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Routledge/Taylor and Francis:

This is an Accepted Manuscript version of the following article, accepted for publication in:

BOOK: Business Models and Firm Internationalisation.
Edited By Christian Nielsen, Svetla T. Marinova, Marin A. Marinov. ISBN: 9781003204268

CITATION *Crafting SME Business Model for International Expansion with Data-Driven Services. By Taina Eriksson, Marikka Heikkilä, Niina Nummela. In: Business Models and Firm Internationalisation (2021): Edited By Christian Nielsen, Svetla T. Marinova, Marin A. Marinov. Routledge.*

ISBN 9781003204268

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CRAFTING SME BUSINESS MODEL FOR INTERNATIONAL EXPANSION WITH DATA-DRIVEN SERVICES

Abstract

Leveraging data for novel services and solutions is rapidly gaining momentum among small and medium-sized enterprises (SMEs). Data-based offerings are typically easily scalable and have the potential to boost the international growth of an SME. Yet, the novel service or solution is not enough; the firm also needs to have a viable business model that supports the internationalisation of the firm and makes it possible to create and capture value in the long term. This study examined six Finnish SMEs leveraging data for new services. The companies were striving for international growth, and, parallel to new service development, were renewing their business models. This study focused on how these SMEs adapted their business models for international growth when developing scalable data-based services. We found that even though none of the SMEs completely discarded their existing business model, a significant business model adaptation was required for international expansion. The need for change in the business model was not dependent on international experience but seemed to be linked to the maturity of the company's operations. The expected degree of business adaptation was considerable, and in some cases international expansion via data-driven services was also accompanied by the introduction of a new parallel business model. All of this indicates that international growth based on leveraging data requires commitment, resources and preparation. Our study contributes to both business model innovation and SME internationalisation literature and suggests avenues for future research.

Keywords:

SME internationalisation, international growth, data-driven services, business model, innovation, change

1. Introduction

Our world is increasingly driven by data – data which we produce ourselves, collect from others or buy from suppliers who are specialised in collecting data on our markets or customers. A

growing number of companies – including small and medium-sized enterprises (SMEs) – are aware of the business opportunities that this development creates. Increasingly, SMEs not only make their strategic decisions based on data analysis and interpretation but also provide products, services and solutions that are built on data. As a result, data become an elementary part of their business model.

This development is supported by an institutional-level change. According to the European Commission (2019), data are a prerequisite for the European economy to thrive and to renew. The importance of data-driven business is expected to rise in the coming years for all measures: the value of the markets, the number of companies involved and the number of professionals employed. The potential of data-based value creation applies both to publicly created data as well as to data created by the businesses themselves.

The possibilities of creating data-based business are intriguing to SMEs from a wide variety of sectors and business types (Ulander et al., 2019). Although leveraging data for new services or products is challenging, it bears the potential for scalable business, which can enable an SME to grow internationally. Consequently, the business opportunities created by the increasing exploitation of data are not only found in the home market but also overseas.

In this study, we focus on how this development influences the business model of an SME. In other words, when a company is developing data-driven services or solutions for international markets, it probably needs to change something in its business model, which describes the logic by which the company creates, captures and delivers value (Wirtz et al., 2016). Thus, we seek to know *what happens to the business model of an SME when the company seeks international growth via data-driven services?*

In order to answer this question, we conducted a qualitative case study of Finnish SMEs. We found that even though none of the SMEs completely discarded their existing business model, a significant business model adaptation was required for international expansion. The need for change in the business model was not dependent on international experience but seemed to be linked to the maturity of the company's operations. The expected degree of business adaptation was considerable, and in some cases international expansion via data-driven services was also accompanied by the introduction of a new parallel business model. All of this indicates that international growth based on leveraging data requires commitment, resources and preparation.

2. Literature review

2.1 Business models and international opportunity recognition

The internationalisation process of a firm starts after an individual within the firm has recognised business opportunities in international markets (Muzychenko and Liesch, 2015). In line with Ellis (2011), we consider international opportunity as a chance to conduct exchange with novel partners in new foreign markets. Thus, new means are combined with new ends— as in the traditional definition of entrepreneurial opportunity (Eckhardt and Shane, 2003) – but additionally, exploiting the opportunity involves activities across national boundaries (Mainela et al., 2014).

International opportunities – as well as any other entrepreneurial opportunities – emerge in an iterative process of shaping and development during which the initial ideas are elaborated, refined, changed or rejected (Dimov, 2007). Opportunities are evaluated in relation to their expected value potential and the related risk and uncertainty (McCann and Vroom, 2015); they are then exploited, adjusted or rejected accordingly. In this study, we focus on international opportunity development processes, which result in the adaptation of an existing business model or the creation of a completely new business model for international expansion.

SME internationalisation is a process that often requires organisational change: the product, delivery, partners and/or competences may need to be renewed in order to successfully expand in international markets (Nummela et al., 2006). Exploring the business model of the company provides a means to capture this change (Asemokha et al., 2019). Sometimes, international growth requires a change of a company's business model (Heikkilä et al., 2018), particularly what it offers to its customers, how it addresses their needs and how this change is reflected in its value proposition and value chain. Unfortunately, our understanding of this change remains limited (Sainio et al., 2011). Furthermore, the existing research often ignores the aspect of digitisation: due to the wealth of opportunities the development of technologies and applications numerous new opportunities exist for revising the company's business model (Ritter and Lund Petersen, 2020).

The recognition of an international business opportunity provides the company a possibility to create and capture value (Sainio et al., 2011). However, with limited resources most internationalising SMEs create value via boundary spanning and build on cross-border resource

combinations (Autio, 2005). Rask (2014) points out that internationalisation of the firm often happens through a business model innovation: a process during which the firm creates or reinvents the business itself. This business model innovation can be driven by market adaptation, exploitation of technology or ambidextrous exploration of opportunities (Child et al., 2017). Business model reconfiguration for international markets requires strategic agility in changing the components of the business model, and the company needs to continue revising and reinventing its strategy and business model (Cahen and Borini, 2020).

2.2 Business model adaptation and innovation

Through the business model, it is possible to depict the logic by which an organisation is creating, capturing and delivering value. However, companies' business models are not static but evolve when companies, for example, react to changing market demands or pursue new growth. In this activity or process, the company alters the core elements of its business model (Bonakdar, 2015; Bucherer et al., 2012; Hartmann et al., 2013; Lindgardt et al., 2009; Pohle and Chapman, 2006). This can range from modest changes in some of the business model elements to a total overhaul of the business model (Saebi et al., 2017).

In general, companies' strategic goals steer the changes made to their business models (Cortimiglia et al., 2016; DaSilva and Trkman, 2014). The assumption is that companies adhere to a certain process, which is aligned with the company strategy. According to the survey of Guo et al. (2017) on Chinese SMEs, SMEs can exploit recognised business opportunities and improve their performance via business model innovation. However, findings on the role of strategy in this process are mixed. Whereas some studies indicate that most SMEs do not have a formal strategy and typically experience business model innovation as a highly emergent and often unintended process (Lindgren, 2012; Laudien and Daxböck, 2017), recent findings provide evidence that although the SMEs may not have an explicitly formulated strategy, their strategic goals determine the type of improvements they make to their business model (Heikkilä et al., 2018).

Prior research shows that SMEs have three generic strategic goals – starting a new business, growth and profitability – and they lead SMEs to differing paths in terms of business model adaptation or innovation (Heikkilä et al., 2018). Earlier studies also demonstrate that data-driven business models can support any of these three goals (Zolnowski et al. 2016). However,

our understanding is still limited regarding how SMEs change their business models when they seek international expansion with data-driven business.

2.3 Synthesis and conceptual framework

This study focuses on understanding what happens to the business model of an SME when the company seeks international growth via data-driven services. In order to meet this strategic goal, the company may need to alter or even reinvent its operations, and we are interested in understanding how this change is reflected in the company's business model. We acknowledge that some of the changes may be needed due to the introduction of data-driven services or solutions, others are required to attract and serve international customers and some may work for both aims.

We are also interested in the required degree of business model change in the case companies. Furthermore, it is of interest whether the result of this strategic decision-making process is a modified version of the existing business model that is applied both in home and international markets, a novel business model that is applied in all markets or perhaps parallel business models that are targeted toward different customer groups or segments.

To analyse the business model change of SMEs, we chose the 'business model canvas' of Osterwalder (2004), as it is popular and well received among entrepreneurs as a tool for 'making sense' of their business (Keane et al., 2018). The canvas consists of nine related elements: customer value proposition, segments, customer relationships, channels, key resources, key activities, partners, costs and revenues (Osterwalder and Pigneur, 2010). These elements form the basis of our analysis of change (i.e. we investigate which of these change, how and why).

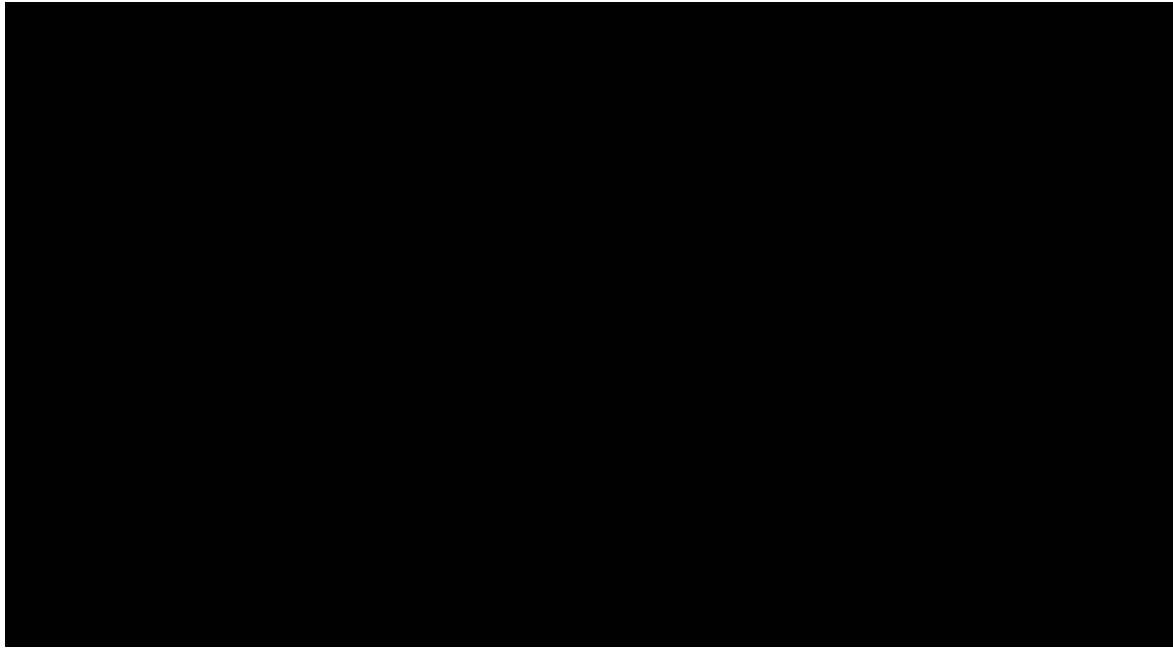


Figure 1. Business model canvas (Osterwalder and Pigneur, 2010)

3. Research design

This study focuses on how SMEs adapt their business models for international growth when developing scalable data-based services. We are particularly interested in whether recognition of international business opportunities would encourage entrepreneurs to revise the business models from technology-driven to more market-driven ones. Given the exploratory nature of our study, a qualitative approach to the investigation was considered appropriate (see e.g. Edmondson and McManus, 2007).

We conducted a case study, which aimed at inductive theorising, that is, introducing novel theoretical insights drawn from the empirical data collected (cf. Eisenhardt, 1989). As a research strategy, this allows inductive, in-depth investigation of the research topic, analysis of the phenomenon in its contextual setting and more holistic coverage of the companies selected (Ghauri, 2004). In order to minimise the effects of environmental and situational factors, we limited the number of cases to six Finnish SMEs developing data-driven services for international markets.

The selection of cases is a crucial decision in the research process and should therefore be made after careful consideration and a critical evaluation of the alternatives. Random selection is neither necessary nor desirable, and theoretical sampling is recommended (Eisenhardt and

Graebner, 2007). The selection of appropriate cases was based on the study’s purpose—what the researcher wants to be able to say about the unit of the analysis—and access to information (Fletcher et al., 2018). As Fletcher and Plakoyiannaki explain, critical case sampling ‘*focuses on selection of cases that are rich in information because they are unusual, special or make a point quite dramatically*’ (2011, p. 179).

This study focuses on Finnish SMEs developing data-driven services, which have recognised international business opportunities (Table 1). We considered it important that the case companies represent different industries since previous research has shown that the home market context plays a role in the business model change of internationalising SMEs (Rissanen et al., 2020).

Table 1. Overview of the case companies

<i>Company</i>	<i>Established</i>	<i>Employees</i>	<i>Industry/sector</i>	<i>Product/service</i>
Sign	1978	18	Metal and engineering	Product
AdAgency	2018	13	Marketing communications	Service
Fittings	2007 (over 70 years history)	48	Metal and engineering	Product
Electronics	2014	19	IT services	Service
Recruitment	1975	15	Management consulting	Service
Tester	2004	21	Engineering services	Product & service

In line with the recommendations of Huber and Power (1985), we gathered the data for the research through interviews with the most knowledgeable informants available – the key decision-makers (entrepreneur, managing director or the head of service development) in the case companies. We considered these people key informants because international growth

reflects company strategy, which is based on their decisions. The persons involved in the internationalisation were willing to speak about their business models and future plans for internationalisation, which increased the validity of the study. However, in order to preserve the anonymity of the informants, the case companies were disguised.

The interview data were enriched with internal company documents related to the design of the business model for data driven services, consisting of business model canvas drafts and related plans for change. Additionally, company web pages were used as supportive material.

4. Findings

4.1 Business model change in the case companies

Case Sign has a track record of operating only in the home market. Currently, the company is developing a data-based solution, and it aims to internationalise with the novel solution after producing a proof of concept in the home market. The main motive for the development of the novel solution is to differentiate the company from its competitors with higher value added. The company believes that renewal of the business model is necessary but that the whole business model will not be replaced. The company has identified three domains it expects to change: customers and their needs, profitability and the ability to deliver what is promised. The new concept targets customers' needs that are less obvious or straightforward than those addressed with the conventional products. Therefore, it is not as clear what can and will be charged to the customer or what the customer is willing to pay for. This raises the question of profitability. This is an issue that the firm has not had to be worried about with its conventional products. With the new concept, the company has to do a lot of work to figure out if and how the operations create more revenue than costs. This is because the earnings logic is not as clear as with the conventional products, and there are new kind of costs involved in producing the service. Finally, the capabilities and resources needed to deliver according to the value proposition are somewhat different. To deliver value to the customer, the company needs to collaborate with new kinds of partners, and the role of the partners is different. With its conventional offering, the case company has clearly had the lead role in the network. However, with the new concept there will be more equal players in the network, and the roles of the players may be dynamic.

Case AdAgency is a young company, although the founders have worked in the industry for years. The company currently only operates in the home market but plans to expand internationally, as it is developing a scalable data-driven service. The company sees great potential in systematically measuring the return on and success of marketing spending. The new data-driven concept targets the same customer organisations, but the company expects that the decision-makers for the new solutions will be different in the customer organisation. The new service is clearly strategy related and highlights areas for development. In addition to targeting the existing customer organisations or firms in the same segments, the new concept also targets potential current competitors. Additionally, the customer relationship changes. As opposed to current project-based business, the firm will form relationships that are based on continuous contracts. However, the most significant difference between the current and revised business model is in the key resources. The new service is expected to require different people than the current business because the required capabilities are so different. In relation to the resources and capabilities, the firm will also need new, stronger partners to support delivering customer value as well as to add to the credibility of the solution with their brand name and established position (e.g. in analytics). In the renewed business model, the revenue stream will be based on continuous invoicing. Moreover, the cost structure will change. There will be new kinds of costs due to the need to acquire external data and maintain a digital platform. The current and new business models will co-exist in the future, and they are expected to support each other. However, new operations will be a separate organisation due to the different requirements regarding personal capabilities.

Case Fittings has a long history both in the domestic and international markets. Currently, the company offers only physical products, but it is developing a solution that adds data-based services to complement its traditional products. The development is motivated by the need to move toward higher added value and to respond to competition from lower cost locations. Integration of a physical product and data-based solution is considered a necessity for the international growth of the company. The new solution will not cause major changes in the customer value proposition, but in the future it will be somewhat broader. However, more significant changes are expected in the company's partner network. In the future, the company can either collaborate independently with multiple international partners or partner exclusively with a selected international solution provider. In both cases, the business model will be the same in the home and international markets. Additionally, the renewed business model requires new resources for software development and the capability to manage the development

activities. The company has not yet decided which customer segments to target. Although the end users will remain the same, the company has multiple alternative ways to deliver the solution. Regardless of the delivery mode, customer relationships are expected to become more continuous and gradually replace the current transaction/project-based relationships, thus making the revenue streams more continuous and easier to predict. In the long run, the new business model will replace the current one.

Case Electronics explores internationalisation possibilities and considers data-based business as a promising avenue for aggressive international growth, as the company has discovered that customer challenges are similar all over the world. The drive for growth has been motivated by the realisation of international customer needs and demands from the owner. At the time of data collection, the company had customer organisations in which some of the service users were abroad, but the direct customer organisations were all domestic. In terms of the business model, it is expected that the core technology – which is both a key resource and a key process in the company – will remain the same. However, it will be leveraged in new ways to produce new kinds of data-based services. Currently, the technology is utilised only internally, but it will be used to produce various kinds of analyses for different kinds of customers. As a result, it is expected that the business model will become more complex, as there will be multiple parallel revenue streams from various customer groups. This means that there will be new kinds of customers in addition to the current type. These are not just new segments but completely different types of companies. In addition, they need additional distribution channels alongside the current channel. The current business will remain as one source of income in the future business model, and it will be complemented by several additional revenue streams.

Case Recruitment has international operations through its own offices in multiple countries in Europe and Asia. Previously, the company has followed its customers to the markets in which it operates, but with the new data-based concept the company is taking a more strategic approach to target market selection. Consequently, there will be changes in the portfolio of markets where the company will operate with the new concept. Besides growth, the company also seeks to produce higher customer value while maintain the efficiency of its internal operations. The data-based concept is believed to offer a realistic basis for scalable operations. The company perceives that the core of its business will remain similar but the business model will be transformed. The new model will be parallel to the old one at first, but eventually it will replace it. The most significant difference is what kind of customer relations the company has and the continuity of revenue streams. As opposed to the current project-based mode of

operating with the customer, the new concept introduces an ongoing ‘as-a-service’ type of relationship and income. This calls for new kinds of activities, which will result in new kinds of costs. The company’s value proposition will be modified or complemented with novel aspects, and the company has a need for new kinds of partners. The company has decided to focus on specific customer segments and to offer more value added to a more clearly defined segment than with the current offering. In other words, the new concept will not be offered to all current customers.

Case Tester has international operations, and it has distribution partners in Europe, Asia and Latin America. The company plans to introduce a completely new business model for the data-driven services. The business model for the new services differs dramatically in two dimensions from the current business: the key activities and the channels. First, the key activities for the data-based services are totally different from the current key activities, which revolve around manufacturing a physical product. The new services involve data flows and algorithms. This calls for very different resources and capabilities. Although the customer segments will remain the same, they will be reached through different channels. The distribution network that serves the current business is not relevant for the novel service. Instead, the service will be sold directly without any intermediaries. There is also potential to broaden the company’s reach to new kinds of customer segments with the novel services. The company will need some new partners for the development and the delivery of the new services (not for the production of services), and therefore novel key partners will be included in the partner network. The top management expects that the new data-driven services will eventually become a separate business. The expected trajectory is to first have some people involved, then to develop a team and thereafter to make it a business unit and ultimately a separate company.

4.2 Cross-case analysis

The case companies differ both in terms of the phase of internationalisation and the business model change. Three of the companies (*Sign, AdAgency, Electronics*) operate only in the home market, although *Electronics* has some experience in indirect exports. These early-stage internationalisers are still in the phase of international opportunity recognition, whereas the three more seasoned ones already have experience in international opportunity exploitation.

Fittings has experience exporting products, whereas *Tester* and *Recruitment* have experience in network-based international operations; the former through a partner network and the latter through subsidiaries. Regardless of the current phase of internationalisation, all six companies are seeking significant international growth with the new data-based business.

All six case companies expect their business models to undergo a significant change due to the introduction of data-driven services and international growth. However, the case companies seem to approach the required business model change differently. Two of the more mature firms (*Sign*, *Fittings*), which are developing new services to enhance their physical products, believe that moderate changes in most elements of the business model will be sufficient, and the revised business model will be applied both in the home and international markets. Additionally, *Recruitment* – which is also a more mature company – has innovated a data platform-based business model that will eventually be adopted in its traditional services business line as well.

Meanwhile, *Tester*, another more mature SME though considerably younger than the three aforementioned ones, plans more radical changes to its business model and expects the old and new business models to parallel each other for some time. Eventually, the new data-driven services will be organised as a separate business. The two remaining case companies (*AdAgency*, *Electronics*) are younger than the other companies. Both are developing a new business model that is expected to operate in parallel to the existing one. However, the business models differ in terms of target market. *AdAgency* plans to operate both business models in the home and international markets, thus not differentiating between domestic and international customers, but it expects the new data-driven service to be the main building block of international expansion. *Electronics* expects to maintain its existing business model in its home market, with the new business model targeted toward international markets.

Figure 2 presents (in grey) the elements of the business model that will change in our case companies due to the offering of data-driven services to international markets. It seems that almost all elements of their business models will undergo some kind of change. Interestingly, the ‘white spots’ (i.e. elements that remain untouched) are not the same, although there are some similarities between the cases. *AdAgency*, *Electronics* and *Tester* expect their value propositions to remain the same. All three of these companies are developing new business models that will operate in parallel to the current one, whereas the companies that are preparing for a changed value proposition expect to adapt their current business models. *AdAgency* and

Tester believe that there is untapped potential with their current customers that can be met with the same value proposition but a different kind of content. *Electronics* thinks that it can meet the needs of multiple additional customer groups with a value proposition similar to its current one. However, it is possible that the nature of the value proposition has an impact: some of the value propositions are very generic, whereas others are more detailed.

Meanwhile, *Sign*, *AdAgency* and *Recruitment* think that they can provide the new services to international customers with the existing channels. In the case of *Recruitment*, this is probably due to the fact that the company already has a network of international offices that it plans to utilise. The two other companies do not have experience in international business, and it is possible that their limited knowledge of the markets prevents them from recognising the alternative channels available to them.

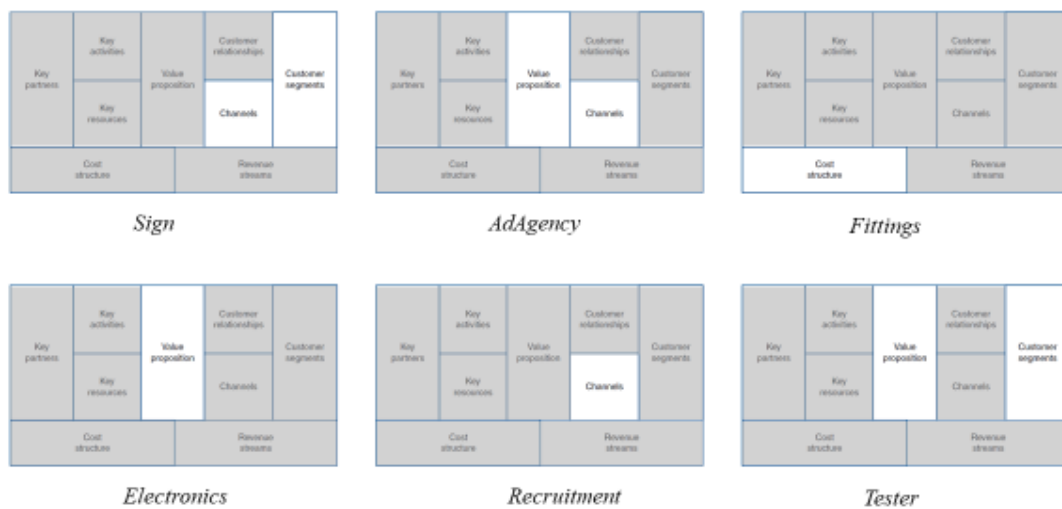


Figure 2. Business model change in the case companies

5 Discussion and conclusions

This study focused on the following question: *What happens to the business model of an SME when the company seeks seek international growth via data-driven services?* The short answer is that the business model is expected to change considerably due to international expansion. Additionally, it seems that a change of business model is required both for companies that are

early internationalisers and only exploring the potential of international markets as well as for more experienced companies that have been already able to exploit international business opportunities.

None of our case companies was completely discarding their existing business model due to internationalisation via data-driven services. This would have meant replacing the existing business model with a new one and basing future operations completely on the new business model. Instead, three of the case companies are adopting a renewed business model, while the other three are introducing a new business model in parallel to the existing one.

However, the degree of expected changes in the business models illustrates the interconnectedness of the business model elements. All of the case companies are preparing for changes in the elements of the business model that are connected to generating the service or solution (key activities, key resources and partners). This may be more due to the requirements of offering data-driven services than to targeting international customers. Nevertheless, irrespective of the primary motive for the business model change, this brings forward an important managerial implication: internationalisation via data-driven services requires commitment and resources before entry into the foreign market. The volume of expected changes in the business model highlight the importance of careful preparation.

Furthermore, all companies are preparing for changes in their customer relationships and revenue streams. In the context of data-driven services, these two aspects appear to be strongly interlinked. As the revenue streams change toward continuous (e.g. monthly-based) invoicing, the customer relationship also changes. This is because delivering a continuous service requires a different perspective on maintaining the relationship compared to delivering periodic clearly defined projects. Companies also need to be prepared for disconnected relationships and disturbances in revenue streams. Interestingly, some of the case companies did not expect any changes in their customer segments although they were developing new business models that were built on different types of customer relationships. In our opinion, this issue might deserve more attention in future research.

Overall, this study opens many avenues for further research. First, it is important to better understand why a company that builds a novel data-driven service on the same value proposition as its current offering aims at developing a new, parallel business model for the novel offering. Furthermore, our study does not address the implications of the changing customer relationship to the scalability of internationalising operations. We thus recommend a

longitudinal approach in future research to follow the development of business models over time.

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