastalli, I. V., & Van Looy, B. (2013). Servitization: Disentangling the impact of service business model innovation on manufacturing firm performance. *Journal of Operations Management*, 31(4), 169-180.
- Laasch, O. (2018). Beyond the purely commercial business model: Organizational value logics and the heterogeneity of sustainability business models. *Long Range Planning*, 51(1), 158-183.
- Landau, C., Karna, A., & Sailer, M. (2016). Business model adaptation for emerging markets: a case study of a German automobile manufacturer in India. *R&d Management*, 46(3), 480-503.
- Linder, J., & Cantrell, S. (2000). *Changing business models: Surveying the landscape*. Retrieved from
- Loebbecke, C., & Picot, A. (2015). Reflections on societal and business model transformation arising from digitization and big data analytics: A research agenda. *The Journal of Strategic Information Systems*, 24(3), 149-157.
- Magretta, J. (2002). Why business models matter. *Harvard Business Review*, 80(5), 86-92.
- Markides, C., & Charitou, C. D. (2004). Competing with dual business models: A contingency approach. *Academy of Management Executive*, 18(3), 22-36.
- Markides, C., & Oyon, D. (2010). What to do against disruptive business models (when and how to play two games at once). *MIT Sloan Management Review*, 51(4), 25.
- Markides, C. C. (2013). Business Model Innovation: What Can the Ambidexterity Literature Teach Us? *The Academy of Management Perspectives*, 27(4), 313-323.
- Massa, L., Tucci, C. L., & Afuah, A. (2017). A Critical Assessment of Business Model Research. *Academy of Management Annals*, 11(1), 73-104.
- Morris, M., Schindehutte, M., & Allen, J. (2005). The entrepreneur's business model: toward a unified perspective. *Journal of Business Research*, 58(6), 726-735.
- Nidumolu, R., Prahalad, C. K., & Rangaswami, M. R. (2009). Why sustainability is now the key driver of innovation. *Harvard Business Review*, 87(9), 56-64.
- Nosratabadi, S., Mosavi, A., Shamshirband, S., Kazimieras Zavadskas, E., Rakotonirainy, A., & Chau, K. W. (2019). Sustainable business models: A review. *Sustainability*, 11(6), 1663.

- Onetti, A., Zucchella, A., Jones, M. V., & McDougall-Covin, P. P. (2012). Internationalization, innovation and entrepreneurship: business models for new technology-based firms. *Journal of Management & Governance*, 16(3), 337-368.
- Osterwalder, A. (2004). The business model ontology: A proposition in a design science approach. *Institut d'Informatique et Organisation University of Lausanne, Ecole des Hautes Etudes Commerciales HEC*.
- Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: a handbook for visionaries, game changers, and challengers*. Hoboken, New Jersey: John Wiley & Sons.
- Osterwalder, A., Pigneur, Y., & Tucci, C. L. (2005). Clarifying business models: Origins, present, and future of the concept. *Communications of the association for Information Systems*, 16(1), 1-25.
- Paiola, M., & Gebauer, H. (2020). Internet of things technologies, digital servitization and business model innovation in BtoB manufacturing firms. *Industrial Marketing Management*, 89, 245-264.
- Rachinger, M., Rauter, R., Müller, C., Vorraber, W., & Schirgi, E. (2019). Digitalization and its influence on business model innovation. *Journal of Manufacturing Technology Management*, 30(8), 1143-1160.
- Richardson, J. (2008). The business model: an integrative framework for strategy execution. *Strategic Change*, 17(5-6), 133-144.
- Ritala, P., Henttonen, K., Salojärvi, H., Sainio, L.-M., & Saarenketo, S. (2013). Gone fishing for knowledge? The effect of strategic orientations on the scope of open knowledge search. *Baltic Journal of Management*, 8(3), 328-348.
- Rosa, P., Sassanelli, C., & Terzi, S. (2019). Towards Circular Business Models: A systematic literature review on classification frameworks and archetypes. *Journal of Cleaner Production*, 236, 117696.
- Saebi, T., Lien, L., & Foss, N. J. (2017). What Drives Business Model Adaptation? The Impact of Opportunities, Threats and Strategic Orientation. *Long Range Planning*, 50(5), 567-581.
- Sánchez, P., & Ricart, J. E. (2010). Business model innovation and sources of value creation in low-income markets. *European Management Review*, 7(3), 138-154.
- Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243-263.
- Shafer, S. M., Smith, H. J., & Linder, J. C. (2005). The power of business models. *Business Horizons*, 48(3), 199-207.
- Sosna, M., Treviño-Rodríguez, R. N., & Velamuri, S. R. (2010). Business Model Innovation through Trial-and-Error Learning: The Naturhouse Case. *Long Range Planning*, 43(2), 383-407.
- Spieth, P., Schneckenberg, D., & Ricart, J. E. (2014). Business model innovation—state of the art and future challenges for the field. *R&d Management*, 44(3), 237-247.
- Spieth, P., & Schneider, S. (2016). Business model innovativeness: designing a formative measure for business model innovation. *Journal of Business Economics*, 86(6), 671-696.
- Stubbs, W., & Cocklin, C. (2008). Conceptualizing a “sustainability business model”. *Organization & environment*, 21(2), 103-127.
- Teece, D. J. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*, 43(2), 172-194.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.

- Täuscher, K., & Abdelkafi, N. (2017). Visual tools for business model innovation: Recommendations from a cognitive perspective. *Creativity and Innovation Management, 26*(2), 160-174.
- Visnjic, I., Wiengarten, F., & Neely, A. (2016). Only the Brave: Product Innovation, Service Business Model Innovation, and Their Impact on Performance. *Journal of Product Innovation Management, 33*(1), 36-52.
- Wirtz, B. W., Pistoia, A., Ullrich, S., & Göttel, V. (2016). Business Models: Origin, Development and Future Research Perspectives. *Long Range Planning, 49*(1), 36-54.
- Zott, C., & Amit, R. (2007). Business Model Design and the Performance of Entrepreneurial Firms. *Organization Science, 18*(2), 181-199.