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Editorial: Introduction to the Special Issue Based on Papers Submitted at the Business Model Conference 2020

The Covid-19 pandemic has caused many events around the world to be cancelled, including the Business Model Conference 2020. The Conference Chairs, the Scientific Committee, and the Conference Committee discussed the possibility of hosting an online conference but thought that meeting virtually would not have provided participants with the same sense of community feeling experienced in previous years, when the Business Model Conference brought together international academics and practitioners from a multitude of disciplines to discuss the latest research and innovative teaching methods. Therefore, the decision was made to cancel the 2020 Conference.

Despite this, the Editorial Board of the *Journal of Business Models* did not want the papers submitted to be a wasted effort; thus, it selected and reviewed the 11 papers included in this Special Issue. Originality, significance, and rigor were the three criteria that guided the selection and the review process, leading to a mix of papers that tackle business model issues from different angles and employ different research methods. Let me briefly introduce these papers by focusing mainly on their objectives and respective contributions.

Bini et al. (2020) discuss the relevance of investigating how preparers and users of corporate reporting understand and consider the business model concept in order to provide insights on the underlying reasons for, and antecedents of, the current disclosure levels. As a matter of fact, different conceptualizations of the business model might lead preparers and users to consider different items as part of the business model or to assign different meanings to the concept. The authors argue that there are at least two main issues that could be considered potential sources of "meaning gaps" in relation to the business model concept: first, the lack of a unique and common definition of the business model and its main components and second, the relationships between the business model concept and related management concepts, like corporate strategy and value chains. Such a gap reduces the effectiveness of the information flow because the message intended by the issuer changes meaning once it reaches the recipient. This discussion underscores the challenges that actors involved in the regulation process need to overcome to avoid future failures of regulatory initiatives.

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Da Silva (2020) investigates the mechanisms, elements, and processes of business model innovation and change. In particular, the author starts from the consideration that companies may change their business models by importing analogies from other contexts; this leads him to explore how managers within one industry can leverage interorganizational collaborations to create a new business model. Through an inductive case study of an automotive GPS navigation company, the author demonstrates that organizations can enact three practices: the first one is activation, which entails a clash between familiar and unfamiliar knowledge; the second one is combining, which fosters a socially constructed projection of the future; and the third one is calibration, through which an alignment of interests among partners is reached.

Golzarjannat et al. (2020) explore business model configurations and components for digitalized ecosystem contexts. Through the analysis of the ecosystem elements (outcomes, structure, processes, contingencies) and the 4C business model typology (connection, content, context, commerce), the authors map and shed light on the main features of a port ecosystem, i.e., an example of a context where a group of interconnected players work fruitfully together to create value and gain benefits. The findings indicate that a shift in port ecosystem goals is expected to take place as modern network communication, and computing technologies offer opportunities for trustworthy mobile connectivity, data storage, transfer, and analytics, with external services and resource optimization in the port. Overall, these elements are expected to improve the revenues of the whole ecosystem.

Kringelum et al. (2020) explore how business model interdependencies can affect the process of business model innovation. While business model research often reflects an assumption of unlimited flexibility in how firms can expand or renew their business, a company's freedom to innovate its business model can be restricted. Through an exploratory multiple case study conducted in the Danish sea freight container sector, the paper illustrates how a company's position in a given supply chain impacts how easily it can innovate, especially if positioned "unfavorably". In particular, the paper shows how firms embedded in highly integrated supply chains can experience business model lock-in due to industry path dependency, thus showing that all companies do not have the same degree of freedom in terms of innovating their business model. The implication is that firms must carefully consider their supply chain positions when they launch new products or services, as their choices can have a major impact on their ability to innovate in their business models.

Montakhabi and van der Graaf (2020) offer an analysis of the actionability of open business models in the context of European competition policy. Despite open business models being considered extremely useful for companies to create and capture value in collaboration with external partners, there may be something of a blind spot in existing policies because of their novelty, or existing policies may work as a barrier to unlocking their potential. The analysis developed in the paper can, on the one hand, assist companies to adjust their collaboration strategies for the European market, structure their collaborative activities better, anticipate key challenges, and develop relevant capabilities to benefit from collaborative models. On the other hand, the analysis supports policy makers wanting to incorporate new business models in the competition policy framework in order to unlock the potential benefits of collaboration.

Novikova (2020) investigates the business model transformation of a service provider on a sharing economy platform using a dynamic business model perspective. Despite these providers playing a critical role within the context of the sharing economy, little is known about the features of their business models or about how they develop their business models over time. Through a single case study of a "host" on the peer-to-peer accommodation platform Airbnb, the author documents its process of business model transformation along four dimensions: resource structure, organization structure, value proposition, and process dimension. Overall, the paper demonstrates that the service provider adopted a discovery driven approach in the process of business model transformation, thereby embracing the interplay of "trial-and-error experimentation" with emerging opportunities and exercising "entrepreneurial judgement" in carrying out new combinations of resources.

Ropposch et al. (2020) explores whether the business ideas of digital entrepreneurs develop within the opportunity discovery or the opportunity creation context and what digital levels their business models have in this context. Within the first, opportunities exist unrelated to a person's activities and are simply waiting to be discovered and used. In the opportunity creation context, opportunities do not yet exist but are created if an entrepreneur develops them in an iterative process of acting and reacting. In order to address this issue, the authors conducted ten semi-structured interviews with digital entrepreneurs, and they show that an extreme level of digitalization is more likely in companies operating in the discovery context than in companies operating in the creation context. This happens because entrepreneurs in the creation context devote greater energy to developing their business idea than to dealing with the issue of the company's appearance and operations with regard to digitalization, while entrepreneurs in the opportunity discovery context focus more strongly on digitalization, since more information about their customers and competition is already available.

Roslender and Sort (2020) reflect on some of the main issues pertaining to the discussion regarding business models, accounting, and reporting. Starting from the continuing failure of accounting to prioritize an engagement with the business model literature, the paper explores why managerial accounting has, to date, been no more enthused about the business model concept than financial accounting and reporting. By analyzing the evolution of managerial accounting techniques and approaches, the authors suggest that accounting for some elements of the business model has already been examined by the accounting profession, largely unsuccessfully. In order to address this issue, the authors identify a promising approach consisting in letting companies document their ambition to do business in the form of an outcome "story" of value creation, delivery, and capture. This approach enables business model elements and related key value drivers to be identified, enabling management accountants to supply the narrative, i.e., the account.

Sort et al. (2020) employ the business model configuration theoretical lens to propose a framework that facilitates theoretical and practical understanding of how re-internationalized firms identify and pursue appropriate international growth trajectories by re-configuring their business models, as a response to their previous de-internationalization decisions. Such a framework can be considered one of the first attempts to link "de" and "re" internationalization challenges and opportunities with business model configuration literature. Thus, it represents a practical, strategic learning toolkit available to firms, not only help them understand the aftermath of their de-internationalization experience but also to inspire them with a list of different avenues that could kick-start their future international growth strategies.

Trischler et al. (2020) start from the consideration that researchers mainly focus on the strategic dimension of platform-based business models, while tactics to build and evolve them require, and deserve, additional attention. In order to address this issue, the authors propose a framework for platform tactics covering four context dimensions (platform attributes, core product, governance, ecosystem) and four lifecycle phases (birth, expansion, leadership, renewal). From a theoretical perspective, the framework helps scholars to cluster and categorize the contributions of different platform literature streams, thus providing a holistic understanding and mapping of the tactics proposed in literature along a temporal and contextual dimension. From a practical point of view, the framework offers guidance on the range of activities that are necessary to implement and competitively operate platform-based business models.

Nielsen and Aagaard (2020) discuss the role of business models in times of uncertainty and provide new venues for further research. The global geopolitical instability, the increasing attention to sustainability and digitalization, as well as exogenous shocks, such as the Covid-19 pandemic, are currently disrupting and changing the way companies do and think business. Thus, these factors, as well as their effects and consequences for society, companies and collaboration, need to be factored into the future business model innovation agenda –

the fifth stage of business model research. Following along these lines, the authors pose key questions and identify new research directions of business model innovation along four streams: globalization and grand challenges, democratization and the role of bottom-of-the-pyramid markets, data-driven business, and sharing economy.

Allow me to emphasize that this is a Special Issue composed of *short* papers, an innovative publication format adopted by the Editors of the *Journal of Business Models,* designed to fast-track the publishing process and thereby accelerate the development of business model research. This objective is reached thanks to a very lean template and a standard content that ensures a faster editorial journey and review process than those of standard papers.

Let me underscore that the production of this Special Issue proves the resilience of the business model community which, over the years, has grown up around the Business Model Conference. Despite the Covid-19 pandemic putting heavy and unforeseen pressures on all sectors, academia included, business model researchers are not giving up and are proving able to adapt to the new challenges that this scenario is posing, which this Special Issue clearly demonstrates.

The Scientific Committee and the Conference Committee are already at work organizing a Business Model Conference 2021. They seek to build on the high standards evident at the three previous conferences and within the pages of the *Journal of Business Models*. Five influential keynote speakers have already been lined up: Professor Marcel Bogers (University of Copenhagen, Denmark), Professor Benoit Demil (University of Lille, France), Professor Oliver Gassmann (University of St. Gallen, Switzerland), Professor Xavier Lecocq (University of Lille, France) and Professor Christopher Tucci (Imperial College London, UK). Further details will be announced on the journal website as quickly as possible. Prospective contributors might also consider submitting short papers, irrespective of what might eventually be possible with regard to the conference.

In closing, I hope that the reader will find the short papers included here of value. From when the Business Model Conference was first launched, I have been a member of the Scientific Committee of the Conference and this has provided me with the on-going opportunity to remain abreast of the research directions in which business model researchers are taking their efforts. I must admit that this is, indeed, a privilege.

I would like to thank all of the members of the Editorial Board who have contributed their time and effort to the selection and review process for the papers included in this Special Issue. My special thanks go to Professor Robin Roslender and Professor Christian Nielsen, for their support during the production of this Special Issue, and to Mette Hjorth Rasmussen, for her excellent, conscientious editorial assistance.

Marco Montemari
Editor *Journal of Business Models*
– Short paper section

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Business Model Reporting: Why the Perception of Preparers and Users Matters

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Abstract

The concept of business models has entered the realm of corporate reporting through recent regulations. This article aims to offer a conceptual discussion about the importance of investigating preparers' and users' perceptions of the business model and its constitutive elements in relation to such reporting and disclosure requirements. While prior studies on business model reporting have investigated the amount and quality of disclosures utilizing content analysis, we argue that it would be relevant to take a step back and understand how preparers and users of financial statements understand and consider this concept, as well as the respective alignment of their interpretation. Such an analysis is expected to provide insights on the underlying reasons for, and antecedents of, the current disclosure levels and about the capability of the business model concept to provide a framework for other types of information, as postulated by the literature.

Keywords: Business model concept, Definition, Non-financial reporting

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Introduction

The BM offers a simplified representation of how a company operates and creates value in the long term (Casadeus-Masanell and Ricart, 2010). The knowledge of the BM allows users to better understand the role of the different processes and resources in the value creation process (Bukh, 2003), exemplified by the case of financial analysts in Nielsen and Bukh's (2011) account of how they engage in BM discussions. Among such reasoning, the concept of BMs has been proposed by scholars as a framework for non-financial reporting (Nielsen and Roslender, 2015; Bini et al., 2016), with a focus on performance measures (Bini et al., 2018; Montemari et al., 2019). Accounting for BM from a stakeholder theory perspective has been conceptualised by Haslam et al. (2015) and Michalak et al., (2017) provide an overview of the state and the development of BM disclosures in corporate reports.

Recent regulations require certain large European companies to include a description of their BM in the annual report (Companies Act, Regulations 2013; EU Directive 95/2014). These initiatives confirm the importance of the concept of the BM in corporate reporting. However, they do not provide detailed guidelines or frameworks on how to report the given company's BM. The absence of a clear definition and of especially specific guidelines has led to the adoption of different approaches of BM disclosure by firms and to a misalignment between the BM information disclosed and investors' needs (FRC, 2016; Bini et al., 2016, 2019). Recently, the FRC (2018) has emphasized the need to improve BM disclosure practices to respond to investors' requests.

Current studies have documented varying levels of BM disclosures in the annual report and different market reactions to these disclosures (Bini et al., 2016; Mechelli et al., 2017; Bini et al., 2019; Malmmose and Lueg, 2019; Simoni et al., 2019) as well as to business model innovation (Abrahamsson et al., 2019). However, a lack of a widely shared definition of BM has also been addressed by academic scholars (e.g., Massa et al., 2017). In the academic literature, which is to a large part preceding or detached from BM reporting regulation, there is inconsistency about the definition and constitutive elements of BM (Bagnoli et al., 2018). While most academics agree that the BM differentiates itself from similar "neighbour concepts" like strategy or value chain, different conceptualizations exist in the literature (e.g., Osterwalder and Pigneur, 2010; Wirtz et al., 2016).

It can be assumed that the low amounts and quality of information reported under the BM sections in companies' annual reports and their capability to influence user decisions depend on how preparers and users conceive the BM. Previous attempts at regulating non-financial information clearly indicate that the involvement of final recipients is necessary to guarantee the success of any regulatory process because they play a critical role in the implementation phase. A prominent example is provided by the initiatives related to the regulation of intellectual capital (IC) reporting. In the 1990s and early 2000s, companies started reporting their intellectual capital to satisfy investor demands. The growing importance of IC and intangibles created information asymmetries between the market actors, similarly to what the distinctive elements of a company's BM do. This communication took the shape of intellectual capital statements, which were prepared and presented either as part of, or separately from, the annual report. These statements' popularity grew to the point where regulation was issued at the national level in some countries (Mouritsen et al., 2003). However, even under the presence of a participatory and co-created guideline in Denmark, IC statements started a rapid decline, as many companies did not prepare them even when they were mandatory (Nielsen et al., 2017). The decline of IC statements can be attributed to several factors, including the loose regulatory requirements (Nielsen and Madsen, 2009; Nielsen et al., 2017), the lack of enforcement mechanisms, the perceived costs associated with intellectual capital disclosure, but also the lack of a clear and widespread definition of the intellectual capital concept, its boundaries, its main components.

Recent studies of BM disclosure of listed UK firms after the introduction of a mandatory requirement for corporate BM descriptions found that in the presence of low specified requirement, BM disclosure in annual reports is fragmented, mainly consisting of

generic descriptions and characterized by a high level of heterogeneity among companies (Bini et al., 2016), thus hampering any form of comparability.

Researchers that have examined BM reporting have not considered critical aspects such as how the concept of the BM is perceived by users and preparers, whether a definition is commonly shared and what the role attributed to the BM concept within non-financial information is. Different conceptualizations of the BM might lead preparers and users to consider different items as part of the BM or to assign different meanings to the concept. Thus, alternative conceptualizations of the BM could result in different perceptions in terms of relevance, compared to other similar concepts like strategy, value chain, or a company's purpose.

This discussion sheds light on the challenges that actors involved in the regulation process need to overcome to avoid future regulatory initiatives' failure. Furthermore, it can be of interest for both users and preparers to have a clear depiction of the main issues concerning BM reporting.

Approach

This conceptual paper discusses the importance of investigating market participants' views and conceptions of the BM concept. After having outlined relevant issues addressed in the management and accounting literature on BM and outlining the concept's relations with associated concepts that could limit BM reporting's efficacy, the article defines the "meaning gap" arising from possible misalignments around these concepts.

Key Insights

The investigation of the degree of alignment between preparers and users can be accomplished by analysing the perceptions of respondents in these two categories. In the selection of subjects that can be identified as representing preparers and users, respondents working in organizations that have to prepare financial statements and financial analysts who follow those entities are good cases to examine. Since the preparation of corporate reporting generally involves many different functions within a company, preparers are usually represented by the entire organisation. On the other hand, users encompass all types of investors, including sophisticated users such as professional investors, and unsophisticated users, i.e., individual investors. Due to the heterogeneity that affects this category, researchers often prefer to focus on financial analysts. Being market intermediaries, financial analysts are considered an optimal proxy for investors. They are independent experts and regularly evaluate a set of listed companies. Thus, they represent an essential reference for investors, both sophisticated and unsophisticated.

According to agency theory, an information asymmetry exists between a company and its investors. This asymmetry results from unidirectional information flows that run from the "inside" of the company to the external users. That being the case, investors may suffer an information gap that prevents them from having sufficient and appropriate information for their decision processes. Concerning a company's BM, information asymmetries could be attributed to a second gap between companies and analysts, which is a "meaning gap". This gap derives from the misalignment of perceptions of the same BM element or BM as a whole by different subjects. Such a gap is able to undermine the effectiveness of the information flow, because the message sent by the issuer changes meaning when the recipient receives it. Research seems to confirm the existence of such a "meaning" gap related to the BM concept. Nielsen and Bukh (2011), in interviewing financial analysts about the role of BM information in company valuations, found that analysts tend to use information that can be seen as part of the BM, but they do not have a common understanding of what is meant by a BM and its potential role in depicting value creation. These results highlight the need for more research on this topic to verify whether, and to what extent, different perceptions of the BM concept exist between companies and analysts and to what extent they can influence the valuation process.

As stated above, there are at least two main issues that could be considered as potential sources of "meaning" gaps in relation to the BM concept: the lack of a unique and common definition of the BM

and its main components (Klang et al., 2014), and the relationships between the BM concept and related management concepts, like corporate strategy and value chains. Regarding the first aspect, Klang et al. (2014) complain that, despite the dramatic increase in the number of BM publications since the late 1990s and early 2000s (Ghaziani and Ventresca, 2005), primarily non-cumulative research exists with a weak conceptual base and idiosyncratic definitions (Zott et al., 2011). It is stated that BM studies mainly focus on clustering and the categorization instead of showing gaps and limitations of the current status quo of research that could be useful to increase the acceptance of the business model concept (Klang et al., 2014). In a similar vein, Morris et al. (2005) add that the lack of consensus leads to confusion in terminology "as business model, strategy, business concept, revenue model, and economic model are often used interchangeably" (p. 726). This has inevitably hampered the adoption of the BM concept in practice and has limited the convergence of disclosure practices among firms: "while it has become quite fashionable to discuss business models, many executives remain confused about how to use the concept" (Shafer et al., 2005, p. 199).

The overlaps between the BM and other related management concepts especially applies to corporate strategy. Both deal with the concepts of value and value creation. According to some scholars, the difference between the two interrelated concepts should be clear (Shafer et al., 2005; Zott et al., 2011), as the competitive strategy deals with how a company differentiates itself, while the BM defines on which basis this is to be achieved, i.e., how a company combines its know-how and resources to deliver the value proposition. Contrarily, other researchers do not even strictly differentiate between a firm's strategy and its BM (Casadesus-Masanell and Ricart, 2010).

Similar considerations can be made about the relations between BM and the value chain. This aspect is less debated in the academic literature, but it appears to be of particular interest in the perspective of BM reporting, especially to avoid the duplication of information and to guarantee effective BM reporting. A value chain is commonly defined as a set of serially performed activities for a firm in a specific industry. The BM is called to explain the different aspects of value creation across the value chain, showing how these aspects affect a company's bottom line (Nielsen, 2010). The significant points of contact between the two concepts could give rise to concerns among managers and professionals who have to report about their companies' BM. Therefore, it is important to make clear that the BM notion extends the value chain concept beyond the boundaries of a firm, and integrates external factors (like customers, competitors, suppliers, etc.) and processes (i.e., activities) that enable transactions and influence a firm's performance (Zott et al., 2011). In fact, in current developed economies value is increasingly no longer created by firms that act autonomously, but by firms that operate in conjunction with other parties that are external to the legal entity. It implies that some BM components have their *locus* inside a firm, while others are related to a firm's external stakeholders or to the environment it operates in.

These two issues are arguably very important in evaluating the BM concept's potential in the domain of corporate reporting. Unambiguous identification of the constitutive pillars together with a clear distinction from other neighbouring contents is essential to identify the information to be disclosed and avoid possible misunderstanding. Previous evidence clearly shows the limitations of a generic BM regulation in enabling quality and reliable BM reporting.

Discussion and Conclusions

The considerations listed above call for investigating the understanding and perception of BMs' meaning in reporting and the degree of alignment between preparers and users of this information. Such an investigation would have the potential to identify and specify the details of a possible "meaning gap" and justify the inclusion of these actors and their views into the regulatory process. The analysis of perceptions of preparers and users through survey research and interviews with the subject involved might also shed light on the incentives associated with the disclosure of the BM and its use in relation to corporate valuation. Interview research could also shed light on barriers, like proprietary costs of

disclosure for preparers and costs associated with information collection for users, which might cause further gaps among market participants. With its unique participatory setup directly involving company analysts, academics, and others, the Danish project for IC reporting could serve here as a blueprint for inspiration. Similar to previous experiences in non-financial reporting, the creation of a commonly accepted framework is arguably also a necessary precondition for creating meaningful BM reporting.

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JOURNAL OF BUSINESS MODELS

From One Context to Another: How Business Models Emerge

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Abstract

In this paper, we expose how managers within one industry leverage interorganizational collaborations to create a new business model. Based on an inductive case study of an automotive GPS navigation company, we develop an emergent theory of how organizations use interorganizational collaborations to develop new business models. Our preliminary findings suggest that organizations enact 3 practices: activation (clash between familiar and unfamiliar knowledge), combining (socially constructed projection of the future), and calibration (alignment of interests among partners). These practices enabled the co-creation of a pioneering business model involving four distinct but highly complementary partners. This study provides preliminary insights on a theory of business model innovation via interorganizational collaboration. More broadly, we help open up organization theory to a fresh conceptual lens—the business model—that highlights how organizations work and create value through collaboration.

Keywords: Business Model Innovation, interorganizational collaboration.

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Introduction

Interorganizational collaboration has become essential for innovation (Ahuja, 2000; Dobusch et al., 2019; Parmigiani and Rivera-Santos, 2011). It brings together knowledge, actors, and various forms of technological and financial resources to create 'collaborative advantage' (Carlile, 2002; Vangen and Huxham, 2006). Innovation often requires firms to renew their business models to match new contexts with the aim of achieving exponentially increasing returns to scale (Lund and Nielsen 2018). Existing research on business model change suggest that organizations change business models by importing analogies from other contexts (e.g., Gavetti et al., 2005). The key idea in this research is that an idea from one domain gets translated to another domain, and that successful innovation is a function of managers cognitively representing their environment in a way that reflects the "deep structure" of their business challenges.

However, many organizations operate in contexts that require a large amount of interorganizational collaboration (Carlile 2002; Roslender and Nielsen 2019; Vangen and Huxham 2006). This context of interorganizational collaboration challenges the aforementioned approaches to developing new business models (Lund and Nielsen 2018). Specifically, importing analogical business models from other domains requires organizational actors to make an analogy work through activities such as stretching, bending, and positioning (Glaser et al., 2016). These activities associated with making an analogy work are likely to be unique in contexts featuring interorganizational collaboration since the collaboration requires diverse actors with competing interests to coordinate activities; and competitive environments—particularly those environments featuring rapidly changing technologies —change over time. Consequently, in this paper, we ask the following research question: How do organizational actors create business models based on analogies in contexts featuring interorganizational collaboration?

Approach

To answer our research question, we conduct an inductive study of a corporation that sought to commercialize a pioneering business model via interorganizational collaboration. Due to the lack of theory on the phenomenon of business model change (Ahokangas and Atkova 2020) and the complexity of associated with interorganizational collaboration, our aim is to advance grounded theory (Glaser and Strauss, 1967) via an inductive method instead of a deductive one - an interpretative case study, instead of a large scale statistical analysis. We obtained unique access that included interviews of C-suite executives, managers, and detailed archival materials.

We collected data from three sources: (1) 16 interviews with Firm A`s founder, CEO, CFO, COO, lead project manager, product manager, accountant, business development consultant, software developers, testers, hardware specialist and the former facility manager, (2) 5 interviews with relevant ecosystem players and partners, and (3) Archival data comprising formal files such as proposals, presentations, agreements and informal files such as communications between the four partners. Furthermore, we sourced secondary data from private and public company documents, press releases, company website and major industry blog posts. We interviewed the former CEO of Firm B to understand the case from a partnership angle, as well as a journalists who`s focus was the navigation industry. The originator of the sponsor-based business model idea made available to us his notes and files from those early days. We re-interviewed the C level executives as well as the project and product managers for points of clarification.

Key Insights/Discussion

Through a combination of data and conceptual development, we deduced seven subprocesses that led to the novel sponsor-based business model: familiar knowledge; Unfamiliar Knowledge; Selective matching; Selective projecting; alignment; resource complementarity; and risk mitigation. Due to poor fit between existing theoretical constructs and these subprocesses, they were clustered into three aggregate processes: activation, combination and calibration.

Activation

The brain is a highly connected and interconnected organ, and the activations of those connections are

constantly shifting. Activation makes certain patterns available for use at certain times. But much of the activation process is the work of the imagination striving to find appropriate connections between inputs that can be both based on internal and external information. Some of these activations come from external real-world information that impinge upon us, others from what people say to us, others from internal configurations of our brains acquired through personal biography, culture, and, ultimately, from biological evolution.

In our case, activation was sparked by the reading of the book written by Chris Anderson entitled *"Free: The Future of a Radical Price"*. One of the CEOs interviewed mentioned the ideas written in the book opened is mind to a whole new level of understanding and had a tremendous impact in the conceptualization of the Free GPS business model.

> "It (the book) was highly influential in a lot of industries, software navigation included, where people understood that usage and millions of users should not be dependent on your ability to process logistics or having massive capital investments."

Once such connection is activated, however, it triggers the combining process we discuss next.

Combination

Combining is indispensable for intellectual work. When the CEO of the GPS navigation firm communicated with his team and later with the different stakeholders how to generate revenues without charging a cent to end users by inviting partners to imagine they are the "Google AdSense" of the navigation industry, it may look as if they were simply to incorporate a known business pattern – lead generator, but not so: Performing the exact same business pattern present in Google AdSense is impractical in the navigation industry due to the high costs associated with mobile data, map licenses and address directories. Rather, they selectively combined the business pattern of advertising (inspired from Google AdSense) with the traditional location specific advertising industry (popular business directory in France) and developed a new emergent business pattern:the free GPS navigation on a mobile phone

This might seem like a simple execution of a well-known business model – advertising, but again not so: Google advertising business model is based on publicly available data on the internet that may or may not be accurate, delivered for free on a web browser. In the free GPS navigation business model, reliable search result data was expensive (contact details and accurate address were available almost exclusively on paid databases), internet mobile data was prohibitory expensive and maps were sold on a license basis (accurate maps were sold on a per-license basis by third party suppliers).

> "Then, we started having a series of conversations. We had the technology. We had the software. We had the ability to build a product. Firm B had the brand. They had the delivery mechanism on the app stores. They had the ability to bring and service the product in market. There was one thing missing. The only thing that was missing to the model that we wanted to achieve was to persuade one of the two players that were at the time was a duopoly on the map segment, and to convince one of the two players that they would be able to make more money by giving it away for free rather than by selling a license. In other words, move towards a revenue sharing environment as opposed to having it per license fee."

The creation of combinations is guided by cognitive pressures and principles, but in the case of GPS Free, it is also guided by industry specific characteristics. Most advertising models a manager in the GPS industry can imagine are undesirable to execute. But within the conceptual blend prompted by the activation phase, and under the conditions afforded by the industry, possibilities may emerge.

The management team astutely used a hidden analogy between a small aspect of the Google AdSense advertising model and the desired GPS navigation model proposed to their stakeholders.

> "I read them about half a page of this book. One of the things that I told them, this was part of my pitch, was to explain them that the world was changing and that they had an opportunity to change with the world. And that the model

they had as a per license fee was essentially something of the past."

Independent of the combinations, however, this analogy would make little sense. Managers were not suggesting to become the "Google" of the GPS industry. It's only within the whole - when stakeholders try to mentally conceive of a sponsor-based advertising business model while operating within their own industry that the intended model emerges. Managers in our case engage in a social effort aimed at matching aspects of the Google AdSense business model with their own industry. The aim is integration of selected patterns from Google Adsense. Once such elements have been selectively integrated, the links to the search engine can be abandoned. Managers need not forever think about Google in order to conceptualize and implement their newly combined business model – but the activation phase was essential in order to guide the combination process.

"At the time, I think that it's also probably fair to say that the story was essentially "Hey, let's try something new." Right? It was new for us"."

Calibration

Calibration is a result of the combination process. This could be limited to one single company, but in our case, calibration occurs when partners align interest and join forces in the design of a pioneering business model in the GPS Navigation industry at the time.

"I was doing the calculation how long for us to build this kind of app, quite long."

The complementarity of the business model allowed each partner to mitigate their risk and commitment of resource. Complementarity was key, as was the common belief that such business model was actually "not risky" form a perspective of resource commitment.

"I need resources to build. I have so much to do in rebuilding the entire firm. I don't want to invest time and money in that. And that's where we had that idea. Okay, let's build an audience. We share the risk. And then for me it was riskless because I was not paying for that."

Conclusions

We find that business model innovation occurs as a result of 1) activation (clash between familiar and unfamiliar knowledge), 2) combination (socially constructed projection of the future) and 3) calibration (alignment of interests among partners). These practices enabled the co-creation of a pioneering business model involving four distinct but highly complementary partners.

This research is important as it answers the call made by business models scholars (see Foss and Saebi, 2017) on "the mechanisms and processes of business model innovation and change" (George and Bock, 2011: 88) and "the process and elements of business model innovation" (Schneider and Spieth, 2013: 134) and consequently form strategic conditions for interorganizational collaboration.

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A Business Model Approach to Port Ecosystem

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Abstract

With digitalization and the emergence of disruptive technologies, organizations should restructure their business models within their ecosystems to achieve sustainable revenues and value creation. This paper presents a business model configuration for ecosystem contexts by using the port ecosystem as an example. The paper concludes with a business model typology for the port ecosystem.

Keywords: Business model, ecosystem, platform

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Introduction

Along with increasing digitalization, the concept of business models has changed and evolved to meet new needs. Massa et al. (2017) defined business models as an illustration of firm functions and moves to achieve their goals, such as value creation, value capture, and growth. In this sense, business models can be seen as a means to analyze how companies work and create value *(Amit et al., 2011)*. Traditional definitions have focused on value creation from the supply-side and value capture from the demand-side, while the recent models have placed more emphasis on business ecosystems and stakeholder interaction *(Massa et al., 2017)*.

Many businesses are currently influenced by the new concept of platformization *(Ahokangas et al., 2019)*. Businesses change to interact around platforms which act as spaces to provide opportunities for various players, such as customers and suppliers. The platforms aim to facilitate the exchange of data, services, and views and to provide opportunities and value for related stakeholders by using appropriate business models *(Teece, 2018)*. Rapid changes with new technologies have raised the need for platform business models as a new way of designing businesses and to encourage value creation *(Thomas et al., 2014; Gomes, J. F et al., 2019)*. Unlike traditional business models, platform business models focus on social and economic interaction to create value by providing an infrastructure for stakeholders' communication and actions within the ecosystem *(Xu, Y et al.,2020)*.

The ecosystem terms originate from ecology, from where the term was adopted for use in business studies and social science *(Iansiti & Levien, 2004)*. An ecosystem can be defined as a group of interconnected players that work together to create value and gain benefits *(Thomas et al., 2014)*. There are several types of ecosystems, including business ecosystems *(Moore, 1993)*, industrial ecosystems *(Frosch & Gallopoulos, 1989)*, knowledge ecosystems *(Van der Borgh et al., 2012)*, and innovation ecosystems *(Adner & Kapoor, 2010)*. Westerlund et al. (2014) argued that an ecosystem business model with roots in ecosystem research builds on "value pillars" and explains the value creation and capture of the firm and its ecosystem. Ecosystem platform architecture helps to understand the whole ecosystem's parts and the way the ecosystem is partitioned *(Yrjölä et al., 2019)*.

Ports and harbors are a good example of such ecosystems where many players interact with each other. They establish infrastructures where stakeholders can exchange data and services through the ecosystem. Furthermore, ports need to assure those platform standards are addressed at a certain level and to enhance the stakeholders' performance and to improve data exchange and security in the whole ecosystem *(Gawer & Cusumano, 2002)*.

Approach

This paper aims to investigate and propose a business model configuration for the port ecosystem, based on a case study conducted in the Port of Oulu, Finland. We have adopted the business model approach for the ecosystem context to provide a better understanding of the business ecosystem, both from internal and external perspectives. Businesses need to review and renew their business models as well as the business model components due to the digital transformation that is changing the role of players in the ecosystem *(Yrjölä et al., 2019)*. The changes in the business models, from the ecosystem viewpoint, warrant more research into the role of the players within the ecosystem. Specifically, it is of interest to research the relations and interactions within the ecosystem due to the shared goals of the stakeholders *(Ritala et al., 2013)*.

It is easier to classify and organize business models and study roles and relations in an ecosystem with a coherent business model typology. The "4C typology" (connection, content, context, and commerce) addresses a holistic view of almost all business model activities in the ICT (information and communication technologies) context, providing thus a tool for better understanding the stakeholders' activities in the markets *(Wirtz et al., 2010)*. The 4C typology can be seen as consisting of layers where the lower layer enables value creation and capture for the layers at the higher levels. In this typology, the lowest level is

the connection and the highest one is commerce. Each stakeholder can be present at any (combination) of the layers of content, commerce, context, or connection alone or together with other stakeholders *(Yrjölä et al., 2015)*.

In the port environment, the connection layer includes physical and/or virtual communication network infrastructures for port stakeholders' interactions. The ecosystem value proposition is realized by providing a base for exchanging information and the revenue can come from the subscription *(Wirtz et al., 2010)* to the port platform, for example. The content layer aims to collect, select, compile, distribute, and present data in the ecosystem. The value proposition for this layer comes from the approaches and solutions providing convenient and user-friendly access to data. At the context layer, the aim is to provide a structure, increase transparency, and reduce complexity by providing a single platform for stakeholder communication and transaction in the ports. Finally, the commerce layer focuses on negotiation, initiation, payment, and service and product deliveries in the port ecosystem. Commerce-oriented business models enable online transactions and provide a cost-efficient marketplace for buyers or sellers *(Yrjölä et al., 2015)*.

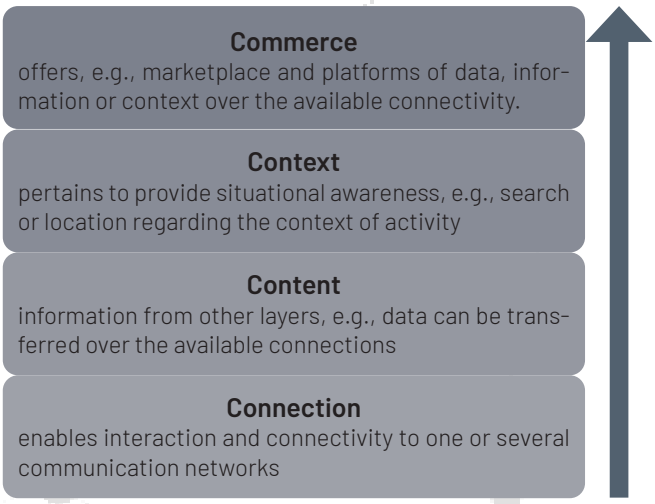

Figure 1: The 4C typology in ports

Ports as a base for connected and co-evolving players, such as campus owners, connectivity providers and users, data providers and owners, legal authorities, and customers can be seen either as a business or industrial ecosystem. A prior study *(Moore, 1993)* noted that a business ecosystem emphasizes the role of a company as a part of the business ecosystem in a larger environment. ICT-based infrastructure platforms have become the basis for ecosystems, allowing them to orchestrate and organize the activities of many companies *(Gatautis, 2017)*.

Complexity, interdependency, and co-evolution are aspects of the business ecosystems in the port context. The port business ecosystem can enable non-linear value creation *(Moore, 1993)*, as the value is created through collaboration and cooperation within a network of different players with interconnected roles *(Sorri, K et al., 2019)*. In the port ecosystem, the relationships between actors are cooperative and competitive, aiming at a common goal such as creating products or services. From the industrial ecosystem and successful business models' perspectives, it is important to optimize sustainability *(Schaltegger et al., 2016)*, including the overall energy efficiency and waste in ports. According to the structural framework presented by Autio et al. (2018), ecosystem elements can be categorized into four parts that cover goals and outcomes, structure, processes, and contingencies. A structured viewpoint towards ecosystems will improve our understanding of the role of players and their effects on the whole ecosystem.

Key Insights

This paper applies the four ecosystem elements from the structural ecosystem framework presented by Autio et al. (2018) and explores them in the port of Oulu ecosystem in Finland applying the 4C business model typology. The results in Table 1 provide a holistic view of the port ecosystem elements and the relevant business model components. The combination of the ecosystem and business model adds value to the analysis and helps to depict the complexities of multi-stakeholder ecosystems.

In the port ecosystem, the main *goal* of the port is to provide trustworthy, high capacity, and low latency connections for services utilized within the port. The ecosystem *structures* include any physical-digital infrastructures such as 4G/5G wireless connections,

Table 1.

	Business model typology			
Ecosystem Elements	Connection	Content	Context	Commerce
Goal- outcomes: The goal of the ecosystem is to optimize the port operations through the digitalization of the services utilized within the port ecosystem.	• Offering and utilization of a trustworthy, high capacity connectivity network to achieve more efficient, seamless, and smooth operation and communication for the different services in the port. • Providing a high-privacy connection network between physical & virtual port models "Digital Twins."	• Making services and internal/external information/data available for the different users and stakeholders when and where needed.	• Providing a structure and optimizing the use of resources within the port area.	• Generating indirect or direct revenue streams for the port ecosystem stakeholders • Making replicable and scalable services available inside and outside of the port
Structure: Any physical and digital infrastructures or assets within the port ecosystem	• High-quality wireless mobile communications infrastructure. • A platform that provides the base for secure data transactions between the port ecosystem stakeholders. • Secure, private real-time edge cloud	• Real-time data used, contextual & situational data, open data, data from other ports. • Video analytics, positioning, edge analytics, drone systems.	• A digital twin presenting the situational awareness of the port ecosystem. • Support for daily operations from data suppliers. • Optimized service performance with the help of artificial intelligence (AI) and (ML) machine learning.	New business systems for the port. Secure and confidential transactions.
Processes: Any activities and services ongoing within the port based on the port structure and to achieve stakeholders' goals	• Speeding up the communication process and/or access to the information with data. • Optimizing service behavior in the port ecosystem with AI, ML • Integration of existing connectivity solutions at the port and interworking with systems outside the port area. • Understanding requirements for the port processes.	• Secure and private processing of data and knowledge sharing. • Making data available. • Providing digital service logs and reports. • Providing a digital traffic flow. • Providing data for existing systems.	• Providing structure and navigation for users. • Providing situational awareness for the local services. • Improving digital services usage. • Identifying and deploying stakeholders' needs in process design. • Visualizing and virtualizing platform processes for the port. stakeholders and customers. • Data ownership.	• Digital trust. • Improving business data sharing inside and outside the port. Exploit open data to develop "situational awareness." • Development of commercial platform. • Optimization of business transaction workload. • Improving the attraction for new customers. • Expanding the market for the port with other ports and ecosystems. • Creating a holistic view of port operations. • Making high availability & robustness for business transactions.
Contingencies: Policies, regulations, standards, and culture regarding connectivity, data, and platform influencing the port ecosystem.	• Global communication standards. • Connectivity related regulations. • Net neutrality.	• Safety-related to the use of data. • Data regulation and standards as well as privacy, security, and confidentiality regulation. • Open data standards.	• Port-specific regulations. • Regulation related to making data available and for sharing.	• Conformity of business transactions with law. • Regulating interaction between players. • Business platform regulation.

Table1: The 4C business model typology to the port ecosystem.

fixed optical fiber connections, sensor networks, big data storage "digital twins" and analytics utilizing artificial intelligence/machine learning which are considered assets and enable a variety of operating processes in ports. Additionally, ecosystem *processes* address activities and services considering the port structure. Finally, the port ecosystem *contingencies* include regulations, standards, and local policies. Table 1 presents the key findings of an analysis that cross-examines the 4C business model framework and the elements of the ecosystem.

Discussion and Conclusions

This paper investigates business model configurations and components for digitalized ecosystem contexts, with a specific focus on a port ecosystem. The ecosystem elements and the 4C business model typology were examined to shed light on the port ecosystem. The findings indicate that a shift in the port ecosystem goals is expected to take place as modern network communication and computing technologies offer opportunities for trustworthy mobile connectivity, data storage, transfer, and analytics, with external services and resource optimization in the port, which will improve the revenue expectations from the whole ecosystem. Indeed, the typology as such is the key conceptual contribution of the paper.

The managerial implications of the analysis for ports are of strategic and technological nature. From a strategic perspective, the findings indicate a direct relationship between the ecosystem and the business model applied by the port. Specifically, appropriate bundling of different business models—the connectivity, content, context, and commerce ones—is required and this bundling needs to correspond with the characteristics of the ecosystem. However, this bundling should not be seen as a universal approach as some customers may require more atomic or narrower approach due to their specific or restricted needs or due to the need for control by the port itself. From technological point of view, establishing high-quality wireless communications with lowered latency in ports will enable real-time data processing, open and situational data. Edge cloud computing elements and interfaces enable local, instant, private, and secure services, e.g., for situational awareness and fast discovery of people, services, devices, resources, and any local information near the user that cannot be collected by centralized search engines. Such digital twin information service platforms could be used to optimize the daily operations and enable new businesses, e.g., in the creation of a highly local and dynamic marketplace for services, resources, and information. Global communication standards and data regulations will assure stakeholders concerning the conformity of business transactions with law and regulations.

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Business Model Implications of Industry Path Dependency

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Abstract

Business model research often reflects an assumption of unlimited flexibility in how firms can expand or renew their business. We present a multiple case study of 21 companies in the Danish container sea freight sector to show how firms embedded in highly integrated supply chains experience business model lock-in due to industry path dependency.

Keywords: Business models; path dependency; lock-in;

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Introduction

While innovation of business models has been an increasingly popular topic in business model research and practice, discussions of the inherent challenges are often limited to internal barriers affecting the process of business model innovation (Das et al., 2018; Mason and Spring, 2011). Business models cannot, however, be regarded as entities controlled by only one focal firm (Berglund and Sandström, 2013). Rather, the business model is a *"system of interdependent activities that transcends the focal firm and spans its boundaries"* (Zott and Amit, 2010: 216). Due to the intricate ties of resource dependency across both supply chains and value networks, firms do not have full control over their business models (Berglund and Sandström, 2013). Consequently, a focal firm's freedom to innovate its business model can be restricted. This paper explores how business model interdependencies can affect the process of business model innovation (Foss and Saebi, 2017). We illustrate how supply chain positioning impacts freedom to innovate for firms positioned "unfavorably" within their supply chains. The aim is to stimulate discussion on whether firms can innovate their business models at will or whether this is constrained by supply chain positioning.

The following section presents a review of the research on business model interdependence, founded on existing theoretical perspectives of path dependency and lock-in (David, 1985; Arthur, 1989). Following the review, the case study methodology and settings are introduced. The case studies are all within the Danish container sea freight sector, a sector characterized by fierce competition, overcapacity, and rapid technological development that creates new potentials for interconnection throughout the supply chain (DanishShipping, 2017). This setting offers an opportunity to explore the connections between different actors in a supply chain and the challenges faced by the focal firm regarding business model innovation within that context.

Business Model Interdependence

Due to the intra-firm focus of most business model research, interdependence has mostly been addressed as the interplay between components in business model frameworks (Johnson, Christensen and Kagermann, 2008), such as content, structure, and governance (Amit and Zott, 2012), or value creation, delivery, and capture (Foss and Saebi, 2017). Maintaining an intra-firm focus on business models is problematic as a change in business model depends on actors outside the focal firm, and thus beyond the firm's control (Sandstrom and Osborne, 2011).

The most elaborate notion of business model interdependence is presented by Casadesus-Masanell and Ricart (2010). They argue that changes to the business model of a focal firm which affect the functioning of the business models of other stakeholders should be regarded as strategic interactions between business models. In making this argument, they emphasize the indirect effects of changing policies, assets, and governance structures, including the potential to increase the intensity of interdependence. Sánchez and Ricart (2010: 140) offer an operational definition of business model interdependence: *"Two different business models are interdependent if they are connected (i.e., they share some of their consequences). In this case, the firm's performance not only depends on its own actions, but also on the actions performed by some other organization"*. Based on this definition, they argue that firms can change their degree of interdependence and work to mitigate negative interdependencies and foster positive ones as a process of changing their competitive positioning (Sánchez and Ricart, 2010). However, the intensity of interdependence is a result of the collective business model choices of all actors in the industry (Casadesus-Masanell and Ricart, 2010).

While interdependence vis-à-vis specific stakeholders can be reconfigured, the collective effect of business model interdependence in a supply chain exists as an exogenous variable for the focal firm. As a result, as firms strive to mitigate the uncertainty of the environments in which their business models function, interdependence will govern the change process of business model innovation. The interdependence of business models in the supply chain thus creates challenges for business model innovation as the underlying path-dependent nature of

supply chains can impede changes in the business model of the focal firm (Håkansson & Ford, 2002; Sandstrom and Osborne, 2011).

This type of path dependency, as well as the microfoundations of *why* such effects occur, are largely unexplored in the extant literature. To address this, the following section introduces the concepts of business model path dependency and lock-in in highly integrated supply chains. In the context of business model innovation, a highly integrated supply chain is one that in many instances can act as "one large organization" in scale and scope as well as in knowledge, as firms operate together to increase the speed and geographical coverage of global transport networks (Hertz, 2001)

Business Model Path Dependency and Lock-in

The effect of path dependency on business model change and innovation has received increasing attention in recent years (Saebi, Lien and Foss, 2016). This has especially been emphasized by Laudien and Daxböck (2015), who transferred the concept of path dependency from the organizational level of analysis (cf. Sydow, Schreyögg and Koch 2009) to the business model level.

Business model lock-in has generally been explored from a demand-side perspective, focusing on the competitive advantage of creating lock-in by configuring activity systems to *"keep third parties attracted as business model participants"* (Zott & Amit 2010: 221). In this framework, lock-in can occur due to the existence of switching costs or network externalities. However, when the bargaining power of the customer supersedes the supply-side business model, the lock-in can be reversed towards the focal firm and its existing business model, thus making business model innovation necessary.

Laudien and Daxböck's (2015) multiple case study explains that business model innovation can be triggered by path-breaking mechanisms. However, when an organization finds itself in a lock-in phase, endogenous changes to the business model are difficult to accomplish due to managerial limitations (Laudien and Daxböck, 2015). This suggests that path dependence is created endogenously as historicity and managerial logic shape the business model trajectory, which, when the lock-in phase is reached, can often only be dissolved by exogenous shocks. However, extant research does not address the question of whether differences in *where* a company is located in the supply chain can enable path-breaking mechanisms. Concurrently, the microfoundations of path-breaking mechanisms in business model innovation are still under-researched.

We contribute to filling this gap by challenging the conventional notion that path dependency should be understood endogenously as a process created through technological competencies and managerial constraints. We argue that business model lock-in occurs because business model interdependence exists across organizational units. This is an alternative position which we aim to detail by exploring what happens between interlinked business models in a highly integrated supply chain. This approach can help determine if some firms are more favorably positioned than others to innovate their business models.

Approach

An exploratory multiple case study was conducted in the Danish container sea freight sector. The study included interviews with employees and managers at three types of companies in the supply chain: end customers, shipping agents, and main line operators. In total, 24 informants from 21 companies were interviewed between May 2015 and March 2016. All interviews were recorded and transcribed. Subsequently, the research team analyzed the data to identify the business model of each company, the existing shipping solutions in use, and the parameters for selecting those solutions. The data were validated through two half-day seminars with industry experts and representatives from the companies included in the study.

Key insights

In interviews, informants estimated that approximately 85% of freight orders were "controlled" by shipping agents; that is, information transactions concerning the needs and planning of the end cus-

tomers' goods transportation were handled by shipping agents. Shipping agents use internet portals and competing offers on behalf of end customers to find the lowest rates for sea freight, resulting in heavy price competition and the commoditization of main line operators. This is the result of a two-decade trend of decreasing levels of direct contact between end customers and main line operators.

As explained by the managing director of a main line operator:

> *"To spread out in the supply chain again is not possible, as the 'value added services' on the whole delivery was lost to the shipping agents 15 years ago. The big shipping agents do all that now. The main line operators did not manage to follow the development at that time, and you won't come back to that again. If you would try that, the shipping agents would 'freeze you out'. Two decades ago, we [as a main line operator] had 80% [of shipment contracts] through end customers and 20% through shipping agents. Today, it is 85% shipping agents and 15% end customers. And this is normal for the entire business. If you sit with the goods (information, ed.), you have the power. The shipping agents have been good at this."*

An exemplification of this microfoundation of the interdependence between the actors in the supply chain in the Danish sea freight sector is illustrated in Figure 1 below.

As illustrated, end customers, shipping agents, and main line operators have quite diverse business models in this supply chain context. In many cases, information flow is exclusively between an end customer and the shipping agent. Similarly, the flow of physical goods is seen between trucking companies (which are sometimes owned by shipping agents) and main line operators, as well as between trucking companies and end customers. In the majority of cases, main line operators and end customers will never have any interaction. It can be argued that this is the result of the constant commoditization and increased efficiency of the industry over the last two decades, which has resulted in the lock-in of main line operators.

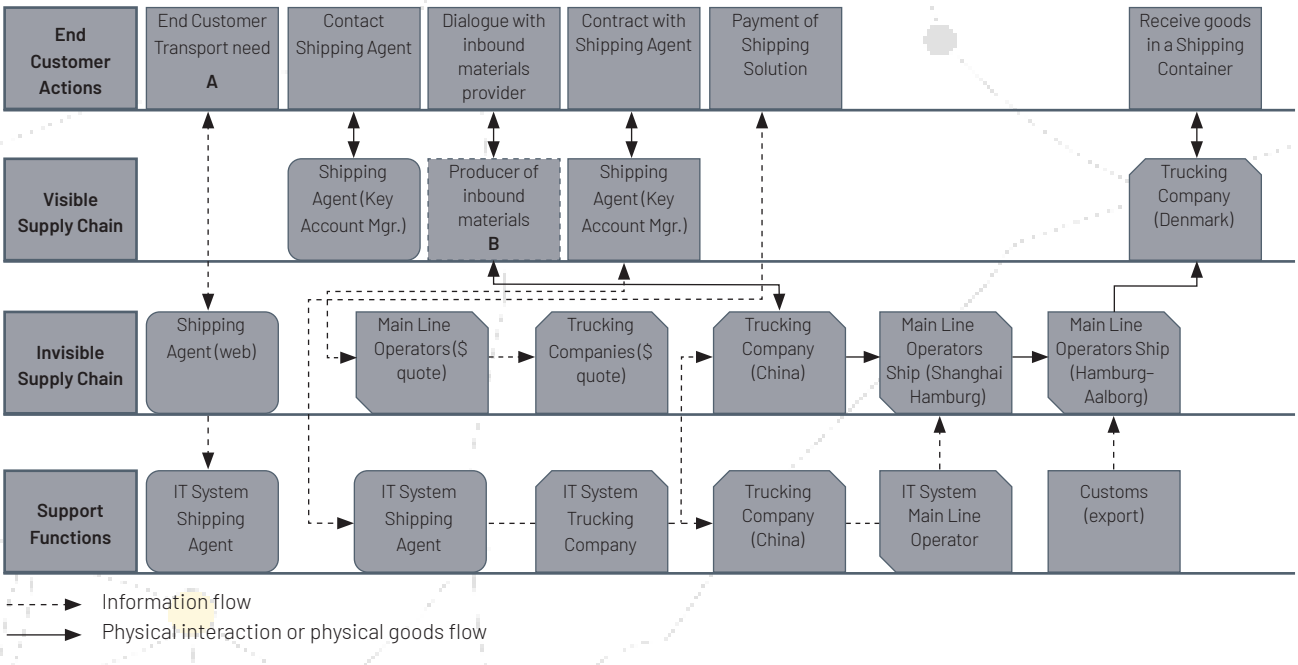

Figure 1: Example of import of goods through Shanghai, China to Aalborg, Denmark. Example is with Shipping Agents controlling Information flow (85%). It display information flows and physical flow between End Customers (EC), Shipping Agents (SA) and Main Line Operators (MLO) as well as Trucking Companies (not that some SAs have own trucks, others make partnerships with discrete trucking companies). Payment terms would vary depending on contract terms.

Table 1.

	Customer Relationship	Key partners	Key resources	Channels
End customers (B-2-B)	(e.g. other businesses, wholesalers, retailers, consumers)	(e.g. inbound logistics)	**Shipping agents**	(B-2-B, own shops, wholesalers, other retailers)
Shipping agents	End customers	(e.g. customs, port authorities)	**Main line operators,** trucking companies	**Main line operators,** trucking companies
Main line operators	**Shipping agents**	(e.g. traffic handlers and port authorities)	(e.g. ship fleet)	(ports)

Business Model Interdependence flow (final pull comes from consumer)

Supply Chain Visibility for End customers (B-2-B)

Table 1: Key differences in business model configuration for the highly integrated supply chain of the sea freight sector Emphasis put on features that concern logistics of enabling the value delivery. Example of shipping agents controlling the goods.

Table 1 below emphasizes these differences (with the context of supply chain goods delivery as a focal point).

The arrow on the left side of Table 1 indicates that the business model interdependence found in the current research is generated by a demand which ultimately comes from consumers (who are, in turn, served by, e.g., other businesses, wholesalers or retailers). It is this demand which has shaped the formation of the supply chain over the years to serve exactly the end customers' need for access to products from all over the world, in an inexpensive and fast manner, allowing for flexibility in terms of delivery. These benefits are realized by end customers in their use of shipping agents as a key resource serving their logistics needs. Shipping agents build relationships with end customers in order to maintain their business. These relationships are, in turn, driven by the price, flexibility, and delivery time required by the end customers. Shipping agents thus activate their resource bases – that is, their infrastructural network of transportation providers, including main line operators. Main line operators thus become a key resource for delivering shipping agents' freight solutions to end customers, and can simultaneously be the channel through which the service that freight forwarders provide becomes physical (i.e., transportation of goods). The main line operators try to establish customer relationships with shipping agents as these have control over the information from end customers regarding goods transportation, directly affecting main line operators' volume of business.

This example demonstrates four core tendencies which establish the potential for business model

lock-in in such a highly integrated supply chain, particularly for main line operators:

1. The ultimate demand for transport solutions comes from consumers; end customers in the transportation supply chain or other businesses served by those end customers provide the interface between this demand and the transport supply chain. The main line operators are at the farthest distance from the ultimate demand.
2. There is a lack of supply chain visibility. As our informant noted in the interview excerpt above, in the majority of cases, there is no flow of information flow, physical contact or goods between the end customers and the main line operators. This provides little to no insight for main line operators in understanding end customers to provide differentiated services.
3. Main line operators have very high capital expenses tied into their current value delivery. They balance high volumes with very low margins and continuously try to optimize operational expenses, to maintain a profitable business. This results in incredibly high switching costs for main line operators in the industry.
4. The market for container sea freight is highly commoditized, and our informants emphasized that supply supersedes demand in the industry[1]. It is surprisingly easy for agents or end customers to switch main line operators to serve the same purpose. Should a main line operator attempt to "creep" into the supply chain by trying to expand their business into other levels of the supply chain, they can very easily be frozen out by the shipping agents. As main line operators are operating in a very high volume, low margin business with frequent turnaround, losing business, even in the short term, could have disastrous effects.

[1] This is sometimes countered by main line operators making their ships "idle" to lower the overall supply. However, this has to be collectively agreed between different alliances in the industry and rarely leads to long-term price increases. Price increases can, however, happen due to consolidations in the industry, which is an increasing trend.

Discussion and Conclusions

This research explains the impact of the highly integrated supply chain that has formed in the Danish container shipping industry over several decades. As a result of this integration, main line operators in particular have lost bargaining power in the supply chain. This is coupled with high capital expenses and a high volume, low margin business that has been commoditized over time. Main line operators have in many instances lost both the information and the physical connection to end customers (B-2-B), and this has put them in a situation where shipping agents can "pick" main line operators based on price and delivery conditions at will, without main line operators knowing the details of the end customers' business needs. This, coupled with overcapacity in the market, has put main line operators in a very unfavorable position over time.

This context and case example adds an additional dimension to the extant business model innovation literature (see, e.g., Wirtz and Daiser, 2017). As seen throughout the case study, the strategic interaction between firms affects the functioning of the business models of other stakeholders, creating business model interdependence (Casadesus-Masanell and Ricart, 2010). For this reason, the concept of path dependency should not just be considered on an organizational level but must increasingly be discussed in terms of the business model construct within and between firms (Laudien and Daxböck, 2015; Saebi, Lien and Foss, 2016).

Understanding the potential interdependence of business models is pivotal when undertaking business model innovation (Casadesus-Masanell and Ricart, 2010) as it underlines how firms, due to resource dependency across both supply chains and value networks, do not have full control of the innovation process (Berglund and Sandström, 2013; Wirtz and Daiser, 2018). When the locus of value creation transcends organizational boundaries, reconfigurations create changes in the firm's value network (Kringelum and Gjerding, 2018), and thus the process of business model innovation cannot be regarded as an isolated event unfolding in a single firm. In turn, this also means that a focal firm's freedom to innovate its

business model can be restricted due to the structures inherent in the supply chain. Disregarding the impact of and on external stakeholders – e.g., supply chain actors – constitutes an oversimplification that can potentially undermine the innovation process.

While this study represents some aspects of business model path-dependency and lock-in in a specific context, there is still a need for more research to provide a detailed understanding of the microfoundations of what business model lock-in is and why it occurs. This presents an interesting avenue for future business model research.

Implications

Business model research and practice have left many company managers with the impression that they have significant freedom to innovate their companies' business models. In this study, we have shown that supply chains that are highly integrated may create lock-in in part of the sector. In the context of our case study, large and powerful organizations (main line operators) have been put in an unfavorable position due to their limited access to end customers. This type of lock-in is reinforced if there is a dominant logic of key competitive aspects in the industry (such as price, which commoditizes the service). Our findings clearly indicate that companies must understand their position in a supply chain when introducing new products or services, and be aware of the risk of lock-in due to price competition over time. The implication for practice is that firms must continuously question their position in the supply chain and the connections between their business models and those of other supply chain actors. This is especially relevant in sectors with changing flows of, e.g., information and goods as this can, as evident in the case of the Danish container sea freight sector, create lock-in.

Limitations

This case study reflects the context of the Danish container sea freight sector, an industry challenged by changing parameters of competition, technology, and sustainability. The identification of mechanisms affecting the current status of business model path dependency and lock-in is specific to this context and this moment in time. However, it provides significant analytical generalizations based on the exploration of an empirical phenomenon (Frederiksen and Kringelum, 2020), and offers a point of departure for future studies of business model interdependence in other contexts to identify the effects for business model innovation both intra- and inter-organizationally. In addition, the extensive technology advances made in the sector following the data collection process, e.g. the introduction of the TradeLens Blockchain (Jensen, Hedman and Henningsson, 2019), highlight the challenges of business model lock-in even further. Future research on both the Danish sea freight sector and business model innovation should address these aspects further.

Conclusions

This is one of the few studies critically addressing the notion of business model innovation. It examines a highly integrated supply chain and emphasizes how business model path dependency influences firms' journeys to business model lock-in over time. Using a multiple case study of 21 firms across three layers in a highly integrated supply chain, we show the microfoundation of how path dependency in an industry can ultimately "push" firms in the supply chain into unfavorable positions that are almost irreversible.

In effect, this study adds new context and information to the literature on business model innovation which is relevant to understanding the microfoundations of business models in highly integrated supply chains. It also poses the question of whether all firms in a given supply chain have the same degree of freedom in terms of innovating their business model. The implication is that firms must carefully deliberate on their supply chain positions when they launch new products or services, as their choices in the context of their positions in the supply chain can have major impacts on their ability to innovate in their business models.

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Open Business Models' Actionability in Europe - EU Competition Policy Analysis

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Abstract

This paper is about contextual policy limitations which are said to restrict the applicability of open business models. In this view, the goal is to analyse the actionability of open business models in the context of European competition policy (EUCOMP). Domains of EUCOMP are systematically reviewed to investigate such limitations 'perspective' in the application of open business models in Europe. Furthermore, the appropriateness of EUCOMP is reflected on in dealing with novel contribution models. In doing so, the paper can yield insights into policy improvement requirements.

Keywords: Open business model, collaboration, European competition policy

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Introduction

Benefits of open business models tend to be discussed from the firm's perspective. Currently, research conducted under the open business model umbrella seems to frequently hail these benefits as well as are found to particularly address concepts of opening up innovation and IP management external to firm boundaries. Business models can also be opened up to stakeholders in various ways, such as by incorporating customers in value creation and capture processes or sharing resources with partners (Frankenberger, Weiblen and Gassmann, 2013; Wirtz and Daiser, 2018). Considering the novelty of these collaborative models, it is not a surprise that they may be somewhat of a blind spot in existing policies, or that existing policies, arguably, may work as a barrier to unlock their potentials. Applying open business models, however, might generate negative externalities (such as anti-competitive outcomes) which (also) may not be favoured by all stakeholders. In particular, research has shown that among the various stakeholder groups (Vladimirova, 2019), interests of consumers tend to be at risk. EUCOMP (European Competition Policy) and GDPR (General Data Protection Regulation) are two recent attempts by lawmakers to preserve consumers' interests. The idea behind this strand of policies is to restrict behaviors which put consumers' benefits at risk. The EUCOMP serves this purpose by clarifying anti-competitive collaborations.

Competition is assumed to be necessary to preserve the consumers' interests (Whish and Bailey, 2015). EU competition policy, which is applicable in the European union (European Union, 2007), promotes the maintenance of competition within the European Single Market by regulating anti-competitive conducts by firms or member states to ensure that their activities would not damage the interests of society (Jones and Sufrin, 2016). However, open business models, which make use of novel collaboration patterns for value creation and capture, did not exist (or were not prevalent) when competition policies were set in Europe (Ibáñez Colomo, 2018). Nevertheless, to date only little research has examined the implications of open (collaborative) business models, specifically what consequences they may carry for EU competition policy (Geradin, 2018).

One of the problems that must now be addressed is whether EUCOMP can be applied, perhaps with some modifications, to open (collaborative) business models, or whether new, parallel, or substitute policies are warranted (Rinkinen and Harmaakorpi, 2018).

By analysing the actionability of open business models in the context of European competition policy, this paper contributes to open business model and EU policy literatures. The findings, on the one hand, assist companies to adjust their strategies (regarding collaborations) for the European market, to structure their collaborative activities better, anticipate key challenges, and develop relevant capabilities to benefit from collaborative models. On the other hand, it helps policy makes to incorporate new business models in the competition policy framework in order to unlock the potential benefits of collaboration.

The paper is structured as follows. First, the concept of open business models, their drivers and benefits as well as EU competition policy and its elements are introduced. This is followed by the analysis of three main domains of EU competition policy and their relevance to open business models. Then, the relevant domains of the current EU competition policy to open business models are discussed and key insights are listed. Finally, implications and opportunities for further research conclude the paper.

Approach

Today, open business models are considered extremely useful tools (particularly) for companies to create and capture value in collaboration with external partners (Holm, Günzel and Ulhøi, 2013). The term was initially used in the context of open innovation (Chesbrough, 2003), the concept has received much scholarly attention since then and has increasingly been used more broadly to describe openness in all the aspects of the business model (Sandulli and Chesbrough, 2009). Frankenberger, Weiblen, and Gassmann (2014) classify open business models as a type of business models in which "collaboration of the focal firm with its ecosystem is a decisive or novel element of value creation and capturing" (p. 175).

Several definitions have been proposed for open business models in the literature (Weiblen, 2014). Open business model describes value creation and capturing by "systematically collaborating with outside partners" (Osterwalder and Pigneur, 2010: 109). Gassmann, Frankenberger, and Csik (2017) define an open business model as a business model in which at least two parties, which divide the innovation work, are involved from invention to commercialization of an idea. Ideas or their resulted technologies are sold, bought, licensed or transferred in other ways, at least one time through the process. Nowadays, collaboration with partners is so common that some definitions for business models incorporate partners (Weill and Vitale, 2001), ecosystems (Osterwalder, Pigneur and Tucci, 2005), and networks (Zott et al., 2011). Considering openness as a continuum (Dahlander and Gann, 2010) a business model is labelled as open if either openness is very essential for a business model's success or it is novel compared with the organization's old or industry's dominant logic (Benyayer and Kupp, 2017).

The common element that can be distilled from the most often cited definitions is *collaboration with stakeholders outside the firms' boundaries*.

Nowadays, several forces push organizations towards more open business models and make more collaborations with stakeholders, arguably, inevitable. Growing division of labour, shorter product life cycles, rising cost of technology development (Chesbrough, 2007), blurring of boundaries between industries, prevalence of other successful open business models (Frankenberger et al., 2014), rise of business services, emergence of disruptive technologies (Holm et al., 2013), and increasing willingness and ability of stakeholders to participate in firms' activities (Kortmann and Piller, 2016) are just a few external drivers of open business models.

The drivers may also be internal, such as the need to create and capture new value (Frankenberger et al., 2014), firm size (smaller firms in fast-moving industries more prone to adopt open business models), technology characteristics (Henkel, 2006; Van Der Meer, 2007), and a shock or challenge to the status quo (e.g. a potential merger) (Chesbrough, 2007).

Furthermore, organizations utilize open business models to generate economies of scale, generate shared knowledge, facilitating collective learning (Rojas and Azevedo, 2014), improve the utilization rate of resources, access to markets and knowledge easier (Sandulli and Chesbrough, 2009), access complementary assets (Sandulli and Chesbrough, 2009), and share risks (Ehret and Wirtz, 2010).

The above-mentioned drivers and rewards of open business models highlight the importance of collaboration as a constructive element of business models in the future. Amongst the important questions which arise in the European context are: *How will (or do) European competition policy tackle new forms of collaborations? What policy improvements are required in Europe in response to new collaborative models?*

European competition policy which aims to provide everyone in Europe with better quality goods and services at lower prices, derives mostly from articles 101 to 109 of the Treaty on the Functioning of the European Union (TFEU). The primary authority for applying competition law within the European Union is the European Commission (European Commission, 2007). It guarantees fair competition amongst market actors in Europe and encourages enterprise and efficiency, creates a wider choice for consumers and helps reduce prices and improve quality. The EU competition policy domain covers three main areas: antitrust, merger control, and state aid.

The first element of the EU competition policy, antitrust, deals with anti-competitive practices and abuse of dominance. Abuse of dominance might happen in i) horizontal agreements (e.g. price agreement, output restriction, market allocation, and bid rigging), ii) vertical agreements (e.g. exclusive supply agreement, tie-in, and resale price maintenance), iii) hub and spoke (e.g. horizontal anti-competitive practice through coordination via hub, and iv) exploitative practices (e.g. excessive pricing, discrimination, etc.) or exclusionary practices (e.g. predatory pricing, refusal to deal, etc). The second element of the EU competition policy, merger control, deals with anti-competitive collaborations. These might happen through i) horizontal

mergers involving competitors, ii) vertical mergers involving companies in the vertical supply chain, iii) conglomerate mergers involving firms in different lines of business, and iv) other types of concentration (e.g. acquisition, full function joint ventures, etc.). Finally, the last element of the EU competition policy, state aid, deals with distorted states' interventions.

In order to investigate whether a practice is anti-competitive, EU competition policy makes use of economic models which mainly focus on the analysis of market shares of the actors in a market at a macro-level. While these models were appropriate in the past, the business world is experiencing new dimensions. Not just the policies but the assumptions behind them require to be revisited in response. It is a simplistic assumption just to focus on anti-competitive collaborations between competitors with considerable market share as a threat for consumers' benefits. Hence, here, it is warranted to shed light on the link between open business models and appropriate competition policies.

Key Insights

1. The EU competition policy is based on consumers' perspective. It requires new angles to change the rules of game in a way that potential benefits of collaboration be unlocked,
2. Modern policies are required which can endure at the same time more collaborations and preserve consumers' interests in a way that the generated value being transferred to consumers,
3. Infringement of the EU competition policy is more probable for big companies with considerable market share, thus small and medium enterprises are somehow out of the radar of EUCOMP but big companies should be conservative regarding openness,
4. First and second elements of the EU competition policy (antitrust and merger control) are main areas related to open business models,
5. There might be some collaborations which are not the case of EU competition policy, but their externalities are not on the benefits of consumers, other collaborations other than the ones between competitors should be studied in more detail. Modern collaborations might threaten consumers' benefits.

Discussion and conclusions

This paper has presented a high-level analysis on the appropriateness of EU competition policy to deal with novelties of business models based on new collaborative methods. It systematically explores the applicability of open business models in Europe vis-à-vis the current policy framework. By identifying the drivers of open business models and explaining the benefits which organizations pursue by utilizing collaborative models, the paper highlights the importance of collaborative models. To date, the literature on open business models tends to be mainly focused on a firm's perspective, and hence, here a holistic view is offered which considers contextual policy limitations in the application of open business models. It elaborates how open business models might infringe on the current European competition policy. Furthermore, by highlighting the limitations imposed by European competition policy (which restrict specific types of collaborations), the paper draws practical implications for organizations to consider when strategizing their activities in Europe. Considering the economic models behind the existing EU competition policy, an important implication for companies with considerable market shares is to be more cautious when planning their business model innovation through collaborations. The paper also provides a new perspective on novel collaboration patterns for policy makers. It discusses the requirement of modern policies which at the same time enable more collaborations and protect consumers' interests.

As a result, important questions have been raised about the appropriateness of the traditional policies to treat with innovative collaborative models. It would be fruitful to pursue further research about new models for investigating anti-competitive conducts. Archetypes of 'openness' based on different involved stakeholders is another area for further research.

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JOURNAL OF BUSINESS MODELS

Business Model Transformation of a Service Provider on a Sharing Economy Platform

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Abstract

The study investigates a business model transformation of a service provider on a sharing economy platform using a dynamic business model perspective. The study takes an inductive approach and draws on a set of semi-structured interviews, observations and other sources from a longitudinal single case study. The study is among the first ones to depict the process of the business model transformation of a service provider on a sharing economy platform along four dimensions: resource structure, organization structure, value proposition, and process dimension, i.e. "trial-and-error experimentation". The study also uncovers the service provider's multiple channel API (application programming interface) strategy whereby the provider uses API to cross-list the listings on various online platforms. This strategy has implications for other providers and platforms within the sharing economy context.

Keywords: Business model transformation, sharing economy, hospitality, multiple channel strategy

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Introduction

During the last few years the phenomenon of sharing economy, also referred to as collaborative economy or even on-demand economy, became almost ubiquitous. Even though some argued that the term has been misleading (Slee, 2015), the sharing economy has firmly accommodated itself in the popular press (Economist, 2013; Karsten, 2017; Owyang, 2016) and has also found its way into the academic research (Laamanen, Pfeffer, Rong and Van den Ven, 2018; Mitchell and Strader, 2018).

The sharing economy is an umbrella concept (Acquier, Daudigeos and Pinkse, 2017) that covers diverse sectors and a variety of organizational forms and practices, both for-profit and non-profit (Schor, 2014; Sundararajan, 2016). Examples of companies disrupting traditional industries are abundant and range from accommodation marketplace Airbnb in hospitality industry (http://airbnb.com), to transportation network Uber (http://uber.com) and car-sharing company Zipcar (http://zipcar.com) in transportation industry, to peer-to-peer landing platform Zopa (http://zopa.com) in finance, and online course platform Coursera (http://coursera.org) in education (Botsman, 2012, 2013; Owyang and Samuel, 2015).

Despite a surge of attention to the sharing economy, little is known about the business model development of service providers that constitute one of the pillars and driving forces behind the growth of sharing economy. Studying business models within the sharing economy is particularly important because of their novel nature and a potential to disrupt established industries (Dreyer, Lüdeke-Freund, Hamann and Faccer, 2017). This paper aims to enhance knowledge on business model evolution in the context of sharing economy, with a focus on business model transformation of a peer service provider on a sharing economy platform, which has been identified as important but under-researched area (Benoit, Baker, Bolton, Gruber and Kandampully, 2017).

This will be achieved by answering the following exploratory question:

How does a hobbyist peer provider in sharing economy develop its business model in the process of becoming a professional service provider?

The longitudinal study is based on the data obtained from interviews, analysis of company documents, discussions, and observations of a sharing economy peer service provider from Finland. The paper begins with a review of business model literature to anchor this research in its specific context. Then, the methodology section is presented followed by the empirical findings. Finally, findings, limitations and future research directions are discussed.

Approach

The primary intention of this research was the exploration of the business model development in the context of sharing economy in a particular case of a peer provider on a sharing economy platform. The study was designed as a qualitative single case study (Yin, 2003; Demil and Lecocq, 2010) due to the explorative nature of the research question and limited amount of research conducted in the area of business model development within the particular context.

The data for this study has been collected through semi-structured interviews, participatory observations in the meetings, discussions and analysis of company documents, available for the years 2013-2018, to ensure triangulation of various methods (Gibbert, Ruigrok and Wicki, 2008). In addition, website information, publicly available digital documents and other online media resources were used to deepen the understanding of the studied phenomenon. Such approach has been pursued to ensure the robustness of the study (Creswell, 2007; Denzin and Lincoln, 2003). The data was collected during five years period from 2013 to 2018. As typical of inductive research, the analytical process was iterative and overlapped with the data collection (Yin, 2003). The data collection consisted of several phases. Initially, 11 interviews with the peer provider and users of the particular peer provider services on Airbnb platform were conducted. Further, 12 interviews with both professional and non-professional peer providers on Airbnb platform were conducted in order to uncover the motives, challenges and actual processes of hosting on the peer-to-peer platform. Additionally, interviews with sharing economy experts were conducted to gain deeper understanding of the sharing economy phenomenon. In total, 30 interviews (ranged from 45 minutes to 1 hour 30 minutes) were conducted for this study.

The interviews were recorded and later transcribed, followed by a coding procedure where firstly basic codes were identified and summarized, and later grouped into meaningful themes using thematic coding procedure (Miles, Huberman and Saldana, 2013). The secondary data was triangulated towards the insights obtained from the interviews. Based on the data derived from the interviews and company documents a factual timeline of critical events in the process of firm evolution was constructed. The emerging findings were iteratively discussed with the peer provider to gain further insights and sharpen the understanding of their business model development.

Key Insights

Case description

The empirical setting of this study is hospitality context of the sharing economy, with focus on a service provider or 'host' on a peer-to-peer accommodation platform Airbnb. The service provider of this case study is located in Finland. The peer provider has started its operations in 2011 by becoming an individual host on Airbnb platform with two properties. In 2013 the host has decided to establish a venture that would focus on a branded hotel experience. At the same time, together with like-minded entrepreneurs he created a business entity that rented several apartments in Helsinki in order to further list them on Airbnb platform. The apartments were co-called themed apartments, with every apartment named and decorated according to a certain theme. In 2014 the company has expanded its offering to over 20 apartments, whereby apartment's interior design was streamlined and themed apartments lost in importance. In 2014, after observing the declining occupancy rates for the apartments listed on Airbnb platform, the case company's board of directors has decided to list the apartments on different hospitality channels, such as i.e. booking.com and hotels.com. The cross-listing of properties on multiple online channels and subsequent increased exposure of the apartments to potential guests have raised the occupancy rates and enabled to further expand operations by doubling the amount of apartments to rent. At the same time, an own website and brand were created, whereby apartment rental bookings began also through an own channel. As of 2018, only 7% of company's revenue came from Airbnb, compared to 100% before, around 50% of revenue came through booking.com, and over 30% - from its own channel. The growth of the business entity through multichannel strategy has allowed to strengthen the brand and potentially expand the provider's value proposition towards becoming a service provider to other peer providers within sharing economy hospitality space.

Resources and competencies

The resources of the organization may be developed internally or come from external markets, while the competencies refer to the abilities and knowledge of managers to develop the services their resources can offer (Demil and Lecocq, 2010). The experience, diverse knowledge, expertise and skills of co-founders and shareholders of the company that evolved into a professional service provider have played a substantial role in the business model creation and development. Shareholders' complementary capabilities regarding the value network aspects, such as legal, real estate management, property sales and technology have been instrumental for the company. In the process of business model development, the host has acknowledged the financial resources as a major challenge in sustaining of business operations.

Organizational system

The organizational structure pertains to the organization's activities and relations it has established with the stakeholders in order to utilize and exploit its resources. It encompasses the activities and value network consisting of relations with its suppliers, customers, competitors and regulators (Demil and Lecocq, 2010, Amit and Zott, 2001). The organizational system of a service provider consisted of online platforms, customers, government, city and professional organizations and competitors.

Value proposition

The value proposition of a peer provider has changed with the process of the business model evolution. Starting as an individual host on Airbnb platform with focus on experience accommodations, the peer provider has formed a business entity and ex-

panded its offering. Later, faced with the challenge of booking calendar synchronization, peer provider adopted a multichannel API strategy, and was able to increase exposure and absorb the demand on various hospitality channels (Beritelli and Schegg, 2016). Finally, own brand Experience Living was created and expanded, with a potential future focus on becoming an operator for other peer providers

Discovery driven approach

In the process of business model transformation the peer provider has adopted a discovery driven approach. As McGrath puts it, "discovery driven processes demand that business model assumptions are both articulated and tested. Having come up with an idea that an executive thinks represents an opportunity, the next step is to validate whether it can really deliver a compelling result for the company" (2010: 258). In the process of discovering the right approaches as new information is revealed, the peer provider has embraced an interplay of "trial-and-error experimentation" i.e. exploration and exploitation of emerging opportunities (Ahokangas and Myllykoski, 2014; Sosna, Trevinyo-Rodríguez and Velamuri, 2010). Indeed, the peer provider has revealed the instances reflecting on the process of trial and error in business model development:

> "We made many mistakes during this past. We hired a lot of cleaners, service people. That's not scalable, then you are stuck with your human resource cost." [Peer provider]

> "Now we are trying to outsource scalable resource model, when we don't have any people on our HR and we pay per cleaning/service." [Peer provider]

Trial and error learning (Sosna *et al.*, 2010) is influenced by cognition of the entrepreneur, in form of cognitive maps that can be conceptualized as perceptions of environmental cognitions coupled with own prior knowledge. This is reminiscent of the notion of 'entrepreneurial judgement' as put forward by Penrose (1959), the ability to discover new ways of dealing with known problems, perceive productive possibilities outside of the established routines and engage in the process of carrying out new combinations of resources in development of a venture (Ghoshal, Hahn and Moran, 1997; Langlois, 1995).

Multichannel API strategy

During the process of professionalization, growth has become one of the provider's major objectives:

> "We need to keep up pace of multiplying every year, otherwise it dies. We just need to keep up growing, and the bigger multiplier we can achieve, the better." [Peer provider]

Observing the limited demand on Airbnb platform as one of the major obstacles for growth, peer provider has pursued a multiple online channel strategy with the use of APIs. Beritelli and Schegg (2016) find out in their recent study on traditional hospitality channels, that the multiple online channel strategy seems to be the more effective approach to maximizing bookings online, regardless of the platforms chosen. In this study's case, the sharing economy provider has utilized APIs in order to synchronize booking calendar across channels. Application programming interface, or API, is "a way for two computer applications to talk to each other over a network using a common language that they both understand" (Jacobson, Brail and Woods, 2012). The API, in its simplest description, is a contract that allows software to communicate with each other and share information. APIs are becoming enablers of omnichannel selling and diverse service business models and could be most useful in creating new business models and streamlining selling across all channels. The greatest revenue potential they provide is removing barriers to growing revenue by integrating platforms and apps so organizations can launch new business models and scale fast (Jacobson *et al.*, 2012). So far APIs has been looked upon as a tool for organizations (Zachariadis and Ozcan, 2017). However, with users of sharing platforms becoming businesses in themselves, a new potential use for API is emerging. Indeed, the peer provider has acknowledged the revenue optimization and commissions management that was enabled by the multichannel API strategy:

> "Until everyone is linked to every sales channel, you have competitive advantage, where you can optimize revenue according to sales channel demand and everything, you can charge a bit lower price on Airbnb because Airbnb has significantly lower commission, than booking.com." [Peer provider]

Discussion and Conclusions

This study has explored the process of business model development in the context of sharing economy, with a focus on the professionalization of a peer-provider on a sharing economy platform. The study is the among the first ones to depict the adopted strategies of the service provider, that have been identified as important but under-researched areas in the emergent literature on sharing economy (Benoit *et al.*, 2017).

Embedded in the Penrosian (1959) dynamic view of the firm growth and consistent with the conceptualization of Demil and Lecocq (2010) and George and Bock (2011), the study presents the business model development along four dimensions: resource structure, organization structure, value proposition, and process dimension, i.e. "trail-and-error experimentation". The peer provider has adopted a discovery driven approach in the process of business model transformation, whereby embracing the interplay of "trial-and-error experimentation" with emerging opportunities (Sosna *et al.*, 2010) and exercising 'entrepreneurial judgement' in carrying out new combinations of resources in creation of a new venture and development of its business model (Ghoshal *et al.*, 1997; Langlois, 1995, Penrose, 1959). The study contributes to the emerging literature on dynamic perspective of business models with its focus on actual process of business model development (Wirtz and Daiser, 2018; Wirtz, Göttel and Daiser, 2016) in a new context of sharing economy. It also introduces the concept of API – application programming interface – as a strategic tool utilized in business model development.

The findings of this study have practical implications for online sharing platforms and peer service providers. The increasing impact of the sharing economy on hospitality industry has been noted (Zervas, Proserpio and Byers, 2017). With IT as enabler of sharing economy (Puschmann and Alt, 2016), it is conceivable that more individual hosts would pursue the path of professionalization. The adaptation on multichannel API strategy might create a further impact on traditional hospitality industry by increasing competition within online booking channels. Furthermore, some (Slee, 2015) have argued that majority of hospitality platforms' revenue comes from hosts with multiple listings. The multichannel strategy and potential creation of own sales channels decreases host dependency on sharing economy platforms and can have implications for the supply of listings to the platforms on which they rely in their growth strategy (Lane and Woodworth, 2017). Finally, multi-channel API strategy has a potential of a wide-scale adaptation within peer service providers on sharing economy platforms as APIs enable omnichannel selling and diverse service business models.

Limitations and future research directions

This research was carried out as a longitudinal single case study therefore its findings are not generalizable on a larger population. Multiple case studies, as well as quantitative studies on the process of professionalization within the sharing economy could be carried out to shed light on the potential effects the professionalization and multichannel strategies may have on sharing economy platforms, as well as hospitality industry at large.

Further research could study in detail what effect the professionalization of peer provider has on the business model of platform provider, and whether peer service provider professionalization is beneficial for the platform provider in a long term.

Additionally, studies on peer service providers in different cultural and geographical settings would shed light on the dynamics and differences in the development of professional service providers. Also, this study has focused on a peer provider in hospitality setting. Future research could investigate whether and how the professionalization occurs in different industry context and how the value is created in the interplay between consumer, provider and the platform.

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JOURNAL OF BUSINESS MODELS

Digital Entrepreneurs and the Origin of their Business Models

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Abstract

The aim of this paper is to find out if the business ideas of digital entrepreneurs develop within the opportunity discovery or creation context and what digital levels their business models have in this context. Following an exploratory research design, ten digital start-ups were interviewed and analyzed.

Keywords: Opportunity discovery and creation, digital entrepreneurship, business model

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Introduction

Business model innovation resulting from digital technologies has brought about a transformation in several industries including media or accommodation. These transformations were largely introduced by pioneering start-ups that grew into giants like Airbnb or Amazon (Sorri *et al.*, 2019; Zaheer *et al.*, 2019). Digital technologies have thus had an important impact on the new venture idea and the entrepreneurial process (Nambisan, 2016) and open up a wide range of possibilities for entrepreneurs (Kraus *et al.*, 2019) and new business models (Cuc, 2019). The new opportunities driven by digitalization build the basis for digital entrepreneurship. Digital entrepreneurship is *"a subcategory of entrepreneurship in which some or all of what would be physical in a traditional organization has been digitized"* (Hull *et al.*, 2007, p. 293); it *"embraces all new ventures and the transformation of existing businesses that drive economic and/or social value by creating and using novel digital technologies"* (European Commission, 2015 cited by Sahut *et al.*, 2019, p. 4); it's the process of creating a digital start-up (Zaheer *et al.*, 2019). A digital start-up is in an early stage of development and growth (Klotz *et al.*, 2014) where digital technologies *"enable at least one component of a business model in a way that is not just functional but vital to the firm"* (Zaheer *et al.*, 2019, p. 2).

The basis for every new venture is the business opportunity pursued by the entrepreneur, such as opportunities due to digital technologies (Kraus *et al.*, 2019). Ardichvili *et al.* (2003) describe the identification of the right opportunities for entrepreneurs as one of the key activities behind success and forms the basis and starting point for entrepreneurial behavior. Before a business model or a business plan can be developed, however, entrepreneurial chances and opportunities must be *discovered or created*. Within the *opportunity discovery context*, based on the description of Kirzner (1979), opportunities exist independent from the activities of a person and wait to be discovered and used. In the *opportunity creation context*, opportunities do not yet exist, as described by its originator Schumpeter (1934). Instead, they are created if an entrepreneur develops them within an iterative process of acting and reacting. The finding and development of new ideas, as well as the networking of existing resources with existing and new possibilities form the basic building blocks from which new and future business models are created (Ardichvili *et al.*, 2003), especially against the background of rapidly proliferating digitalization. Table 1 highlights the specific characteristics of opportunity discovery and creation.

Examples of Airbnb or Facebook showed how digital companies can become game changers in industries in conditions of high uncertainty, which is a characteristic of the opportunity creation context. Ojala (2016) investigated the issue of companies developing their business model under conditions of high uncertainty, namely the opportunity creation context. But so far, investigations have not extended to whether digital entrepreneurs develop their business model in the opportunity creation or the discovery context.

In order to understand the business model characteristics of digital entrepreneurs in a better way, Hull *et al.* (2007) identified three levels of digitalization – mild, moderate and extreme – with each level having specific characteristics. Hull *et al.* (2007) state that empirical investigations based on their characteristics should shed more light on the development of digital entrepreneurs and how digitized their business models are. More insights about the digital level of business models is also requested by Kraus *et al.* (2019). Furthermore, Zaheer *et al.* (2019) state that the research on digital entrepreneurship is still very fragmented and in-depth knowledge about the specifics of a digital entrepreneurs business model is still in very short supply.

Following the requests of *Hull et al.* (2007), Kraus *et al.* (2019) and Zaheer *et al.* (2019) to shed more light on the characteristics of digital entrepreneurs and their business models, the goal of our research is to identify *1) in which opportunity context digital entrepreneurs develop their business model and 2) which level of digitalization characterizes these digital businesses.*

Table 1.

No.	Characteristic	Discovery Theory	Creation Theory
1	Opportunity existence	Opportunities are available independently from the entrepreneur and wait to be discovered. They result from unbalances in the environment, evoked by new technological standards or customer needs.	Opportunities emerge through an iterative process of acting and reacting. They result from individual and personal visions of the entrepreneur.
2	Entrepreneur	Entrepreneurs identify opportunities through an active search for opportunities and have a higher particular inclination to perceive them (Alertness).	Entrepreneurs are no different to anyone else; they can develop themselves further by creating a new possibility.
3	Information	Information about the market, customers and competition are available and lead to the recognition of a new opportunity.	As a result of an evolutionary process, the outcome of opportunity creation is open and unknown in advance. Opportunities are sometimes unrelated to currently available information. New extensive knowledge can emerge.
4	Peculiarity	New opportunities can be identified due to special abilities and knowledge of the entrepreneurs.	The path-depending process of creating an opportunity can lead to significant differences between entrepreneurs and others.
5	Decisions	The opportunities are based on risks; there is sufficient information about possible outcomes and the possibility of occurrence available. Decisions are made deductively and from evidence, based on facts and information.	The opportunities are based on uncertainty; information about possible results of a decision and the possibility of occurrence is not available. Decisions are made inductively and depend on the context.
6	Approach	Causation: Selection of the necessary resources to reach a defined goal.	Effectuation: Development of new possible goals by using the available resources.
7	Strategy	Fully formulated strategy, almost no adaptions.	Emergent strategy, many adaptions based on a trial-and-error.
8	Employees	Based on experiences from working in industrial companies.	Based on former entrepreneurial experiences.
9	Founding	Formal, based on rules.	Informal, based on the situation.
10	Competitors	Competitive advantages emerge from building up barriers due to knowledge about the market and the product.	Competitive advantages emerge by a high level of innovativeness.

Table 1: Characteristics of the opportunity creation and discovery approach (based on Alvarez and Barney, 2011; Ardichvili et al., 2003; Eckhardt and Shane, 2003; Fueglistaller et al., 2012; Gaglio and Katz, 2001; Geißler and Zanger, 2015; Ghezzi, 2019; Gontareva et al., 2018; Hills et al., 2004; Jones and Barnir, 2019; Shane, 2000)

Approach

In order to find out how entrepreneurial opportunities are formed and how this relates to the level of digitalization, this study follows an exploratory research design encompassing ten semi-structured interviews with digital entrepreneurs who started their businesses in the university context. The informants were CEOs or founders of the companies who were able to describe how the founding process of the company took place. We followed a purposive sampling strategy (Flick, 2014) as we deliberately selected digital entrepreneurs with an academic

background. The interview guideline used consisted of questions addressing the idea development, the founding process of the start-up, the development of the business model and the digital level of the business model. The interviews were conducted between January and March 2020 and lasted between 20 and 42 minutes each. With the exception of one telephone interview, all the interviews were conducted in person. The interviews were all recorded and fully transcribed. The process of deductive data analysis described by Mayring and Fenzel (2014) was followed for analyzing the data. The characteristics from table 1 were utilized to identify whether a company operates in the opportunity discovery or the opportunity creation context, and every interview was deductively analyzed with the aid of these characteristics. In order to assess the digital level of every company interviewed, the classification into three digital levels proposed by Hull *et al.* (2007) was followed. In order to be able to classify the companies according to the three digital levels, we used the characteristics of the typology of digital entrepreneurship advocated by Hull *et al.* (2007) and combined them with the characteristics of the digital maturity model proposed by PwC (PricewaterhouseCoopers, 2014). This provided us with a structured and sound operationalization for identifying the digital level. The categories were defined as the (1) digitalization as a company goal, (2) internal and external processes, (3) usage of digital technologies for cooperation and development, (4) usage of digital technologies for marketing and sales, (5) current level of digitalization for their business model elements, (6) collection of customer data, and, (7) support of digital education of employees.

Key insights

According to the characteristics of the opportunity discovery and creation approach (see table 1), we revealed that 5 out of 10 companies identified and explored new opportunities in relation to the discovery context (A, B, E, G, J), whereas the remaining 5 companies did the same within the creation context (C, D, F, H, I). Although evidence of both theories has been found in every company, they could be clearly assigned to one single opportunity context. Table 2 provides an overview of the interviewed companies and their assignment to the discovery or creation context based on the characteristics from table 1 and complemented by exemplary phrases from the interview. In addition, table 2 indicates the digital level of the company's business.

The majority of founders recognized an imbalance in the market, triggered by specific customer needs or problems. But there is no clear tendency toward the discovery context of opportunities. Furthermore, entrepreneurs developing their business models in the opportunity creation context also reach a point where their product or service solves a potential problem in the market of which they were unaware at the time they started. Moreover, at the end of the development of a business opportunity toward a business model, entrepreneurs sometimes find themselves with a completely different product than the one they started with (e.g. company D).

Since five out of ten start-ups analyzed established their company in the opportunity creation context, a high degree of innovativeness is assumed in these cases. The creation of new business opportunities is based on developing products and services without or just restricted knowledge of the market and the competition. The founders create a new market demand by offering completely new products and services to customers.

In our investigation it became evident that entrepreneurs in the founding process intuitively and individually deal with the respective tasks and problems depending on the situation and do not strictly follow the characteristics of one opportunity context. Whether the entrepreneurs operate more in the discovery or creation context also depends on the combination of several factors, including access to a new opportunity, the environment, the mindset and previous developments.

By analyzing the digital level of all companies, we faced the challenge that a strict separation of each digital level is hardly possible. Nevertheless, we revealed that the business models of six companies have an extreme digital level (A, B, E, G, H, I), one has

Table 2.					
Company	Discovery Theory	Creation Theory	Determining characterization	Example of assigned phrase	Digital level
A	x		1, 2, 3, 4, 5	*"It was completely clear for me, that the potential of this technology will grow and that this will lead to huge changes. I see many parallels with internet as this topic also arose."* (No. 1 & 3)	*extreme*
B	x	x	1, 2, 3, 5, 6, 10	*"Mobile access to web systems of the university was not possible with good user experience, our co-founder realized that this was so and it bothered him, He wanted to create better accessibility for himself and the students."* (No. 2 & 3) *"After running several startup projects in parallel, we finally decided to focus only on company B, problem-solution-fit."* (No. 5)	*extreme*
C		x	1, 3, 5	*"The idea came out of nothing. I thought that there is a similar solution for the industry and asked myself why there is no solution for the construction topic."* (No. 1) *"We have had to and still have to do a lot of groundwork here."* (No. 5)	*moderate*
D		x	1, 3, 5, 6, 7, 10	*"After a research of our new idea we noticed that a solution like ours did not exist at the present time."* (No. 1 & 3) *"If you have a sensor device there [...] then you can save labor and the risk of accidents. This results in a great added value in terms of cost savings. And that is where there has been an expansion of the business model."* (No. 10)	*moderate - extreme*
E	x		1, 2, 3, 4, 5, 6, 7	*"What I did was to scout trends. I detected a customer need and developed a special solution for it."* (No. 1 & 2) *"[...] and our product is simply an addition or an innovation from the already known solution."* (No. 5)	*extreme*
F		x	1, 2, 4, 5, 6	*"We simply wanted to establish a company [...] The whole construct has developed over time."* (No. 1) *"My partners and I wanted to start and run a company and feverishly thought about what we could do. [...] we asked ourselves what we could do better than our competitors, and what the problem was and why other solutions didn't work as well."* (No. 2 & 4)	*moderate - extreme*
G	x		1, 2, 3, 4	*"The idea came up because we detected a certain problem shared by catering companies concerning their online review system."* (No. 1) *"Because of our customers, we have again been working on new features and products."* (No. 3) *"I actually didn't always want to be self-employed. (...) Retrospectively, I have to reflect and honestly say that, in mind-set terms, starting my own business was a good fit for me."* (No. 2)	*extreme*
H		x	1, 3, 4, 5, 10	*"That simply arose from the idea that there was nothing like that at the time. [...] and that didn't exist at the time, at least not in the quality we needed. That's why we did it ourselves."* (No. 1 & 3 & 5) *"I have always been self-employed, so I have never worked in a company. I am CEO."* (No. 4)	*extreme*
I		x	1, 4, 5, 6, 8, 9, 10	*"[...] the idea arose independently of the motivation to start a company. We simply made the product for ourselves."* (No. 1) *"We have seen the problem of not having accurate data. We have seen this in everyday life, however, we did not know or never knew about how big this problem really is and how big a need there is behind it."* (No. 5)	*extreme*
J	x		1, 2, 3, 4, 5, 6, 8	*"We saw what he was doing and thought there must be a simpler solution. We came up with our solution to a problem that was unknown to us until then."* (No. 2 & 4) *"And then, above all, we have both seen different companies and have also seen many things that did not suit us so well there and that we wanted to do better in our own company."* (No. 8)	*moderate - extreme*

Table 2: Assignment of the companies to the opportunity theory approach and their digital level

a moderate level (C), and three reach a moderate to extreme level (D, F, J) of digitalization. A clear assignment to an extreme digital level was not possible in these cases. On the one hand they are providing solutions on a high digital level, and at the same time they are operating in industries in which non-digital contacts or processes are still required to a large extent (geriatric care, human resources, and stock farming). The only company with a moderate level of digitalization has developed a web-based tool for the interdisciplinary configuration of buildings in the construction industry, in which non-digital components of the business model and the industry must also be considered to a greater extent.

By combining the results on the opportunity context with the results on the digital level of each business model, our results revealed that the companies operating in the discovery context are more likely to have an extreme level of digitalization (A, B, E, G), despite company J (moderate-extreme), than companies operating in the creation context (C, D, F, H, I), showing more often a moderate level of digitalization. Nevertheless, with our results we are able to show that all the companies have a large proportion of high digitalization, although there are also indications in the direction of a moderate digital level. The reason behind this high general digital level is based on the fact that every company surveyed offers various digital aspects in its business model, predominantly digital products and services.

Overall, there is a slight tendency toward a higher degree of digitalization in conjunction with the opportunity discovery context. This suggests that entrepreneurs who found their start-up in the opportunity discovery context and have sufficient information about the market and the competition are able to place a greater focus on digitalization than entrepreneurs in the opportunity creation context. We assume that entrepreneurs in the creation context devote greater energy to developing their business idea than to dealing with the issue of the company's appearance and operations with regard to digitalization. Instead, the focus is on the product or service to be developed. In comparison, entrepreneurs in the opportunity discovery context focus more strongly on digitalization, since more information about their customers and competition is already available. We further revealed that companies founded in connection within the opportunity creation context have to iterate more often in the development of their products and services due to the path-dependent process of trial and error. In most cases, the founders developed completely new products or services in the course of this process, so that the orientation toward competitors is not possible and customer preferences or market acceptance are difficult to predict.

Discussion and Conclusions

The goal of our paper was to show in which opportunity context – creation or delivery – digital entrepreneurs develop their business models, depending on their level of digitalization. In sum, we revealed that digital pioneers with an extreme level of digitalization (Kraus *et al.*, 2019) in the opportunity discovery context use digital technologies to develop user-friendly solutions for customer needs. Thus, entrepreneurs have sound knowledge of the market and customers in terms of opportunities in the discovery theory context, with the result that it is more likely to offer a higher level of digitalization. Fueglistaller *et al.* (2012) argue that successful entrepreneurs need to be one step ahead of their competitors to gain a competitive advantage. This would explain the high level of digitalization in this context. By contrast, companies in the opportunity creation context show a tendency toward a moderate level of digitalization due to a lower level of digitalization of internal processes or marketing and sales activities. Companies in the opportunity creation context have to deal with questions of uncertainty (Geißler and Zanger, 2015; Ojala, 2016), because of unknown customers, an unknown market and unknown sales channels where they cannot primarily focus on a high level of digitalization. This explains in our cases the focus on the development of digital products and services and the neglect of other aspects. Nevertheless, Hull *et al.* (2007) stated that digital entrepreneurs selling digital products or services have at least a moderate digital level, which is also shown by our results.

If we view the results through the lens of the business model, we see the main differences in both

value creation and value delivery. The value proposition of the business model is geared toward creating value with the help of smart products and services. According to Hull *et al.* (2007), this is a characteristic of digital entrepreneurs. The value delivery shows that companies combine digital distribution with traditional sales activities (e.g., direct sales). We have rarely found a complete digitalization here. In value creation, digital technologies are predominantly used in the collaboration with other companies. Of course, this is relatively easy to implement in software companies, since they are thoroughly familiar with the use of digital tools in software development and document sharing. Internal processes are very often not yet digitized. In sum, our findings are in line with the findings of Zaheer *et al.* (2019) who state that digital technologies play a vital role in the elements of digital companies' business models.

With our study, we contribute to the discussion about business models of digital entrepreneurs by gaining more insights on digital levels of the business models. We also contribute to the discussion on the development of opportunities by showing, in which of the two opportunity contexts (creation or discovery) digital entrepreneurs develop their business models. In terms of practice, we were able to demonstrate the origins and peculiarities of the opportunity context and what to consider when starting a digital business.

Our study also has its limitations. First of all, we only have 10 companies included in our sample. More empirical data is needed to strengthen our findings. Additionally, more information about the business model is needed to gain deeper insights into the elements of the business model of digital entrepreneurs. In the case of imprecisely formulated statements in the expert interviews, it was not always possible to make a clear assignment of a text passage to the appropriate category. We addressed this challenge with intercoder agreement and multiple, iterative considerations of the text material.
Future research can take our results as a basis for a quantitative study to reveal correlations between the opportunity context and digital level of the business model. Furthermore, it can be fruitful to reveal which of the characteristics or which combination of characteristics of either the opportunity creation or discovery are crucial for the entrepreneur to finally develop the opportunity in the creation or discovery context.

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Business Models, Accounting and Reporting– Two Steps Forward, One Step Back?

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Abstract

In recent time discussion has gone back and forward regarding the topics of business models, accounting and reporting. In this paper we reflect on some of the main issues pertinent to this discussion as a preamble to identifying a promising way forward.

Keywords: Business models, accounting, reporting

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Introduction

In an earlier paper Roslender and Nielsen examined the continuing failure of financial accounting and reporting to prioritise an engagement with the business model (BM) literature despite the concept's pivotal role within Integrated Reporting, a development regarded in some quarters to promise a much-needed renaissance in the fortunes of that discipline (Roslender and Nielsen, 2019a; see also Roslender, Nielsen and Bentzen 2019). The main thrust of their observations was that financial accounting and reporting practitioners may regard what is being offered to them entails too radical a step since it is likely to require a wholesale abandonment of the cost and value calculus on which their jurisdiction has been successfully built over several generations. This will come as no surprise to many outside of the financial accounting and reporting community given the conservatism that has traditional been associated with it.

Managerial accounting's engagement with the BM literature continues to be even more limited. This is puzzling given that managerial accounting quite spectacularly rejected the cost and value calculus, and thereby effective subordination to financial accounting and reporting (Johnson and Kaplan, 1987), three decades ago. In their initial advocacy of BM thinking in relation to enhancing financial reporting, Nielsen and Roslender (2015) argue that managerial accounting had already begun to engage with the BM in the context of the strategy map, intellectual capital statement and, more provocatively, EVA. Nielsen and Roslender (2015) readily acknowledged that the greater part of managerial accounting practitioners may not be aware that they had done so, their principal motivation being to encourage interested financial accounting and reporting practitioners to venture into this part of the new management accounting literature. This also spurred the call for a more performative approach in the field of BMs (Nielsen *et al.*, 2018; Roslender and Nielsen, 2019b) Unfortunately, to date this does not appear to have happened, while Integrated Reporting's hot topic status has also dimmed somewhat.

The present paper explores why managerial accounting has, to date, been no more enthused about the BM concept than financial accounting and reporting. It is based on the premises that i) managerial accounting should find it easier to embrace the BM concept that financial accounting and reporting; and ii) there are significant benefits that could accrue to managerial accounting should it be prepared to embrace the BM concept.

Approach

The era of the new management accounting was between the middle 1980s until the millennium during which time managerial accounting experienced a major rejuvenation. The period saw the emergence of many new techniques with activity-based costing (ABC) the most widely known and influential. Target costing, sometimes viewed as Japan's equivalent of ABC, has also proved to be influential along with value chain analysis, the core element of strategic cost management (SCM) (Shank and Govindarajan, 1993). All three developments exemplify a significant emphasis on cost management, understood as an alternative to more traditional concerns with cost reduction and cost control. At the extreme, cost management is understood to constitute a generic competitive strategy (cf Porter, 1985). Not every new technique became an established constituent of the new management accounting, however. Some were only moderately influential, e.g., throughput accounting, competitor costing and whole-life costing, while others are no longer widely recalled, e,g., attribute costing, backflush costing, break-even time. Several further developments also merit a mention, although not techniques as such. These include benchmarking, beyond budgeting and total quality management.

Strategic management accounting (SMA) was also visible as an aspect of the new management accounting. The term itself, together with a challenging concrete conceptualisation, predates Kaplan's own initial excursions into how managerial accounting might be rejuvenated. Simmonds (1981) coined the term to name what he viewed as a strategic approach to accounting to management that would require management accountants to become familiar with and incorporate ideas from both marketing

management and strategy theory. Subsequently, Bromwich and Bhimani (1989, 1994) explored SMA's overlap with target costing, although never ruling out some alignment with both marketing management and strategy theory. In this way they distinguished themselves from Shank and Govindarajan's contemporaneous SCM development which, while also being externally oriented was ultimately characterised by an emphasis on accounting numbers of some description. Some years later Roslender and Hart returned to a SMA concept more akin to that envisaged by Simmonds, in time placing greater emphasis on customers and branded market offerings before exiting the field (Roslender and Hart, 2002a,b; 2003; 2006; 2010). Thereafter, interest in SMA became more focused on what the concept entails in practice rather than as a practical management accounting approach(es).

SMA differs from both AB(C)M and SCM, eschewing the pursuit of information that would be recognised as accounting numbers. Although customer profitability analysis (CPA), often identified as an exercise in customer accounting, makes extensive use of such information, it would be wrong to view it as an example of SMA. More correctly it is ABC applied to customers. From the outset, Simmonds was persuaded that SMA must make use of a range of different information that will provide the basis for sounder commercial (strategic?) decision-making. This might include information on sales volumes, market shares, cash flows and resource utilisation, as well as costs and prices. Crucially such information should be identified for both a business and its competitors. Bromwich and Bhimani (1989, 1994) were arguably less provocative in this regard, although their attribute costing technique encompassed a range of different information sets. Roslender and Hart (2002a,b; 2003; 2006; 2010) consistently avoided the temptation to translate insights on brands, customers, markets, products, etc., into financial numbers. Instead they commended the use appropriate metrics, not least those that existed in abundance within marketing management. Beyond these numbers or metrics Roslender and Hart (2002a,b; 2003; 2006; 2010) were attracted to the use of a degree of narrative material (customer self-accounts) that would allow customers to articulate what it was about particular products or branded offerings that attracted them. Equally they were unpersuaded by concerns about information overload concluding, like Simmonds before them, that in principle the more information that is made available, the better, albeit on the assumption that only relevant information is reported.

Key Insights: Performance Management and Reporting

The relatively limited impact of many new management accounting techniques should not be allowed to overshadow the fact that it facilitated managerial accounting to decouple itself from the cost and value calculus, as well as a means to identify itself as a standalone discipline. Many of the new management accounting's constituent developments focused attention on the beneficial consequences of pursuing measurement metrics of a non-financial nature. SMA is an excellent example of what might be possible in this direction, despite its continued failure to greatly impact practice (cf Langfield-Smith, 2008). It is not the case that financial metrics are of no value in accounting to management, rather that they should no longer be regarded as the only measurement metrics that management accountants are reliant on. An example of a PM system deriving KPIs from BMs was recently discussed in Montemari, Chiucchi and Nielsen (2019). More broadly, accounting should not restrict itself to practices that entail counting using financial numbers. In parallel accounting practitioners are now challenged to recognise that there is more to their stock of practices that financial counting.

Arguably the second most widely influential development within the new management accounting is the balanced scorecard (BS). In its initial formulation the BS was identified as a means of reporting the performance of a business using a combination of financial and non-financial metrics, with the latter predominating. This was evident in the structure of the BS, which in its generic formulation combined a financial perspective with customer, internal business process and learning and growth perspectives (Kaplan and Norton; 1992, 1993, 1996). The BS promised a comprehensive

statement of the performance of a business utilising a range of relevant metrics, or key performance indicators (kpis), perhaps extending to 20 in total being used to populate the four perspectives. Subsequently the BS concept was uprated by Kaplan and Norton, becoming commended as a contribution to the development of strategic management theory, and giving rise to the strategy map development some years later (Kaplan and Norton; 2001, 2003, 2004).

Accounting has been ambivalent about the BS development for several reasons. Although a managerial accounting innovation, it is not a technique, a characteristic of the greatest part of the managerial accounting portfolio. From the perspective of financial accounting and reporting, the BS might qualify as a reporting framework but it lacks the attributes usually associated with procedural frameworks. The absence of any agreed format for a BS is similarly problematic, the four box structure providing a guide to what *might* be developed in the name of a BS. Nor is the BS as an exclusive development since its successful implementation is reliant upon securing inputs from other business functions. Finally, there is the issue of the quality of the information content communicated by the numbers themselves. Accounting practitioners perceive that their traditional stocks-in-trade are extremely robust and able to withstand detailed scrutiny. By contrast the many 'softer' numbers suitable to populate an organisation's performance scoreboard often have an air of subjectivity or partiality about them, notwithstanding the observation that there is a strong case for being nearly right as opposed to being absolutely wrong.

Developments building on the BS's performance measurement and reporting aspects have been relatively few in number, however. The most evident work has been evident in the context of the various scoreboard reporting frameworks developed to document the growth of a business's stocks of intellectual capital (IC) assets. The increased importance of such assets from the early 1990s posed a major challenge to the accounting profession. Many had been developed within the organisation, as a consequence of which it was not possible to identify financial valuations that could be incorporated within a balance sheet or amortisation charges that might reported in an income statement. The two most influential IC reporting scoreboards, Edvinsson's (1997) Navigator and Sveiby's (1997) Intangible Asset Monitor closely resemble the BS (Edvinsson, 1997; Sveiby, 1997). A series of less well-known developments can also be identified (see Andriessen, 2004; Starovic and Marr, 2004). A radically different approach was presented in the Intellectual Capital Statement (ICS) (DATI, 2000; Mouritsen *et al.*, 2003; Nielsen, Roslender and Schaper, 2017). Its knowledge management underpinnings resulted in it being predominantly narrative in content. In this way the ICS set out (an episode of) the story of business by means of a knowledge narrative, management challenges and initiatives. The ICS also incorporated a scoreboard element, often overlooked in relation to its narrative attributes.

By the time the Danish Guideline Project, the origin of the ICS, had concluded in late 2002, interest in researching IC reporting had begun to decline, continuing to do so for the following decade. Mainly due to the efforts of a relatively small number of researchers the topic has evidenced a growth in interest in recent times. IC provides a major focus within the International Integrated Reporting Council's Integrated Reporting (IR) development, where it is identified as three of the six "capitals" that serve as both inputs and outcomes of the "value creation" process (IIRC, 2013: 13). It is within this context that IC is explicitly linked with the BM concept, being portrayed by IIRC as any business's visualisation of how it either actually creates, delivers and captures value, or is proposing to do so. In this way it is possible to identify a line of continuity between the emergence of the new management accounting and a possible formulation of what might be designated the new corporate reporting.

The financial accounting and reporting community remains lukewarm about IR despite the observation that it continues to privilege the interests of shareholders via its emphasis on value capture (Roslender *et al.*, 2019). The most likely explanation of this reticence is that embracing IR is likely to require too great a degree of re-learning for practitioners. In our view it seems as though this should not be such a threatening or onerous process for their counterparts within managerial accounting. From the outside, at least,

many practitioners would seem to be more familiar with alternative ways of performance measurement and reporting, and less immersed within the cost and value calculus. Conversely, it may be that the heady days of the new management accounting have been little more than a challenging interlude, with 'normal service' now resumed.

Discussion and Conclusions

From our perspective, there is a hint of unfinished business in respect of the development of performance measurement and reporting as this is understood here. It may be that Kaplan's affirmation that "what gets measured, gets managed" was sufficient for practitioners to take on board. A more challenging observation, that "what can be measured, (very often) gets managed", is perhaps a step too far. Between these two views a third can be identified, to the effect that "what needs managed, needs measured". In the context of IR, what needs managed is the value creation process, understood as:

> "The process that results in increases, decreases or transformations of the capitals caused by the organization's business activities and outputs." (IIRC, 2013: 33).

Or more correctly, what needs managed is the implementation of the specific BM, or combination of BMs, that a business has embraced to accomplish its strategic objectives. Viewed in this way, IR becomes even more disturbing for financial accounting and reporting practitioners, while simultaneously throwing down a challenge to their counterparts in the managerial accounting discipline.

Accounting practitioners across the discipline are largely comfortable to be told how they should set about taking specific phenomena into account. Within financial accounting and reporting a voluminous compendium of prescriptions has evolved over time, while managerial accounting is heavily populated with numerical techniques. Accounting for the value creation process as characterised above will be a multi-focus task, some elements of which have already been encountered by the accounting profession, largely unsuccessfully. For example, accounting for human capital can be traced back almost six decades to when researchers set about identifying a means to 'put people on the balance sheet' (Flamholtz, Johanson and Roslender, 2020). Environmental and sustainability accounting evidence a similar provenance, although with a much fuller literature that is more assured about how such accountings should *not* be pursued rather than with sound procedures. The remaining pair of 'new' capitals – intellectual capital and social and relationship capital – portend more of the same. Unfortunately, it seems unlikely that extant approaches to accounting for physical capital and manufactured capital can be relied upon to furnish the necessary insights on the value creation process.

For us, some form of scoreboard measurement and reporting framework suggests itself. The four perspective generic BS model is insufficiently detailed to meet the challenge, as acknowledged in Kaplan and Norton's own recognition of the need for extensive customisation. The same objection also holds for IC reporting frameworks. The temptation to construct a framework that provides information on each of a business's six capitals, possibly in relation to their increase, decrease or transformation within specified time periods risks promoting a mechanistic mindset and the emergence of an alternative balance sheet format, albeit devoid of both financial numbers and any 'balance' (although it could be recognised as a 'balanced' visualisation). A simpler, more feasible framework might be constructed around insights on value creation, value delivery and value capture. A framework with this structure might be further informed by a tri-partite division of stakeholders: customers; shareholders; and society.

A more ambitious approach would be that of identifying an individual business's BM constituents and within them the key value drivers of the value creation, delivery and capture process. What this approach would permit is for an individual business to document the success (or otherwise) of its ambition to do business in the form of an outcome 'story' of value creation, delivery and capture. As with the BS, and before it the focus on critical success factors and key performance indicators, it is senior management who are tasked to identify the story they wish to tell. Their management accountants supply the narrative (=the account).

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JOURNAL OF BUSINESS MODELS

Business Model Configuration View for Realising a Re-Internationalisation Strategy

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Abstract

In this conceptual paper, we employ business model configuration theoretical lenses to explore how firms re-internationalise. Specifically, we discuss various reasons for firms strategic choices to de-internationalise, and put forward, using a business model configuration perspective, respective re-internationalisation strategies, aimed, inter alia, at boosting further firm growth.

Keywords: Business model configuration, de-internationalisation, re-internationalisation

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Introduction

In this conceptual paper, we employ business model configuration theoretical lenses to explore the reasons firms de-internationalise, and suggest how these firms can re-internationalise, kick-start their internationalisation growth strategies again. We study these phenomena within firm, market, industry or sector, political and national contexts. We aim to facilitate theoretical and practical understanding of how re-internationalised firms identify and pursue appropriate international growth trajectories by re-configuring their business models, as a response to their previous de-internationalisation decisions.

Our contribution is threefold building on extant knowledge gap. Undeniably, de-internationalisation and re-internationalisation add to the variance and complexity of the international business field but have received little consideration from the international business scholars (Turcan, 2003; 2013; 2016). Current research in business model tells us very little on how firms can reinvent themselves in situations such as de/re-internationalisation. Theoretical and empirical research at the de-internationalisation and business model configuration intersection is virtually non-existent. With this paper, we aim to address this knowledge gap by exploring reasons for de-internationalisation, and how firms, learning from this experience can re-configure their business models to develop and pursue appropriate re-internationalisation strategies.

Approach

We draw on existing knowledge to develop our proposed framework. First, we discuss the reasons that led firms to de-internationalise (Benito and Welch, 1997; Turcan, 2006), linking these to re-internationalisation theoretical and empirical contexts (Bell *et al*, 2003; Welch and Welch, 2009; Johansson and Abrahamsson, 2014). Using business model configuration theory (Foss and Saebi, 2017; Nielsen *et al*. 2019), we then develop and discuss a conceptual framework (Table 1) that explains how firms can learn from their de-internationalisation choices and reconfigure their business models aiming to re-internationalise.

Key Insights

Setting the scene

The last decade has witnessed a number of global trends that affected in a dramatic way industries and global value chains nationally and internationally. These trends include, but not limited to: rise of nationalist and protectionist policies on trade and economic development in Europe, UK, and US, unfair competition, reorganisation of the global economy, dismantling and reconfiguration of industries, global value chains and global alliances, withdrawal of firms by brining production or other parts of their corporate value chains back home, development of innovative and disruptive technologies, most of the time with negative impact (Turcan, 2020), large scale displacement of labour force and other resources, openness towards intra firm collaborations, and ease of communication, management and cooperation across borders.

Disruption, dismantling and reconfiguration of industries and global value chains manifest in the erosion of scale and arbitrage advantages, shrinkage of internal trade to 1/3, with external value chains doing the rest; making global value chains more knowledge intensive, service oriented; making industries and value chains that tried to globalised work best when national or regional (see e.g., Economist, 2017a; Economist, 2017b). In response to these global trends, firms de-internationalise or withdraw from international markets partially or totally and as a result rethink their business models.

De-internationalisation

De-internationalisation is a relatively young research field with one of the first definitions of the term stated in 1997 by Benito and Welch. The authors describe de-internationalisation as "*any voluntary or forced action that reduce a company`s engagement in or exposure to current cross-border activities*" (Benito and Welch, 1997, p.9). Often times, de-internationalisation is seen as inconvenient, undesirable endeavour as it is perceived as a failure (Turcan, 2003; 2013). Overall, research in international business focuses on positive growth and ignores firms that failed or chose to withdraw from their international activities (Turcan, 2006; 2010). However, de-internationalisation should not always

be considered as a forced or un-voluntary retraction. De-internationalisation could also be seen as *"a voluntary process of decreasing involvement in international operations in response to organizational decline at home or abroad"* (Mellahi, 2003 p.151).

Whether de-internationalisation is either forced or voluntary, de-internationalising firms have at their disposal various strategies to pursue (Buckley and Casson, 1998) to re-organise. De- internationalisation process can be seen as an attempt to correct an error a firm previously made in the process of internationalisation (Turcan, 2011). In this context, the process of cross-border activity of firms could be viewed as a cause-effect link between internationalisation and de-internationalisation (Turcan, 2003). This suggests different reasons are behind the process of de-internationalisation. We side with Turcan (2003; 2006) and Sort and Turcan (2019) who maintains that de-internationalisation should not be seen as a failure, but an opportunity to re-grow and re-internationalise with an even stronger e.g., value proposition than before.

Re-internationalisation

Current research is telling us very little on re-internationalisation of firms compared to their internationalisation (Bell *et al*, 2003; Welch and Welch, 2009). The choice of a firm to de-internationalise puts this firm in a different position compared to other firms; it needs time, resources, commitments, among other things, before it attempts, hopefully successfully, tore-internationalise (Welch and Welch, 2009).

Re-internationalisation decision by firms is usually based on prior related knowledge and experience form previous failed or partly successful attempts, as well as understanding that a new attempt to internationalise will probably generate more positive outcomes, such as changes in management/ownership structures, gains in new competences and skills, partners, and shifts in own or neighbouring sectors. Re-internationalisation processes can follow three distinctive paths:

- Imitation of the first internationalisation attempt, but assuming that circumstances has changed e.g. economic, political.
- Partial imitation of the first internationalisation attempt, but adding new (or modifying existing) processes, resources and/or activities e.g., new suppliers; new customer segment.
- Selection of completely new entry modes, processes and international target markets, previously unknown to, or untried by, the firm.

In the pursuit of the first two paths, a firm can learn from its earlier internationalisation 'footprint' (Welch and Welch, 2009), such as knowledge, resources, capabilities, human and social capital, and cultural differences. In the pursuit of the third path, a firm faces more uncertainties and challenges, somewhat similar to the ones faced during their earlier (failed) internationalisation attempt. This nonlinear internationalisation process (Bell *et al*, 2003) brings both challenges and opportunities.

Business model configuration

The need for firms to adapt to rapid changing environment (e.g., Massa and Tucci, 2013; Osiyevskyy and Dewald, 2015; Wirtz and Daiser, 2018), and reconfigure their business models on a much more frequent basis than in the past, is considered a relevant practice. Understanding how firms change and reconfigure their business model patterns or configurations is well established in the current literature, offering numerous ways of organising and constructing a business model of a given firm that seeks to differentiate (see Gassmann et al., 2014; Taran et al., 2016; Thomsen et al., 2019). However, while the extant of knowledge on de-internationalisation and re-internationalisation strategies are considered limited, their intersection with business model configuration is currently non-present.

Discussion

From business model (BM) configuration perspective, re-internationalisation could be seen as a process of restructuring and generating new ideas within existing business models. In Table 1, we put forward an initial point of departure to understand contexts and reasons of why a company (voluntar-

Table 1.

Context	Reasons to de-internationalise (partly or fully) (based on Turcan 2006)	Configurations to re-internationalise (configuration categories and numbering based on Taran et al. 2016)
Firm specific	Resource constraints	VP20 - Value added reseller; VP13 Price-reduction bundling; VCo3 Core focused; VN7 Franchising; VN8- Inside-out; VN10 - Outside-in; VCa9 - Leasing
	Quality control and Lead-time constraints	VP7 Full service provider; VP21 - Value bundling
	Technological advancement	VN1 – Adaptive; VN9 - Integrated
Market specific	Customer demand to company's offerings decreased	VP14 Quality selling; VP11 No frills; VP13 Price-reduction bundling; VP16 User design; VS2 - Customer focused
	Customer demand more sustainable and longer lasting offerings	VP18 -Trusted operation; VP19 - Trusted product/service leadership; VS2 - Customer focused; VCo1 - Branded reliable commodity; VCo13 - Trash to cash; VN5 - Crowd funding; VN10 - Outside-in; VCa9 - Leasing
Industry specific	Changes in competition density	VS4 - Multi-sided platforms; VCo14 - White label; VCa1 - Bait and hook; VCa 5 - Fractionalization
	Supply chain power relations	VCo2 - Channel maximization; VCo4 – Disintermediation; VCo9 -Integrator; VCo6 – Procurement; VP23 – Value chain coordinator
Political and National specific	Cultural constraints	VCo11 - Self-service; VCo12 - Trade show; VN2 - Affinity club; VN5 - Crowd funding
	Uncertainty in country's economic, political and labour market conditions	VP22 - Value chain coordinator; VCo4 – Disintermediation; VCo8 - External sales force; VCo10 Reverse innovation; VCa9 – Leasing; VS5 - Robin Hood; VS6 - Round up buyers; VS7 - Target the poor; VCo10 Reverse innovation; VCa 10 - Pay-as-you-go; VCa11 - Pay what you want; VCa14 - Subscription club; VCa15 - The long tail; VCa16 - Upfront payment.
	Increase in trade costs (e.g. import tariffs)	VP11 No frills; VN8- Inside-out

Table 1: Reasons for de-internationalisation, and BM configurations to re-internationalise

ily or not) chooses to withdraw from international markets. Furthermore, in view of BM configurations literature, Table 1 offers a configuration list to consider for a re-internationalisation strategy. It draws from contexts and reasons for de-internationalisation found in, for example, Benito and Welch (1997), Buckley and Casson (1998) and Reiljan (2004) and employs BM configurations, presented in Taran *et al.* (2016), to align de-internationalisation reasons with re-internationalisation opportunities.

For example, in a "firm specific" *context* where "resource constraints" are one of the *reasons* for de-internationalisation, a firm has different options to reconfigure its business model. If the 'resource constrains' were related, for example, to lack of funds to set up a retail chain to follow a demand, the firm could be inspired by employing "VN7 – Franchising" configuration (examples being McDonalds and Starbucks), enhancing firm's performance within the limited scope of resources currently controlled.

In a 'market specific' *context*, where a firm de-internationalises due to 'market specific' *reasons*, such as 'change in 'supply chain power relations', a firm might face re-sellers and/or distributers that take a large

percentage of the value-chain profit, thus diminishing value-added offers. In this situation, a firm could be inspired by VCo4 – Disintermediation configuration (example being Dell), leading to 'by-passing' the resellers and selling directly to its customers via own channels.

Table 1 should not be perceived in a normative context lenses, i.e., "cause and effect", but rather as a practical strategic learning toolkit available for firms to understand both the aftermath of their de-internationalisation experience, and an inspiration list of different avenues available for them to kick-start their future international growth strategies.

Conclusions

This is a first attempt to link "de" and "re" internationalisation challenges and opportunities with BM configuration literature. We demonstrate the relevance of BM configuration body of knowledge to decision makers in the international business context. We call for future conceptual and empirical research to further elaborate on the theoretical, practical and policy understanding and implications of this intersection, within a global, regional, national, industry, and firm related contexts.

This advancement will shed more light on the limitedly explored, but highly relevant phenomenon of re-internationalisation of firms. Future pointers, to name a few, for future research could be to learn: what are the benefits or downsides of de-internationalisation; what are the implications of de-internationalisation on a firm's business model; which parts of a firm's business model are affected most by de/re-internationalisation strategies; how value creation, capturing and delivery activities are affected by de-internationalisation and re-internationalisation strategies; what are the success rates of re-internationalised strategies pursued by firms.

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Digital Platform Tactics: How to Implement Platform Strategy Over Time

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Abstract

Platform-based business models are increasingly relevant. Scholars mainly focus on the strategic dimension, but what are the tactics to build and evolve digital platforms? This article proposes a novel framework, which assists in subdividing the scope of possible activities of digital platform sponsors in a temporal and contextual manner. The framework comprises four context dimensions (platform attributes, core product, governance, ecosystem) and four lifecycle phases (birth, expansion, leadership, renewal). In particular, three key insights emerge regarding the critical role of the leadership phase (in terms of institutional and regulatory influence and the need to build a defense) as well as a lack of studies in the renewal phase.

Keywords: Digital Platform Tactics; Strategic Implementation; Platform Business Model

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Introduction

Digital platforms play a dominant role in the global economy (Gawer, 2020; Parker and Van Alstyne, 2018). This is evident in the high valuations for platform-based corporations and start-up "unicorns". Well-known examples include Airbnb, Amazon, Alibaba, or Uber, and more broadly those companies that "*use digital technologies and connectivity to exploit and control digitized resources that reside beyond the scope of the firm, creating value by facilitating connections across multiple sides, subject to cross-side network effects*" (Gawer, 2020, p. 1). These digital platforms have not only acquired economic dominance, they are also attracting increasing academic attention. In a recent literature review, Rietveld and Schilling (2020) have taken stock of the existing scholarly work and outlined four prevalent themes in digital platform research, one of which focuses on the platform sponsor and its dominant role in business ecosystems. The platform sponsor, sometimes also referred to as platform provider, hub or keystone firm, is the individual, organization, or consortium that owns, controls and promotes the platform.

This short conceptual paper builds on this theme. We collected findings on platform sponsors from different strands of literature, such as information systems (e.g. Parker and Van Alstyne, 2018), management studies (e.g. Helfat and Raubitschek, 2018) and economics (e.g. Zhu, 2019). However, two shortcomings were identified in the literature that cut across disciplines. First, we agree with other authors in criticizing the current literature for treating competitive outcomes as static, although platforms are fundamentally dynamic in nature (McIntyre et al., 2020a; de Reuver et al., 2018; Gawer, 2020). In other words, we are dealing with one of the fastest evolving phenomenon in management history (Trabucchi et al., 2019), yet the vast majority of literature is studying it statically. Second, we bemoan the overly narrow focus on discrete attributes of platform competition and align with scholars who urge to build a more holistic, unified perspective on digital platform strategies (de Reuver et al., 2018; Rietveld and Schilling, 2020). Suitably, Gawer (2020) encourages scholars to develop more complete and dynamic models of digital platform behavior.

To address these gaps, this paper builds on the unified model connecting a firm's strategy, business model and tactical activities (tactics) proposed by Casadesus-Masanell and Ricart (2010). Tactics, in this context, are a set of choices available to a firm based on its business model that determine how much value the firm creates and captures (Casadesus-Masanell and Ricart, 2010). The strategic decision to develop and implement a digital platform business model thus determines the tactical scope of the platform sponsor. We introduce the term digital platform tactics, which is defined as implementation activities available to digital platform sponsors. Despite its importance, the strategic management and business model literature mostly neglects these implementation activities when it comes to digital platforms (for notable exceptions see Trabucchi, 2020; Karhu et al., 2020 or Van Andel, 2019). Therefore, the next section introduces a novel framework for platform sponsors that assists in subdividing the scope of possible activities of digital platform sponsors in a temporal and contextual manner, which is further used as an interpretive lens to identify and map platform tactics in the existing platform literature.

Approach

This paper adopts a pragmatic interpretation of the strategy concept. Strategy is then about the fundamental decisions a company has to make in order to position itself in a competitive market. Tactics, on the other hand, refer to these decisions and describe the concrete actions to implement them (Mackay and Zundel, 2017). In line with our pragmatic view, Casadesus-Masanell and Ricart (2010) offer an integrated model to describe the interplay between a company's strategic choices, business models, and tactical activities. Here, strategy refers to "*the choice of business model through which the firm will compete*" (p. 196). The chosen business model then spans the boundaries for tactical activities as a modality for strategy implementation.

In order to address the aforementioned call for a more dynamic classification and holistic understanding of platforms, this paper focuses on how firms tactically implement strategic decisions to

build and operate platform business models. However, this article argues that tactical activities - as proposed by Casadesus-Masanell and Ricart (2010) - require further differentiation because the model describes them as unidimensional sequences of competitive choices without a *temporal* or *contextual* classification. This falls short, as platform business model boundaries tend to change over time and in scope (Gawer, 2020). Their model therefore does not allow for the development of a granular understanding of tactical implementation activities given the time and context dimension.

To address this, a framework is introduced for undertaking a temporal and contextual classification of tactical activities tailored to digital platform business models. The model builds on Teece (2017), by introducing the lifecycle phases birth, expansion, leadership, and renewal. According to Teece (2017), in the birth phase, a value proposition is devised to capture value from an innovation. During expansion, the business is scaled and refined while closing out rivals. Leadership entails keeping customers and partners engaged while maintaining a controlling position within the ecosystem. Finally, in the renewal stage, the platform sponsor brings in new ideas into the ecosystem in order to initiate new value generation.

For the purposes of contextual classification, the model distinguishes between tactical activities in the realms of platform attributes, the core product, governance mechanisms, and the surrounding ecosystem (Helfat and Raubitschek, 2018). Platform attributes refers to the technical architecture, including a stable core and a modular periphery (McIntyre et al., 2020b). The core product describes a manifestation of the platform's value proposition in a product or service (Sorri et al., 2019). Governance, in our model, refers to the setting and enforcing of rules or collective action on the platform (Rietveld and Schilling, 2020), and, lastly, ecosystem relates to autonomous actors linked to the platform with a shared interest in value creation and distribution (Jacobides et al., 2018).

The resulting framework is a four-by-four matrix (see Figure 1). Besides adding the two new dimensions to the tactical activities concept, we break down and arrange platform firms' strategic implementation activities by means of the new framework. In particu-

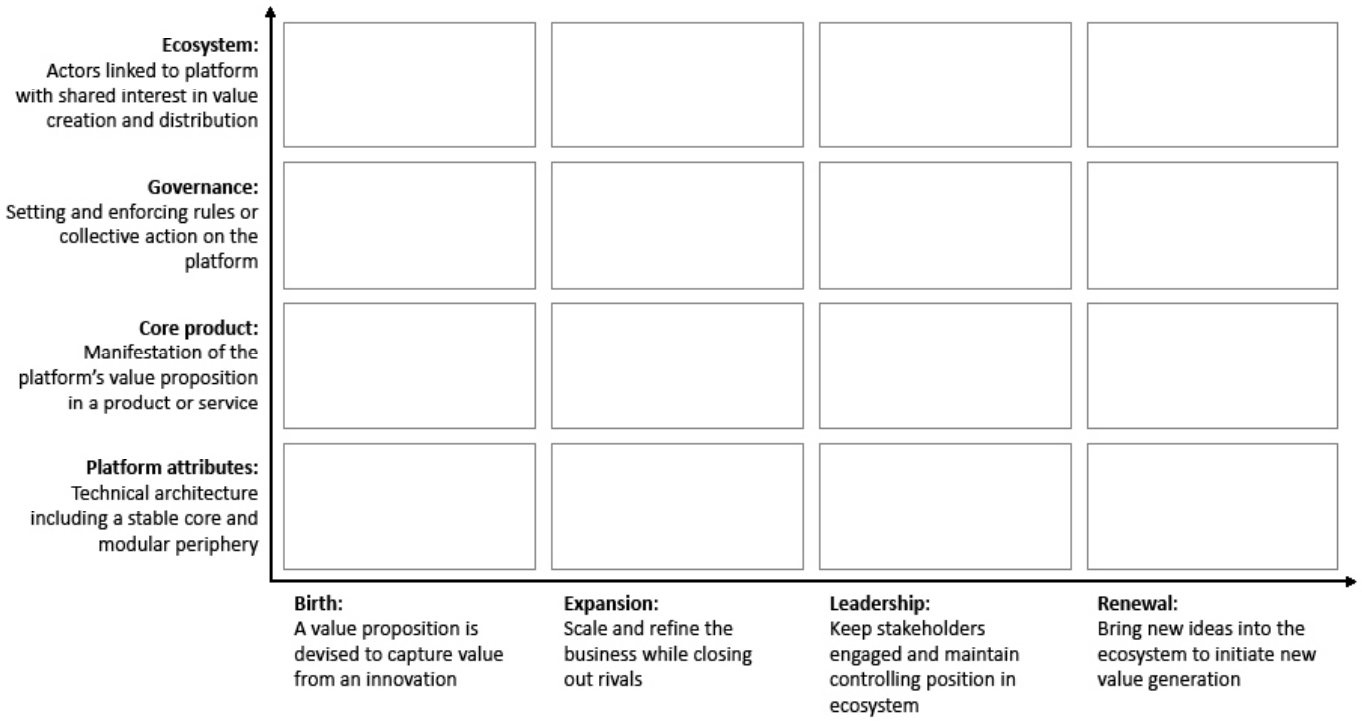

Figure 1: Digital Platform Tactics Framework

lar, we revisit existing literature on digital platforms, extract platform tactics as interpretative synthesis from case study descriptions (Rauch et al., 2014; Gawer, 2020) and allocate them in our framework (see Figure 2). To enhance the reliability of our findings, two authors initially mapped the tactics in the framework, which then was discussed and refined with the third author. Webster and Watson's (2002) approach guided the selection of relevant articles by suggesting starting at a leading journal in the field and extending the analytic scope "backward" and "forward". Concretely, the literature search started with the recent special issue in the *Strategic Management Journal* (Kretschmer et al., forthcoming) on "Platform Ecosystems as Meta-Organizations" and continued until a level of saturation – i. e. repetition of tactics – was reached.

Key insights

This short paper introduces the concept of digital platform tactics and a novel framework that can assist in subdividing the scope of possible activities of digital platform sponsors in a temporal and contextual manner. Figure 2 provides an overview of over 20 *first-order* tactics as well as three indicative insights (I, II, and III, in Figure 2), which will be discussed below. Importantly, a first-order tactic can accommodate multiple second-order tactics. To give one example, the first-order tactic *assure quality complements* encompasses several second-order tactics including *institute stratified platform access policy*, *implement screening/certifying system*, and *provide first-party content*, amongst others. A comprehensive overview of all identified second-order tactics (over 100) is out of scope for this short paper.

First, the model reveals an interesting activity cluster in the ecosystem context at the leadership stage (I, in Figure 2). Here, a trend was noticed whereby platform sponsors' focus shifts from a platform's core product and the technological infrastructure during early maturity phases, toward tactics to implement protective positioning on an ecosystem level. For example, platform sponsors seek to *actively shape regulations and institutions* (first-order tactic). To do so, they rely on a set of second-order tactics. Some, for instance, *expand the team of lobbyists*, as illus-

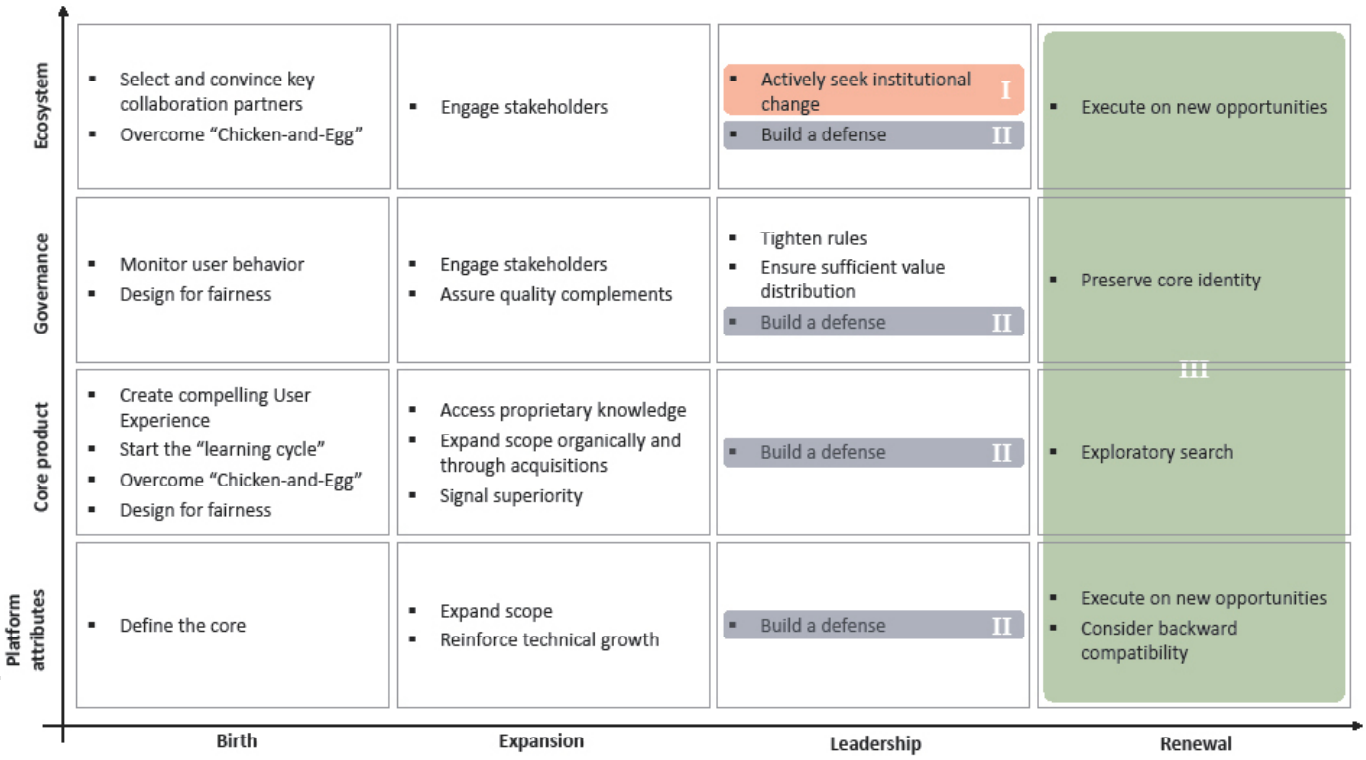

Figure 2: First-Order Digital Platform Tactics and Critical Insights

trated by big tech-firms – such as Google, Amazon or Apple - who have considerably increased their lobbying budgets in Brussels by 510% since 2014[1]. Others *invest in infrastructure deficits*, as exemplified by Google's ambitious project Loon, which aims to connect the unconnected in the developing world. Similarly, the free distribution of laptops to schools also carried out by Google to promote the use of digital services in education across the board is a suitable example. Another second-order tactic in this regard relates to *actively shaping the socio-cultural context*. Uber, for example, sent out emails to customers in Chicago proclaiming "Keep Chicago Uber!" to put pressure on law-makers after experiencing regulatory pressure. This interplay of digital platform leadership and institutional and regulatory aspects has been identified as a highly relevant area of research (Rietveld and Schilling, 2020; Kretschmer et al., forthcoming).

A second insight emerged around some first-order tactics spanning several (or all) contextual dimensions but appearing to be dominant in only one temporal dimension. The opposite, i.e. several temporal phases and one contextual phase, has not been found. One example for a "multi-dimensional" first-order tactic is *building a defense*, which prevails across all contextual dimensions in the leadership stage (II, in Figure 2). Existing research on digital platforms emphasizes a platform sponsor's general drive to maintain a controlling position by building entry barriers against rivals and newcomers (Gawer, 2020; Teece, 2017). However, through the proposed framework, practitioners and scholars can develop a more granular understanding of the tactical activities of platform sponsors across various contextual dimensions.

From a platform attribute perspective, platform sponsors build a defense by *selectively closing platform boundaries to weaken rivals* (McIntyre et al., 2020b). A prominent example concerns Facebook, which disallowed Vine's access to its API after Vine was acquired by Facebook's rival Twitter (Gawer, 2020). Facebook's tactic to weaken Vine paid off as Twitter abandoned Vine in 2016. Another second-order tactic is to *invest heavily in technological R&D to drive out rivals* (Gawer & Cusuamo, 2008). This tactic refers to what has been labelled "tipping" and encompasses the development of unique, compelling features that are hard to imitate. A good example can be found in the early days of the web browser market, where Microsoft Internet Explorer replaced the first browser developed by Netscape as the dominant market player. Besides being in an advantageous position of having a strong market presence with its Windows software, Microsoft also had much greater resources to continue investing in browser R&D – thereby winning the standard war against rivals and effectively building a defense (Gawer and Cusuamo, 2008).

Regarding the core product, platform sponsors *consider vertical integration* to build a defense. Content consumption devices, such as Amazon's Fire TV, Fire Stick, Kindle or Alexa drive users to the platform, enhance generativity, but also create strong lock-in effects (Aversa et al., 2020). Another tactic that relates to *building a defense* in the core product dimension is the *facilitation of learning investments and co-specialization* (Rietveld and Schilling, 2020). An example of a platform sponsor applying this tactic is Alibaba, which regularly invites complementors to join so-called "Dream Trips and Orange Success Camps". The goal of these initiatives is for complementors to learn and master the use of the Alibaba platform, which in turn creates incentives to remain a complementor in the future.

From a governance perspective, a closely related tactic is then to *prevent the transferability of the acquired knowledge* to another platform. A common practice for platforms is to allow both sides to develop a reputation and trustworthiness through a reciprocal rating mechanism (McIntyre et al., 2020b). In the case of Uber, for instance, both drivers and passengers are able to rate the service and experience. But Uber prevents the transferability of the drivers' and passengers' overall ratings to its competitor Lyft. Any complementor or user that changes the platform will then have to start building a new reputation on the competing platform. Another second-order tactic to build a defense in the governance dimension relates to rules that regulate interaction on

[1] According to an analysis conducted by Transparency International

the platform. In other words, what are members of the different sides allowed to do? Platform sponsors can allow users *access to multiple online services*, which is reported to have a similar effect to an all-you-can-eat dining experience (Aversa et al., 2020). Prominent examples include Google or Amazon, which allow users access to various online services, creating strong lock-in effects.

Finally, in the ecosystem dimension, as part of their defense, platform sponsors *continuously search for complementors that can threaten their central position* in the ecosystem. Google's Android operating system, for instance, spurred explosive global adoption, yet it also enabled other firms, including direct competitors, to build proprietary platforms 'on top' of it (Pon et al., 2014). To guard against this, Google actively scans the ecosystem to seek out potential threats. Similarly, platform sponsors need to *screen the industry for 'copy cats'* – entrepreneurial teams that try to imitate the platform and gain some of its market share (McIntyre et al., 2020b; Cennamo, 2019). The Berlin-based internet company Rocket Internet, for example, is notorious for its approach of imitating successful platform business models.

Interestingly, the first (I) and second (II) insights are highly related and show how the challenges of creating a successful digital platform also prevail after the critical expansion phase. To dominate in their respective industry, digital platform sponsors need to prove themselves able to build a proper defense across all contextual dimensions, while managing institutional and regulatory aspects that – after the expansion – become even more relevant.

A third insight relates to the relative paucity of digital platform tactics during the renewal phase, across all contextual dimensions (III, in Figure 2). Any advantage a platform sponsor may have during the leadership phase may disappear overnight should a competitor devise a superior business model (Morris, 2013). A set of tactics for self-renewal can thus be key and firms should therefore seek them well in advance. However, most existing work focuses on big, successful digital platform cases, such as Airbnb, Uber, Google, Facebook, or Apple, which tend to seamlessly renew their platform (Teece, 2017). Research on successful renewal of less-known digital platforms in 'niche markets', which have to go through more radical shifts due to technological advancements or market changes, is limited although highly relevant as it is during this critical evolution where many platforms fail (Gawer, 2020).

Discussion and Conclusion

In this short paper, we follow Cuc (2019) and others who encourage strategic management scholars to devote more attention to platform business models. Understanding the dynamics of platform competition is a strategic imperative for managers (McIntyre et al., 2020b). Yet, a gap exists in the literature concerning holistic and dynamic models of digital platform behavior. Our work contributes to this gap in three ways. First, this paper expands the concept proposed by Casadesus-Masanell and Ricart (2010) by adding platform business models as a potential strategic choice and introducing and defining digital platform tactics. Second, this paper extends the unidimensional view of tactical activities as proposed in the original model by presenting a novel framework encompassing a temporal and contextual dimension (see Figure 1). Third, the resulting four-by-four matrix was used to review the current digital platform literature and to identify and map over 20 first-order, leading to three indicative insights (see Figure 2).

This work has further theoretical implications for the wider digital platform strategy literature. Through the analysis and mapping of implicitly derived tactics from existing publications, the proposed framework helps scholars to cluster the contributions of different platform literature streams and to identify sparsely studied domains, as in the case of the renewal phase. In this way, it can help us to develop a holistic understanding of the complex platform phenomenon and to examine existing findings for generalizability (Taeuscher and Rothe, 2020).

Understood as a part of the broader management research, our work holds theoretical implications for the literature on dynamic capabilities (Teece, 2017). Authors have repeatedly criticized the under-specification of the dynamic capabilities construct, leading to frustration amongst scholars and practitioners (Schilke et al., 2018). We argue that our framework can contribute to a more nuanced

understanding of dynamic capabilities for digital platform business models. Capabilities are generally defined as the capacity to undertake activities (Helfat and Raubitschek, 2018) and our framework provides an overview of dozens of specific activities that digital platform sponsors undertake. The missing link is the question of which dynamic capabilities are needed to perform and implement these activities. This area provides fertile grounds for further research.

For managers and practitioners, the platform tactics model offers guidance into the range of activities necessary to implement and competitively operate digital platform business models. By subdividing the scope of possible activities in a temporal and contextual manner, the framework provides practitioners with a guide to classifying their own company or to planning future business activities. The illustrative examples of the platform tactics mentioned further serve practitioners as inspiration for action and possible food-for-thought for the development of alternative approaches to overcome for example the defensive tactics of dominant platforms in a given segment.

Our work does not come without limitations. We discuss digital platforms as general phenomena. It has been noted, however, that platforms can be distinguished into different types, for example transaction or innovation-oriented platforms (Gawer, 2020). Similarly, scholars emphasize that not all platform markets are the same – there is a distinction between "winner takes all" and "distinctiveness" markets (Cennamo, 2019). Further research could add these factors to our framework of digital platform tactics. Finally, from a strategic point of view, de Reuver et al. (2018) argue that a decomposition of "necessary" and "nice-to-have" conditions could enhance our understanding of digital platform competition. Applying this logic to digital platform tactics in our framework would allow us to distinguish between critical and less-critical tactics for platform operators. Here, more empirical work is needed to test the context and conditions under which a tactic becomes more or less critical.

In conclusion, this paper provides a theoretical framework that classifies the tactical activities used to implement strategic decisions, with a focus on platform business models. The temporal classification is intended to meet the need for a more dynamic description of digital platforms, while the contextual classification supports a more holistic understanding of them. We believe that this short paper marks the beginning of a relevant and insightful endeavor, which hopefully inspires other scholars and practitioners to contribute to the debate around digital platform tactics.

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

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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.

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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, Schnenberg 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 203 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 multidisciplinary 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 though 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 vain 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 (Katsamakas 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 innovative 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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