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Published in:
Journal of Business Models

DOI (link to publication from Publisher):
[10.5278/jbm.v9i1.4246](https://doi.org/10.5278/jbm.v9i1.4246)

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Publication date:
2021

Document Version
Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

Citation for published version (APA):
Aagaard, A., & Nielsen, C. (2021). The fifth stage of business model research: The role of business models in times of uncertainty. *Journal of Business Models*, 9(1), 77-90. <https://doi.org/10.5278/jbm.v9i1.4246>

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JOURNAL OF BUSINESS MODELS

The Fifth Stage of Business Model Research: The Role of Business Models in Times of Uncertainty

Annabeth Aagaard¹ and Christian Nielsen²

Abstract

It is not only new trends and technologies that are currently disrupting and changing the way we do and think business. Global geopolitical stability is deteriorating, leading to rising uncertainty for international trade. Climate change is fostering the need for inclusiveness in business and for an increase in sustainability to the zero-impact level. In addition, we face exogenous shocks such as the COVID-19 pandemic. Although none of these factors are unforeseen, their magnitude and recurrence have provided a platform for a massive refocusing of business and research priorities since the beginning of 2020. Therefore, the fifth stage of business model research will be known as “the role of business models in times of uncertainty”. In this paper we discuss the role of business models in times of uncertainty and provide new venues for further research and progression of business models as we know them.

Please cite this paper as: Aagaard, A. and Nielsen, C. (2021), The Fifth Stage of Business Model Research: The Role of Business Models in Times of Uncertainty, Journal of Business Models, Vol. 9, No. 1, pp. 77-90

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DOI: <https://doi.org/10.5278/jbm.v9i1.4246>

Introduction

Globalisation, open innovation ecosystems, digital technologies, and shared-economy services not only create new venues for delivering and capturing value, but also challenge traditional ways of defining and understanding business models and business model innovation. Companies are increasingly required to adapt their business models (BMs) to fit all the changing conditions of doing business today (Teece, 2010; Battistella et al., 2017). In doing so, firms are challenged to rethink their strategies and to transform parts (Berman, 2012) or the entirety of their business models (Weill & Woerner, 2013). Consequently, the ability to reconfigure BMs can determine a firm's survival and success (Achtenhagen et al., 2013; Battistella et al., 2017).

Today the concept of business models is a popular subject of interpretation and is recognized for its strategic importance in businesses (Zott and Amit, 2013). There are many perspectives on what roles business models should fulfil, such as "the business model as a blueprint of how a business creates and captures values" (Osterwalder and Pigneur, 2013), "the business model as a good story of how enterprises work" (Magretta, 2002), "the business model as a framework" (Chesbrough et al., 2002) and "the business model as an architecture and design of the businesses value-creation mechanisms" (Teece, 2010). Among the most debated characteristics of business models is how they interact with their surrounding environment(s), including strategic partners other stakeholders, and equally how the replacement or rejuvenation of business models within a company can be accomplished (Doz and Kosonen, 2010). To summarize, a business model represents the simplification and aggregation of a company's relevant activities (Wirtz et al., 2010), and it defines the business's value proposition and its approach to creating, delivering and capturing value (Velu and Stiles, 2013).

The current global business temperature sets these aspects into a new context. A company may combine its approach to earning money through a set of activities and resources, creating a business model, and from that identify a viable strategy (Casadesus-

Masanell and Zhu, 2010). This means that, with each business model, the company chooses a specific way of competing (Velu and Stiles, 2013). It is through a dynamic process of experimentation, reconfiguration and change in business logic that managers can make use of business models as tools to address change and innovation (Demil et al., 2015).

However, the deterioration of global geopolitical stability is currently leading to rising uncertainty for international trade. Climate change is fostering the need not only for inclusiveness in business but also to bring sustainability to the zero-impact level. In addition, there are exogenous shocks such as the COVID-19 pandemic.

Thus, the objective of this paper is to depict and discuss how these game-changing trends can impact business model innovation while creating new pathways for research, business and university-industry interaction. Our intention is to pose key questions for the new research directions and venues of business model innovation that are in their infancy in the fifth-stage literature currently in evidence, however without providing definitive answers.

What does Uncertainty do to Companies?

In exploring the notions of uncertainty, a distinction between risk and uncertainty must be made. This distinction is important in relation to business success. This is because risk can be quantified using probabilities, including conditional probabilities. However, uncertainty cannot be quantified: the unknowns are unknown. This requires very different management responses, coping mechanisms and entrepreneurial proclivities (Teece & Leih, 2016). According to Giones et al. (2020), a shock like the COVID-19 pandemic and its effects on conducting business requires a rebalancing of entrepreneurial action through internal frugal mechanisms as well as external (to the company) support mechanisms.

Due to uncertainties, companies will make different decisions than they otherwise would. In times of uncertainty, companies will seek safe-haven markets

that are not affected by current circumstances. Traditionally, this would mean looking at high-growth areas or looking for customers in stable markets such as pharmaceutical and consumer staples. A second perspective is that companies will seek to adjust their cost and debt structures. In times of uncertainty, ridding yourself of debt and fixed costs is an advantage. However, in the current business environment, interest rates are so low that we might see companies repositioning to higher debt levels despite global uncertainty. The third aspect interlinks with the cost perspective. From a business model perspective, we expect to see companies partner up to a much greater extent. Utilizing strategic partnerships, as Nielsen and Lund (2018) illustrate in their scalable business model patterns, reduces the risk of fixed costs and simultaneously encompasses the goal of increasing the value proposition to customers.

Why not be innovative?

The different types of uncertainty listed above provide vastly differing challenges for companies. Bartik et al. (2020) show that SMEs were able to adapt faster than larger companies. In describing six different types of crisis impacts on business models, Ritter and Pedersen's (2020) evidence suggests very different impacts of the crisis following the COVID-19 pandemic on business-to-business firms, and that understanding these differences is important for strategizing during the crisis but also for navigating successfully into the future. Clearly, different industrial sectors are affected differently by uncertainties such as the global pandemic. Global supply chains are affected by insecurities and regulations, as well as by the resulting global contraction. With regard to other types of uncertainties, such as those relating to sustainability, consumer involvement and the airing of consumer concerns will affect companies that do not live up to benchmark performance on, for example, emissions.

According to Giones et al. (2020), in times of higher uncertainty it is important to rebalance entrepreneurial action and managerial mindsets from a frugal perspective and to apply such lines of thinking to the frequency, intensity and formality of business planning in order to increase preparedness and resilience. In addition, companies should consider

how uncertainties may create opportunities for business-model innovation.

Understanding how to deal with uncertainty in your current BM and in innovating your BM

Some studies provide insight into how decision-makers cope with uncertainty in ambiguous contexts (Schneckenberg et al. 2017, Brillinger et al. 2020). Various coping mechanisms assist decision-makers in acting in strategic and entrepreneurial contexts that are subject to environmental unpredictability and variability (Lanivich, 2015). For example, Zhang and Doll (2001) have examined the role of coping mechanisms for dealing with uncertainty in firm-level innovation processes. They found that managers deploy coping strategies of strategic orientation, directive management styles, and intense customer and supplier engagement to handle uncertainty. Brillinger et al. (2020) present a set of 28 BM risk and uncertainty-factor groups structured according to the four areas of the BM canvas. As such, BM risk management can help to identify risk and uncertainty factors in existing business models and adapt or innovate them accordingly (Girotra & Netessine, 2011). However, Schenbergen et al. (2017) stress that the investigation of coping mechanisms in innovation studies does not explain how managers cope with complexity and uncertainty in business model innovation. In this regard, Nielsen (2020) indicates that the way a given company should address its BMI processes is dependent upon the strategic maturity of the management team and the company as a whole.

A clear case for implementing adaptive mindsets seems to be developing. Sosna et al. (2010) and Martins et al. (2015) emphasize the importance of adaptive firm behaviour in phases of business-model development. In addition, Taran et al. (2019) explore how the risk associated with the innovativeness of a business model, an organization's risk appetite, and its risk management approach, interact to affect the success or failure of a business-model innovation process. Their findings show that the company's risk appetite, the risk associated with the radicality, reach and complexity of the business model innovation, the company's awareness of these risks and their management, and above all the association be-

tween these factors, are central to BMI success and failure. Yet, none of these studies address the role of coping mechanisms in handling uncertainty in decision making.

Business model innovation as response to external pressure

One particular concern is that business models have to adapt and innovate in response to changes in the business environment or new technologies, or in order to leverage emerging opportunities (Morris et al., 2005). Such changes may require the innovation of existing business models, but could lead to the necessary establishment of completely new business models. As Foss and Saebi (2017) point out, the evolution of the BM literature can be categorized into three streams of research: 1) business models as classifications of business, 2) business models as antecedents of business performance and 3) business models as units of innovation.

Focusing on extending our knowledge in relation to business models as units of innovation is important. However, despite the fact that a positive relationship between business model renewal and performance is expected (Teece, 2010), the exploitation of business model innovation often remains untapped (Foss & Saebi, 2018). According to Frankenberger et al. (2013), the process of business model innovation can be defined as a process that deliberately changes the core elements of a company and its business logic. However, given that the nature of business models is recognized as being of strategic importance to businesses, the process of business model innovation remains an ambiguous concept (Bucherer et al., 2012).

The timing and requests for research on new venues for business model innovation has never been more extensive, as the need for game-changing business models is prevalent in the current air of disruption. Consequently, the aim of this article is to explore models and theories related to business model innovation, and to contribute to the knowledge of how companies, organizations and networks can rethink, redesign, innovate and implement business models within rising contemporary issues such as companies' digitalization and sustainability. These subjects

have recently been described as under-researched by a number of authors (cf. Wirtz and Daiser, 2018; Foss and Saebi, 2018).

In this normative contribution it is our intention to push the Business Model Innovation (BMI) discussion into new territories and to indicate key or crucial trajectories for the development of the BMI field beyond 2030, with the intent to encourage reflection on the current and future research directions of BMI and the crucial process of enhancing the potential impact of BMI over the next decades. This is important for society as a whole, because while technology may solve problems, value is created through the immersion in viable and scalable business models that live up to the norms and standards expected in today's world.

Current Developments and their Impact on BMI

Current research has revealed many details about developments in BMI and its antecedents, from the early work of Alt and Zimmerman (2001) and Teece (2007), to more recent works by Foss & Saebi (2017), Wirtz and Daiser (2017), and Nielsen et al. (2018). In this paper BMI is viewed from the perspective of multiple individual disciplines such as technology, management and innovation. As noted by Nielsen et al. (2018), contributions in the field of business model design and the innovation of business models typically revert to a singular disciplinary perspective towards an otherwise multidisciplinary construction. However, global trends and developments pose complications that call for far more cross-disciplinary developments relating to BMI, and developments that can factor in multiple stakeholder interests. There is a need for visionary lines of thought to guide future research as well as managerial decisions. This need for cross-disciplinarity is evident in three current research streams in the field that we wish to highlight below:

1. Sustainability and BMI

A timely special issue in the Journal of Business Models addresses the fostering of cross-disciplinary business-model research, with the

aim of bridging sustainability issues and mainstream innovation for the sake of performance. Sustainability and circular-economy priorities include customer-driven requests for sustainable innovations. Sustainable business models stress other, more emotional, “values”, which may differ from individual to individual and from customer to customer. After all, who really defines what is considered sustainable? Furthermore, the political focus in a circular economy does impact how value is dispersed in all the loops. In the conventional BM and BMI frameworks, only closed-loop consumptions are considered (Linder & Willander, 2017). Important questions for a future research agenda relate to how circularity affects our existing understanding and models of a BM and how BMI is (re) created – also over time, and through different loops or cycles.

2. *Servitization and BMI*

In service-oriented business models, sustainable service-offerings are often co-created, and thus the customer’s perception of sustainable value plays a key part in (co-)creating and delivering value in these types of business models (Aagaard & Ritzen, 2019). With the rising focus on servitization in the last decade, research has also been conducted on service business models and product-service systems (Bitner & Brown, 2008). Significant differences exist between product innovation and service innovation (Lusch & Nambisan, 2015), and numerous researchers have stressed the need for newer sets of theories and models of service innovation (e.g., Edvardsson & Olsson, 1996; Fitzsimmons & Fitzsimmons, 2000; Sheehan, 2006), especially because the seminal BMI frameworks were developed from a product-centric perspective (Hertog et al., 2010). Hence, we may need to ask how the concept of servitization, and the creation, delivery and capture of value through a service-centric perspective, impacts existing BM models and our understanding of BMI.

3. *Digitalization and BMI*

In relation to industry 4.0 and digitalization of businesses, completely new ways of doing

business and innovating businesses by using data to drive BMI (Remane et al. 2017) have emerged. The exponential adoption of digital technologies in businesses has resulted in significant improvements in many business processes, and it plays a significant role in the field of BM and innovation (e.g., Yoo 2013 et al. 2012; Holmstrom and Partanen 2014; Hylving 2015). For this reason, companies are moving from stand-alone organizations to multi-firm networks that perform collaborative innovation with partners, suppliers and customers in what are commonly referred to as open or collaborative environments. Digital technologies and IoT play key roles as enablers of communication and in the exchange of high-quality and timely information, in the sharing, storing and protection of knowledge, and in providing new platforms for developing existing businesses and totally new digital BMs (Aagaard, 2019a). Consequently, established companies are progressively undertaking digital transformations not only to rethink what customers value but also to create operating models that take advantage of recent technological developments that enable competitive differentiation (Berman 2012).

4. *Grand challenges and BMI*

Over the past two decades, the notion of “Grand Challenges” (GCs) has gained increasing importance in management and organization studies. In this context we view GCs as “complex problems with significant implications, unknown solutions, and intertwined and evolving technical and social interactions” (Eisenhardt et al. 2016, p. 1115). Such GCs are focused on solving the complex, large-scale problems and challenges the world is facing such as climate change, war, poverty and migration (Colquitt and George 2011; Ferraro et al. 2015; George et al. 2016). For such problems, organizations bear the responsibility of both potentially causing and having the power to solve them. System-wide problems like GCs extend the boundaries of a single organization or community, and in which numerous diverse actors have multiple competing interests and

objectives (Jarzabkowski et al., 2019). Therefore, it becomes increasingly important to understand how organizations attempt to navigate the context of GCs, trying to understand and address them (Colquitt and George 2011; George et al. 2016), but also how to develop new business models as industrial transformations as global grand challenges demand continuous innovations in products, programs, business processes, and strategies (Ferraro et al., 2015).

These four research streams provide examples of complex scenarios and problems that traditional, silo-based thinking is unable to solve. Because the conduct of BMI research needs to contribute to the rethinking of value creation in an ever more complex business environment, where consumers have a voice through technologies and communication platforms, and where the applications of technology and resource use affect global energy-grids and ecosystems across international borders, a multi-disciplinary point of departure is needed. Therefore, the current understanding of these game-changing developments may be far too narrow. Globalisation has been shown to create vulnerability, in response to which BMI is necessary to enhance value propositions and value capture.

Hui (2014) notes that when value creation in the traditional product-mindset shifts from solving existing needs in a reactive manner to addressing real-time and emerging needs in a predictive manner, filling out well-known frameworks and streaming established BMs will not be sufficient to sustain competitiveness moving forward. Therefore, when gut feeling is no longer the basis for business development decisions, and data suddenly drives BMI – how does that change the way we understand and conduct BMI (Weill & Woerner, 2013)? Can our existing BM frameworks and theories fully capture the business potential of big data and digital technologies like AI, machine learning, algorithms etc.? And what about the roles of ethics, privacy and security in data-driven BMI? Do these concepts have to be included in a version 2.0 of BMI frameworks to fully explore the business potential, as well as the barriers, in digital BMI?

New Streams of BMI Contributions are Required

The questions above underline the potential for new streams of research and further innovative developments in the current understanding of BM and BMI. These are often advanced by global trends. Current global awareness highlights a number of high-level trends such as globalization, democratization, digitalization and sustainability, as well as their effects and consequences for society, companies and collaboration, that need to be factored into the future business model innovation agenda – the fifth stage of business model research.

Globalization and Grand challenges

First, globalization is concerned with the liberalization and global integration of markets. From a business perspective it is therefore not just about outsourcing and outplacement, nor about internet-based commerce, but rather about understanding that new markets pose different relational challenges to companies. For example, one very timely and unintended challenge caused by globalization is the extremely fast and global spread of the coronavirus. When comparing this with the SARS virus that was detected 20 ago, we see how over 20 years the vast increase in globalization and global travel has increased not only the world's connectivity, but also its vulnerability, not just from a supply-chain perspective, but also in relation to the "export" of health and societal issues. So how do we ensure globalization and the internationalization of businesses and business model innovation in a sustainable way?

These challenges may require working across disciplinary boundaries to solve technical problems, and engaging in political action to resolve social ones. Furthermore, this literature invites us to think about tentative, temporal and fragmentary solutions to such grand challenges (Martí, 2018). So what is the role of transformative business models in partially or radically transforming lived realities and in addressing important societal grand challenges? Leveraging grand challenges through BMI has significantly broadened the conceptualization of what business models are and entail (Hart et al. 2016).

Democratization and the role of Bottom of the Pyramid markets

The second perspective, democratization, as we understand it here, is related to creating vibrant democracies in the Third World and engaging with the Bottom of the Pyramid (BOP) markets that will drive entrepreneurship and growth as political equality is followed by economic equality. However, this may impede sustainability in the short term, if it is not addressed with care and included in relevant policies. Here the notion of creating strategic partnerships where there is a reciprocal, positive value creation can be an important business model innovation mechanism (Aagaard, 2019b). In the context of BMI through BOP markets, more scholars reframe the value construct and extending the one-dimensional shareholder logic of profit maximization to more stakeholders and levels of attention (Upward and Jones 2016; Pedersen et al. 2016; Schaltegger et al. 2016).

One example hereof is Fairtrade. In supporting the institutionalization of Fairtrade, companies indirectly reduce poverty and asymmetries between suppliers and retailers through sustainable consumption. Although the prerequisite for companies in developing fair trade engagements is access to NGO resources and capabilities related to, for example, training activities aimed at small local farmers in developing countries (Senge et al. 2006), there is some evidence in the literature on business-NGO collaborations that these collaborations sometimes emerge from NGO pressures and activism in a similar vein to regulative innovations (Argenti 2004; Linton 2005; Perez-Alemann and Sandilands 2008). However, in most BOP articles poverty is still “viewed predominantly through an economic lens” (Nahi 2016, p. 426). Yet, there might be an illusory celebration of how different business models contribute to alleviating it solely through market mechanisms (Nahi 2016). This is addressed with the BMI distinctions made by Schaltegger et al. (2012) of defensive, accommodative and proactive BMIs, and the distinction between isolated and interactive business models, as emphasized by Sánchez and Ricart’s (2010). Summarizing, this line of research highlights the potentials of business models to transform the quality of life of the poor, the disenfranchised, the marginalized, and even nonhuman stakeholders (Duke, 2016).

Data-driven business

Third, digitalization is not just about increasing the speed and reach of communication. Machine learning, artificial intelligence and big data algorithms (Katsamakos and Pavlov, 2020) will also play an important part in BMI decisions and ML-based business models. With intelligent devices becoming interconnected, new developments have created associated infrastructure and an expanding knowledge base, and these innovative combinations are being reflected in enterprise as data-driven or digital business models (Kiel et al., 2016). El Sawy and Pereira (2013) emphasize how, over time, the role of IT in business has changed from a connectivity view (IT as a communication channel) through an immersion view (IT as an operating environment) to a fusion view (IT as fabric), where modular digital platforms are adapted and interconnected in different ways. These digital ecosystems enable the possibility of combining data and capabilities across boundaries into innovative new offerings and solutions to create and capture also new types of value.

Westerlund et al. (2014) developed the Value Design Model as a new approach toward data-driven business modeling, while proposing a shift from a vendor-centric to a network-centric view. This requires companies to make a radical mental shift from the conventional way of thinking about BMI. Thus, where the Value Design Model proposes a holistic view of the business modeling building blocks by identifying the value flows between the dimensions, the most applied BMI framework, Business Model Canvas, by Osterwalder and Pigneur (2010) isolate the building blocks. We therefore argue that the complexity of data-driven value (co-)creation and BMI (e.g. across digital platform systems) is not supported and covered by existing BMI frameworks. The main criticism is the absence of the technical features of the IoT architecture, as these BMI framework models were invented when the concept of data-driven BMI and the Internet-of-Things had not been coined yet. This arguably makes it challenging for users to stimulate ideation of IoT driven business model innovations (Aagaard, 2019). Thus, further research and new BMI frameworks need to identify, incorporate and support new data-driven and digitally enabled BMI.

Sharing economy

Finally, sustainability is not just about efficiency of resource use and the circular or shared economy. In the longer term, it must also encompass notions of value dispersion amongst stakeholders (Lüdeke-Freund et al., 2020). In current economic systems in industrialized market economies, the dominant logic of a manufacturing company is that it delivers its product in exchange for money. In a circular economy this logic has to be changed, emphasizing the need to focus on value delivery instead of product delivery (Ritzén, 2019). The detachment of economic growth from consumption of natural resources requires larger shifts in society than that of manufacturing firms merely detaching their businesses from delivering physical goods (Kirchherr et al., 2017). Thus, in the traditional BM literature, business models are generally perceived from “a value creation perspective that focuses on satisfying customer needs, economic return and compliance” (Bocken et al. 2015: 70). However, recent attempts to uncover value destroyed, value missed, and value co-created point towards a more holistic view of value that integrates social and environmental goals, while examining the value created for all actors involved (Pedersen et al. 2018; Schaltegger et al. 2012, 2016).

The new models of sharing, swapping, trading, and lending, labelled as the “sharing economy” (Botsman and Rogers 2010) have sparked the public debate about the potential of sharing organizations’ contribution to social, ecological, and economic goals. One line of research views the sharing economy as a key contributor in achieving social and ecological values and in supporting the transformation of the economy towards sustainability (Heinrichs 2013). Another stream of research addresses the potentially negative impacts of sharing models on society that may lead to “hyper-capitalism” and a “neoliberal nightmare” (Martin 2016; Scholz 2016). However, as the sharing economy is an emerging field characterized by a number of unsettled debates, more research is needed on the comparison of value

propositions with actual effects of sharing organizations and the development of sharing categories in fields over time (Wruk et al., 2019).

Concluding Remarks

In conclusion, BMI is important, BMI is difficult, and to complicate it even further, BMI needs to innovate to stay relevant in the light of current global trends. Hence, we feel that BMI needs a visionary platform that reaches beyond current states and frameworks. We hope to provide this in a series of contributions to an edited Palgrave MacMillan book publication, with an introduction and discussion to contemporary issues that require new research directions, understanding, methods and models of transformative business model innovation fit for the next decades; and the application of ante-narratives to BMI that will help envisage future states.

Further research and future trajectories could, for example, envisage 1) BMI that embraces the financing of growth and focuses on the importance of embedding financialization into the BMI process, 2) BMI for technology development, that feeds back to technology and product development, 3) The role of BMI in tackling grand challenges and in developing truly sustainable business, 4) BMI for data-linked services such as Smart Cities and IoT-based business models, and ecosystem perspectives that go beyond Jacobides’ understandings, and 5) BMI for and from open innovation in sustainable ecosystems across the globe: how is trans-industrial BMI facilitated, and how does circularity affect our BMI frameworks; what are the mechanisms, necessary transactions and types of contracting? The requests for new ways of viewing the concept of value, the role of business, and the interconnectivity of ecosystems, society and the environment are obvious theoretically and empirically, and so is the need for change in how we conduct and develop our businesses for the future and future generations.

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