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From Structure to Process: Dynamic Aspects of Business Model Change

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Abstract

Purpose: Extant research on business models does not address the question of business model evolution. Therefore, the purpose of this paper is to explore *how we can capture the dynamism of business models*.

Approach: We examine the applicability of the principles of complexity theory as an approach to capture the dynamic aspects of business model change. Longitudinal single case study was chosen as a methodological strategy.

Findings: Complexity theory allows capturing dynamics of the business model evolution. It does not picture a business model as a static snapshot but reveals how a new business model comes to be as a result of an intricate interplay between business model elements. In turn, it allows tracing the connection between the elements. This perspective assists in capturing emerging, as well as disappearing business model elements enabling us to understand and explain how business model evolves. Additionally, complexity theory helps to comprehend the connections between different business model elements. The complexity theory approach emphasizes the multi-dimensional nature of a business model allowing to understand the dynamics of the business model evolution by looking at the different levels. Additionally, complexity theory perspective reveals that dynamics of the business model evolution is predicated on different processes. It implies that contrary to the current attempts of the extant research to develop business model kinds and types, complexity theory allows appreciating unique nature of any business model without trying to classify or categorize it.

Value: Understanding the dynamics of business model evolution helps to reflect on business model design and anticipate consequences of change.

Keywords: business model, complexity theory, case study

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Introduction

"For a moment, nothing happened.
Then, after a second or so, nothing continued to happen."
– Douglas Adams,
The Hitchhiker's Guide to the Galaxy

The extant literature on business models is very diverse: the concept has been employed in different contexts to address different research questions, prompting some scholars to claim that business model research lacks formalization and structure (Zott, Amit and Massa, 2011; Casadesus-Masanell and Ricart, 2010). Yet, a review by Zott *et al.* (2011) has revealed that the business model has been mainly used to address and explain such phenomena as e-commerce, value creation and value capture, and technology innovation. These streams of research brought about two different uses of the business model concept—static and instrumental. The former approached the business model as a representation of firm activities emphasizing the coherence between core business model components; the latter implied using the concept as a tool to address change and innovation (Chesbrough, 2010; Demil and Lecocq, 2010). Massa, Tucci and Afuah (2017) concluded that fundamentally different business model notions address either how firms do business, how the way firms do business is interpreted by organizational members, and how a business model could be represented by means of formal conceptualizations, whether symbolic, mathematical, or graphical depictions.

Dynamism is an essential feature of a business model concept (Doganova and Eyquem-Renault, 2009; McGrath, 2010; Demil and Lecocq, 2010), yet none of the approaches discussed above allows it to be directly captured. The static approach does not aim for it in the first place, while the instrumental approach allows discussing change but not looking at how business models evolve themselves. Both approaches conceptualize the business model as a snapshot, "*a quantum of information that is revealed in a flash*" (Winter and Szulanski, 2001, p. 731). The static and instrumental perspectives discuss the business model at a particular point in time that does not allow addressing and explaining the evolution process. Yet, understanding the dynamics of business model evolution would allow reflecting on business model design and anticipating the consequences of change. Hence, this paper explores *how we can capture the dynamism of business models*. To arrive at an answer to this question, our aim in this paper is to examine the applicability of the principles of complexity theory (Anderson, 1999) as an approach to capturing the dynamic aspects of business model change. Regardless of how we see or try to depict a business model, it can always be seen as a system (Zott and Amit, 2010; Morris, Schindehutte and Allen, 2005; Tikkanen, Lamberg, Parvinen and Kallunki, 2005; Massa, Gianluigi and Tucci, 2018) consisting of interrelated components, as exemplified by the many business model canvas tools available today. Our aim, however, is not to discuss business model components as such, but rather the properties these components might possess in relation to depicting change. As a business model is proclaimed to be an appropriate boundary-spanning unit of analysis (Zott *et al.*, 2011), a means of innovation (Foss and Saebi, 2017), a dynamic capability (Teece, 2007), as well as a practical implementation of strategy (Osterwalder and Pigneur, 2002; Richardson, 2008), we see it as having potential for unfolding and depicting dynamism in business.

The rest of the paper is organized as follows. We start by discussing our theoretical antecedents, describe the research methodology applied, and exemplify our view by presenting an example of a case company that has 45 years of experience in developing and manufacturing innovative and unique playground equipment. At the end, we present our findings and conclusions.

Theoretical framework

Basic tenets of business model research

Whilst being a contested concept, a business model is nonetheless frequently defined as a representation of a firm's activities that explains how it creates and captures value by exploring and exploiting opportunities (Demil and Lecocq, 2010). A model is a tool that allows simplifying and representing complexity by eliminating the unnecessary or insignificant. The contents of a business model are reflected in sub-components (Wirtz, Pistoia, Ullrich and Göttel, 2016). However, as with the definition of the business model concept, there is no unanimity between scholars with regard

to the essential business model components. For instance, Hamel's (2000) framework includes customer interface, core strategy, strategic resources, and value network. Amit and Zott (2001) distinguish between the design of transaction content, structure, and governance as the key business model components. Osterwalder and Pigneur (2010) created the 'Business Model Canvas' with nine building blocks: value proposition, partners, activities, resources, customer relationships, channels, customer segments, cost structure, and revenue streams. In turn, Mason and Spring (2011) discuss technology, market offering, and network architecture as the major constituent parts of a business model. From the above follows that resource structure, transaction structure, and value structure tend to be the common denominators for the seemingly diverse business model frameworks (George and Bock, 2011). It is noteworthy that Massa *et al.* (2017) emphasize that traditional approaches towards business model research focus largely only on the supply side of value creation without considering the demand side.

Though the literature on business models is highly fragmented (Foss and Saebi, 2017), there are several arguments that unite scholars in the business model research field. First, as mentioned before, a business model is progressively associated with value creation and capture activities. Teece (2010, p. 173) posits that "*a business model articulates the logic and provides data and other evidence that demonstrates how a business creates and delivers value to customers*". Second, business models are increasingly acknowledged as new boundary-spanning units of analysis (Zott *et al.,* 2011), allowing a common ground to be created between business model researchers. Third, a business model tends to be perceived not only as a vehicle for innovation but also as an object of innovation (Foss and Saebi, 2017). This requires a business model to be flexible in order to be easily calibrated to the constantly changing external environment (Teece, 2010). In turn, business model innovation is closely tied to business scalability. For instance, Chesbrough and Rosenbloom (2002) perceive business models as vehicles for scaling technology into a viable business. In other words, business model innovation supports business scalability.

Packing complex phenomena into simple models frequently implies compressing nonlinear behavior with intricate interconnections and feedback loops into a linear model that is easier to grasp (Anderson, Meyer, Eisenhardt, Carley and Pettigrew, 1999; Anderson, 1999). It implies that any attempt to model firm activities leads to representation distortions. The question is, how else might we comprehend such a complex phenomenon as a business model? Täuscher and Abdelkafi (2017) and Havemo (2018) tried to look at the visual sides of business modeling, but no attempts have been made so far to theorize the business model-related processes from the complexity theory perspective. It can be partially attributed to the fact that the use of complexity theory in entrepreneurship studies is quite recent (Steyaert, 2007). However, complexity theory may warrant new insights into business model transformation as it focuses on the dynamics between the external and internal as new relations are created rather than on isolated actions (Steyaert, 2007; Massa *et al.,* 2018). It allows business model transformation to be depicted as "*a non-linear outcome resulting from phase transitions which are caused by adaptive tensions and by process of positive feedback*" (McKelvey, 2004, p. 316).

Business models from the complexity theory perspective

Complexity theory suggests that some systems with multiple interactions and feedback loops between different parts can produce simple and forecastable effects, whereas others generate behavior that is impossible to predict (Anderson, 1999). Though complexity theory draws inspiration from many streams of thought, five basic principles of complexity theory can be identified. The *connectivity principle* suggests that elements of a system are partially connected to each other by feedback loops, and thus mutually influence each other (Anderson, 1999). A system can be defined as a whole whose elements are interconnected (Ison, 2008). In the business model context, it implies that each choice with regard to a business model will have implications for the whole structure and will involve a different business model; that is, different business model elements, activities, resources, and capabilities (Zott and Amit, 2010). In turn, finding the most effective business model structure involves a lengthy process of market experimentation and trial-and-error learning (McGrath, 2010; Sosna, Trevinyo-Rodrigez and Velamuri, 2010). Of note, Graud and Van de Ven (1992)

and Van de Ven and Polley (1992) found no support for adaptive trial-and-error learning in the innovation process. It implies that business model experimentation through trial-and-error may not generate learning. The connectivity principle is closely linked with a notion of co-evolution that suggests that elements of a system are evolving in close symbiosis (Anderson, 1999). In other words, change in one element influences system fitness, triggering continuous adaptation. It is recognized that the business model is emerging as a new unit of analysis bridging multiple levels—individual, firm, and industry (Zott *et al.,* 2011). Thus, in the business model context, it implies that change in one business model element will have implications for the business model as a whole and will inevitably involve transformations on different levels.

The *principle of reinforcing cycles* implies that positive feedback loops amplify the existing behavior, whereas negative feedback loops result in dampening out change. It suggests that positive feedback loops allow for fitness optimization within a system and between a system and the external environment (Anderson, 1999). In the business model context, the loops of feedback facilitate calibration of the business model to the business context and external environment, and allow for the harmonizing of the elements of the business model to enhance its performance potential (Teece, 2010; Zott and Amit, 2010). In a similar vein, Zott and Amit (2010, p. 216) define a business model as "*a system of interdependent activities that transcends the focal firm and spans its boundaries*".

The *principle of self-organization* stems from the principle of reinforcing cycles. The cycles of the reinforcing positive feedback make groups of system components locked (Anderson, 1999). In turn, this leads to predictable collective behavior. In other words, systems self-organize by means of feedback loops that generate stable structures (Drazin and Sandelands, 1992). This order revolves around so-called attractors. "*An attractor is a limited area in a system's state space that it never departs*" (Anderson, 1999, p. 217). The major function of a business model is to explore and exploit opportunities (Zott and Amit, 2010; Teece, 2010; McGrath, 2010). In other words, a business model can be seen as being built around an opportunity (Ahokangas and Myllykoski, 2014), an opportunity to create and capture value. George and Bock (2011, p. 99) define business models as "*the design of organizational structures to enact a commercial opportunity*". Thus, in the business model context opportunity plays the role of an attractor that orchestrates the process of business model evolution via "*a never-ending series*" of feedback loops (Anderson, 1999, p. 217). In a similar vein, McGrath (2010, p. 248) claims that a business model is "*a job that is never quite finished*".

The *non-linearity principle* suggests that there is no direct relationship between input and output. Surprisingly, scholars tend to eliminate nonlinear interactions for the sake of analytical tractability, yet such interactions are essential for pattern emergence (Anderson, 1999). According to Weick (1979), too few components or interactions between them can hamper pattern emergence. Anderson (1999, p. 222) suggests that instead of "*modelling complex building blocks with few interactions, we can make them understandable by modelling simple building blocks with many interactions*". In the business model context, it implies that it is impossible to fully predict what influence change in one business model element would have on the individual, firm, and industry levels. However, we can understand business model dynamics by modeling anchoring elements with many interactions.

The *principle of sensitivity to initial conditions* logically stems from the idea of non-linearity, which means that a small change in the initial conditions can lead to a completely different result. From the business model perspective, it entails a need to pay special attention to the business opportunity evolution—a business model is a delicate system where small changes to a few elements can send it off to a new attractor. In the extant literature, the dynamic perspective within the business model context is frequently discussed either with regard to the dynamic interaction between business model components or business model innovation (Wirtz *et al.,* 2015). For example, Demil and Lecocq (2010) claim that business model dynamics is revealed by "*... interactions between and within the core model components*". Casadesus-Masarell and Ricart (2010) approach business models as a set of relations and feedback loops between elements that strengthen parts of the model over time. In turn, Cavalcante, Kesting and Ulhøi (2011) establish the missing links between business model

dynamics and innovation, emphasizing the importance of individual agency. Similarly, van Putten and Schief (2012) discuss business model dynamics in conjunction with business model innovation. Overall, in the extant studies on business model dynamics, an evolutionary and radical approach toward business model innovation is discussed (Wirtz *et al.,* 2015). Sosna *et al.* (2010) take a step further and approach the dynamics of business model evolution from a learning perspective. We claim that by approaching business model evolution on a meta-level, complexity theory ensures more holistic understanding.

Approaching the dynamics of business models from the complexity theory perspective allows systemic understanding to be achieved (Ison, 2008). The complexity theory perspective allows not only the elements of a business model to be depicted, but it also enables us to pay attention to the connections between business model elements (Phillips and Ritala, 2019). By elucidating the structure and processes related to business model dynamics, the complexity theory perspective gives us an opportunity to capture the dynamic aspects of business model change, i.e. how a business model emerges and develops over time. The above discusses business models from the complexity theory perspective and sets up the basis for our empirical study.

Methodology

Ahokangas and Myllykoski (2014) emphasize that when divorced from the context business model related processes cannot be fully understood. Thus, the emphasis of this study is on understanding business model dynamics as they unfold in the context. Therefore, a case study research strategy was chosen as it allows providing "*an analysis of the context and processes which illuminate the theoretical issues being studied*" (Hartley, 2004, p. 323). Additionally, the case study approach is appropriate for capturing emergent and changing properties (Hartley, 2004). A case study research strategy allows for two different approaches with regard to the research design: single case study and multiple case study. This research is conducted as a single case study. According to Yin (1994), a single case design is appropriate under several circumstances: when a case represents a critical, unique, typical, revelatory, or longitudinal case.

Our research case company, Lappset, was established more than forty-five years ago with the idea to reinvent the play environment for children. This was to be done by creating equipment that would allow them not only to have fun but also to develop physically and mentally. Today, Lappset is an international group with subsidiaries in five different countries. It exports to more than 40 countries, resulting in most of the group's turnover coming from overseas. The organization strives to create sustainable play-friendly areas for people of different ages. The case company has more than 45 years of experience in the industry, providing a unique opportunity to follow and capture the process of business model transformation in a longitudinal manner.

Within this longitudinal research strategy two methods were employed: document analysis and semi-structured interviews. Document analysis is frequently used to support other qualitative research methods and to achieve triangulation – "*the combination of methodologies in the study of the same phenomenon.*" (Bowen, 2009; Denzin, 1970, p. 291) According to Bowen (2009), document analysis is particularly suitable for qualitative case studies. In a similar vein, Merriam (1988, p. 118) emphasized that *"documents of all types can help the researcher uncover meaning, develop understanding, and discover insights relevant to the research problem."* For the purposes of this study, document analysis involved analyzing seven presentations between 2005 and 2015. The presentations included company and product presentations. The company presentations covered, among others, such aspects as the company history, strategy, internationalization process and branding. The product presentations elaborated on the company product portfolio. Also, the information provided on the company website, including the website history, was analyzed. The authors examined mainly what the company offers to their customers, how and where it does it in practice, and how the company can do it profitably. These are the key questions that cover the main elements of any business model engaged in value creation and capture processes (Ahokangas and Myllykoski, 2014). These documents allowed for a preliminary depiction of the dynamics of the business model transformation and provided the basis for the semi-structured interviews.

There are three types of interviews: structured, unstructured, and semi-structured (Longhurst, 2009).

Semi-structured interviews have "some degree of predetermined order" but still ensure "flexibility in the way issues are addressed by the informant." (Dunn, 2005, p. 80) In our study, the semi-structured interview revolved around uncovering the story of the case company together with the informant (see Appendix 1). We have followed the semi-structured research method as it fosters reciprocity and reflexivity, engaging both the researcher and the informant in clarification, meaning-making, and critical reflection (Galletta and Cross, 2013). It was particularly important for our study as it allowed us to unmask the dynamics of the company business model by encouraging alternative explanations and multiple perspectives (Galletta and Cross, 2013). For the purposes of this study, two semi-structured interviews with the chairman of the board of the case company and with the CEO were conducted in July 2016, which lasted one and three hours respectively. The interviews were transcribed using Listen N Write software. To ensure the validity of the research, the data was analyzed soon after it was collected and transcribed. In order to depict the elements and transformation of Lappset's business model, the focus was on the scalable business model elements engaged in value creation and capture processes. To draw the complexity map, the data was organized around key themes that were developed based on the documents. In the process of data analysis, the themes were refined and developed that allowed for deeper understanding of the case company business model dynamics. Finally, to enhance research validity the findings were checked with the case study participants.

Findings and discussion

Case overview

The following case overview is based on the analysis of the presentations, web-site information and interview data. Lappset (lappset.com) as a company name comprises parts of two words, Lapland (the land of the Lappish people) and lapset (*children* in Finnish). The Lappset entrepreneurs started their business by using unique Lappish wood to develop and manufacture innovative and unique playground equipment, with the novel idea of furnishing living environments with warmer and softer-looking play equipment. In the new environment, children could have fun by climbing and playing independently. Before long, the company was known throughout Finland and even beyond: by the 1970s, the company was already making sales calls in Scandinavia, the Benelux countries, and even Japan. Long delivery distances and the demands for efficient production presented challenges for the young company. In response, Lappset began to develop new innovative solutions, such as modular construction, and invested heavily in product and business development with a keen eye on market trends. A modular design and a special grooving were introduced to the products. The special type of grooving increased the quality of the products, and modular design provided children with the opportunity for playful learning. At that time, the public sector was seen as the main paying customer. The export logic applied by the company was innovative: Where most companies would start exporting to familiar, close markets, the company chose to enter the most difficult and demanding countries first. The 1990s marked a strong international expansion for the company. China, Greece, Italy, Taiwan, Thailand, and South Korea were included as new export countries, and a subsidiary was set up in Sweden. By the end of the 1990s, Lappset had grown into one of the biggest players in the industry.

The new millennium brought about digitalization. A financial crisis in Europe had triggered fierce price competition and expansion to new countries had started to slow down, growing bigger required new means. Simply being different and effective was not enough anymore. The company decided to "include a microchip in the wood" and make playgrounds "smart." The results took the company further than expected. A series of new tailored, modular product lines was introduced to enter new end-user groups, including in the private sector. The idea was not to sell sets of individual playground products, but rather to provide customers with an opportunity to build fully equipped and versatile playgrounds anywhere. With the new offering, Lappset became the benchmark for the industry, the first one to introduce digital content, concept thinking, and new materials to the markets.

In 2010 the company was contacted by a global brand in the mobile games industry. The company had to start reconceptualizing their offering in terms of stories, characters, and themes that also placed increased demands for the design, manufacturing, marketing, and selling capabilities of the company. The standard

existing elements, the playground equipment with a modular digitalized design, formed the core of the new product concept—activity theme parks—combined with an external brand. Parallel to the reconceptualization of the offering, the internationalization strategy of the company changed from seeking new entries to increasing sales and penetration in existing markets. Customer segmentation was renewed and prioritized.

Business model component depiction

Figure 1 below depicts change in the components and logic of the business model over time in the company. This transformation can be roughly divided into three phases: the 70s, the period between 80s and 2000, and from 2000 onwards. It illustrates how company value creation and value capture processes evolved over time, thereby triggering and supporting innovation of the business model structure. In turn, structural changes in the business model induced further modifications to the value processes (Teece, 2010; Foss and Saebi, 2017). In the first phase, Lappset's business model components (first pillar in Figure 1) were straightforward and traditional in the sense that suppliers provided the material (Lappish wood) to produce designed products that were then manufactured, marketed, and sold, delivered, installed, and exported to customers in domestic and export markets. The uniqueness of the business model was in the differentiated products that were sold mainly to public-sector customers.

"The company started in 1970 and we didn't have our own production…And [company name] was the one who was producing for us… and 1974, that was when we started building our own production. At the end of the 70s, Lappset started exporting to Belgium."(Chairman of the board)

Over time, as the company grew, modularization became more important. With the introduction of new product lines and bringing digital components to the products, the original idea of design transformed to modular design thinking, which was strongly supported by branding activities (pillar 2 in Figure 1).

"In the 80s, Lappset built modular structures." (Chairman of the board)

"The SmartUS innovation came in early 2000. And that was because my father [the founder of the company] said that you have to include the microchip into the wood. And we said he was crazy." (Chairman of the board)

"We have a product line that we call interactive products, which means that we combine the digital and electronic worlds with traditional play." (CEO of the company)

"My father [the founder of the company] has always known the value of the brand. And he has always known how to market. He went out from Rovaniemi with his wolf coat and he only rented it because he wanted to make sure that everybody remembered that he came from the north. And he made sure that his phone number was short, the same length as they were in Helsinki. He got a 4-digit phone number for the company so that together with the Rovaniemi area code it was as long as a normal Helsinki normal number. So he knew that everything was important as the brand and things." (Chairman of the board)

Lappset's branding activities, together with its increasing international presence, necessitated a new kind of organization for growth. Sales communication activities, as well as installation and maintenance, were seen as being locally managed in different countries, but were guided by the brand and directed from headquarters.

"We first changed Germany, the UK and then France so that we had 100% ownership. They are separate companies and management comes from here [headquarters]." (Chairman of the board)

In the third phase (pillar 3 in Figure 1), modularization was applied to branding as the company started to build theme parks for other brand owners. At the same time, the role of design transformed into a wider set of conceptualization and marketing activities that were seen to create value to customers. Packetizing solutions and selling could be done anywhere in the same way as manufacturing and assembly, as well as installation and maintenance. A new, close-to-customer activity was realized in the form of data services through which the customers could start to optimize their investments in the company's products and services.

"…and then when we came to 2010, Angry Birds came to our backyard. I think that was a remarkable thing. And it started a new era." (Chairman of the board)

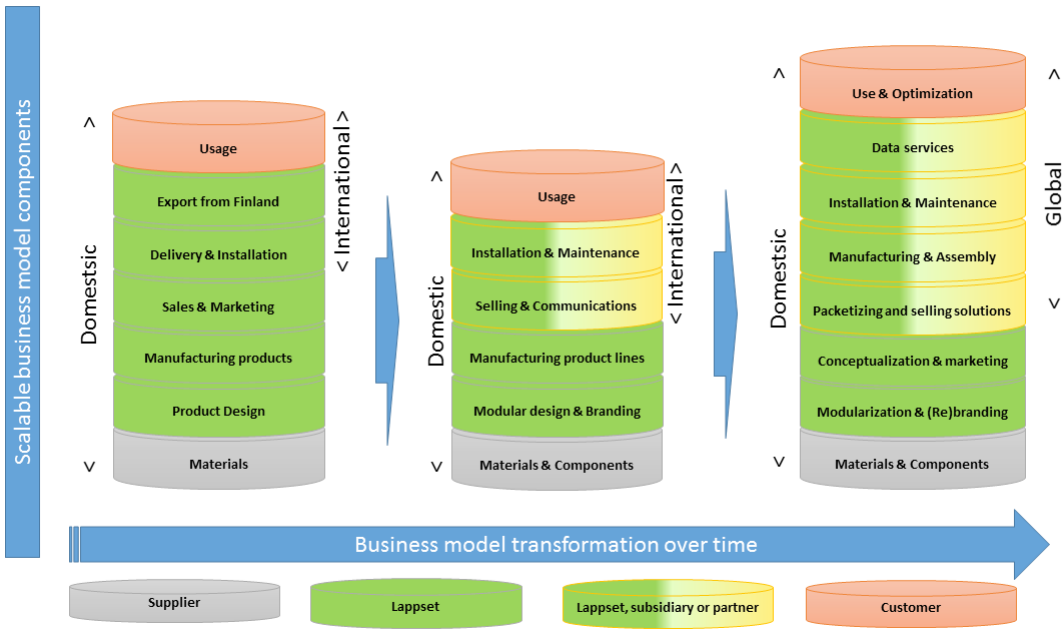

Figure 1: Business model elements and transformation

The transformation of the business model components and their relationships over time characterized two challenges inherent in the business model and change: how to manage operations and their interdependencies in different markets, and at the same time, how to enable growth and internationalization. The adoption of the modularization philosophy was one of the solutions the company found to manage the interdependencies. Similarly, the emergence of conceptualization at the later stages of the company development could be seen as a solution growing from component-based thinking applied to products. Next we take a different kind of look and delve into the role of innovation and internationalization in the development and transformation of the company.

Business model complexity map depiction

The creation of the complexity map of the development of Lappset opens up a systematic but fundamentally different picture of the development of the company. Similarly, the development of the business model complexity map can be traced over three phases: the 70s, the period between 80s and 2000, and from 2000 onwards. In the first phase, Lappset's innovation—Scandinavian wooden play equipment—was born by combining product-material innovation with a Nordic identity, opening up an opportunity to export differentiated products to customers. Scandinavian wooden play equipment and a Nordic identity are the initial conditions that directed the future evolution of the company business opportunity and business processes (Anderson, 1999). In the period between 80s and 2000, consistent with the principle of reinforcing cycles, growth enabled by the innovation contributed to the emergence of a product families that further boosted Lappset to the next stage of internationalization, with a local presence in an increasing number of countries (Anderson, 1999). Reflecting the ideas of self-organization, when the opportunities of digitalization were discovered by the company, it started to explore and invest in them, gradually transforming from product innovation thinking toward more abstract digital innovation thinking, and then to concept innovation thinking (Anderson, 1999). The parallel development of Lappset's branding activities are consistent with the connectivity principle, where choices with regard to the business opportunity influenced other company activities (Anderson, 1999). In the third phase, the digital product lines adopted conceptual thinking, and internal/external branding logic led to internationalization on a global scale and seizing the opportunity to develop theme parks for external brands. Reflecting the non-linearity principle, it is possible only to single out the anchoring elements

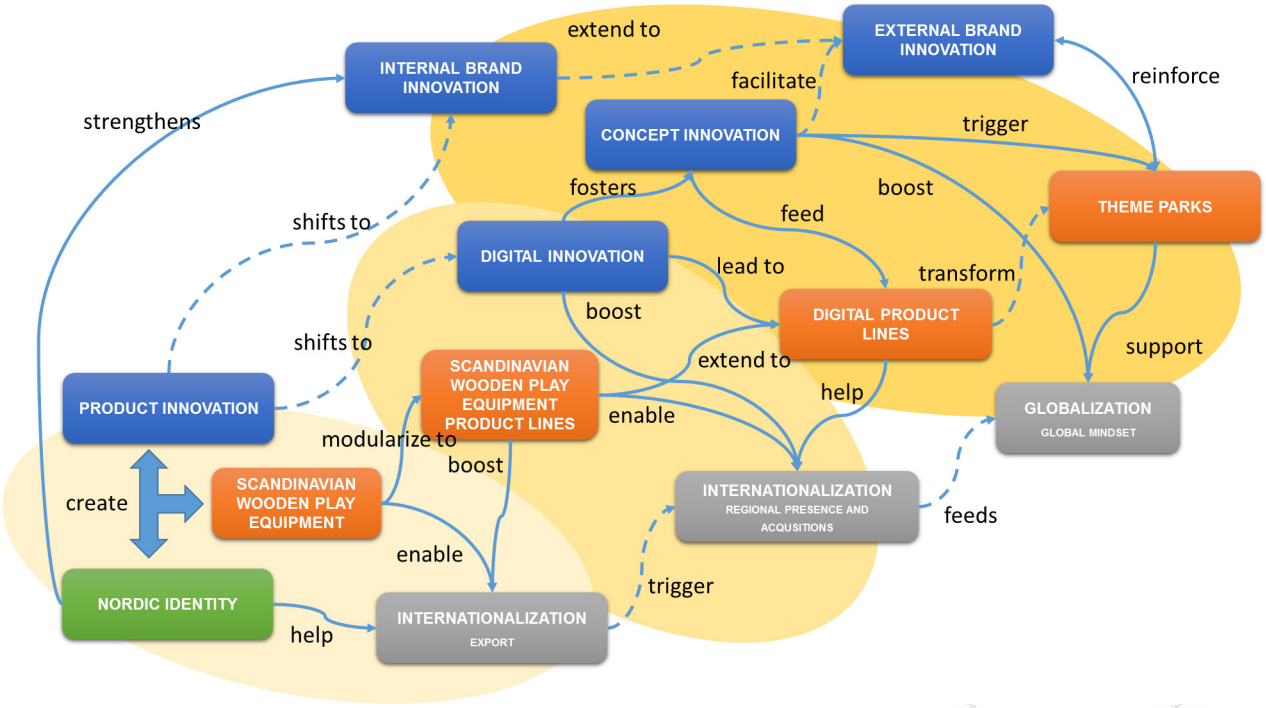

Figure 2: Complexity map: Dynamics of the business model evolution

of the innovation and internationalization processes, but it is impossible to predict how these elements will play out in the future (Anderson, 1999). The creation of a new "blue ocean" market opportunity required a fundamental transformation of the business model. In turn, it enabled Lappset to provide data services for its customers that made it possible to optimize the use of Lappset's offering. Although the data services offered are just first steps in this direction, there are indications that web 2.0 and gamification-based business models could well be the next steps.

Analysis of the primary and secondary data from the complexity theory perspective has revealed that the case company's business model has been developing thematically over several phases. During the first phase, the initial conditions for the business model included an opportunity to innovate children playgrounds, emphasizing the importance of learning in play and to differentiate from the market by accentuating its Nordic identity and utilizing sustainable materials. Following the idea of reinforcing cycles, a unique opportunity has allowed the company to take its first steps in the international market (Anderson, 1999).

"My father [the founder of the company] wanted to furnish the living environment, furnish better surroundings, and that was a great idea. And then in the 80s and 90s came growth though play. And it was a strong message. And nowadays we invite mankind outdoors." (Chairman of the board)

The connectivity principle postulates that each choice has implications for the whole structure; that is, different business model elements, activities, resources, and capabilities (Anderson, 1999; Zott and Amit, 2010). Similarly, production of the play equipment product lines instead of individual items created a novel business opportunity and marked a transition to the second wave in the business model evolution.

"Originally, our company was only a playground company, so we made infrastructure for playgrounds. I also mentioned the interactive products. Now we also have product lines that are for the total lifespan of a human being – from children to teenagers, to adults and seniors. (CEO of the company)

In turn, following the idea of reinforcing cycles and self-organization, a new opportunity boosted international development in the form of regional subsidiaries and acquisitions. The principle of initial conditions and connectivity reveal that at the same time, strengthened by the concept of the Nordic identity, the emphasis in

the innovation processes shifted toward internal brand development and utilization of new digital solutions, leading to the third wave of the business model evolution (Anderson, 1999). In the third stage, novel digital solutions have fostered conceptual thinking, implying that new products represented a certain concept for play, sport, or theme parks.

"And of course, Santa Claus is very important for us. We started with Santa and we are also building Santa Parks around the world. We are now in the process of building one in China." (Chairman of the board)

The principle of self-organization allows us to conclude that concept innovation had a tremendous effect on the business model evolution by facilitating external brand innovation, supporting the emergence of a global mindset and triggering the emergence a new business opportunity–theme parks development (Anderson, 1999). In turn, a new opportunity supported further globalization and reinforced the company brand.

The complexity theory perspective also allows us to differentiate between different themes in the business model evolution. The evolution dynamics is revealed in the business opportunity transformation–the development of the innovation and internationalization processes that reflect the main ideas of the complexity theory. The company started by utilizing a unique opportunity to rethink children's playgrounds, which led to the production of play equipment with a pronounced Nordic identity. This opportunity has transformed into the production of product lines and–at the start of the digital era–into digital product lines. Supported by digital and concept innovation, digital product lines evolved into theme parks. Innovation processes largely revolved around new business opportunities and the company brand. The internationalization process started off with small-scale export operations and progressed toward full-scale globalization.

Conclusions

The discussion above gives rise to two sets of conclusions related to the company business model and business model transformation from the complexity perspective. As was previously discussed, extant representations of the business model concept focus largely on the supply side of value creation, without considering the demand side (Massa *et al.,* 2017). Indeed, the customer is an essential part of a business model composition (Osterwalder and Pigneur, 2010). However, it does not play an active or proactive role, but rather is treated as a passive consumer. Yet, as the principle of reinforcing cycles allows us to conclude, the flexibility and responsiveness of the case company business model allowed the demand side of the value creation chain to be taken into account, as well as allowing the customer to have a say in the final product design (Anderson, 1999; Massa *et al.,* 2017). Additionally, flexibility enabled business model scalability (Chesbrough and Rosenbloom, 2002). The product evolution is closely associated with the changing external trends–from basic quality products to product lines and modular design, and on to digital products and theme parks. In other words, modularization, digitalization, and conceptualization supported novel value creation logic and fostered business model scalability (Teece, 2010; Chesbrough and Rosenbloom, 2002).

If the depiction of the business model elements and its transformation represents a company business model at a certain development stage, the complexity map allows the forces that enable this transformation–business opportunity transformation, development of the innovation and internationalization processes–to be captured (Anderson, 1999). Complexity theory suggests that systems can produce foreseeable as well as unforeseeable effects (Anderson, 1999). The case company initiated the internationalization process by exporting the products to a limited number of countries. Organizational learning in terms of foreign market knowledge supported the intensification of the internationalization process, and eventually the company became a benchmark in the industry on a global scale. If the company's internationalization path seems largely predictable, the development of a business opportunity takes a lot of unexpected turns over the years (Anderson, 1999).

The case company's business model evolution has revealed that the choices the company made with regard to business opportunities, innovation, and internationalization processes are closely connected, and have supported and fed each other. Co-evolving the processes of innovation and opportunity development

in close symbiosis contributed to the expansion of international operations. In turn, the company's internationalization process reflects the principle of the reinforcing cycles and self-organization, where the initial success in the foreign markets triggered further expansion and generated stable international growth (Anderson, 1999). Also, the opportunities, internationalization, and innovation also played a major role in the evolution, interdependencies, and contents of Lappset's business model components. In essence, we claim that the two figures we have presented (Figure 1 and 2) enable us to capture, depict, and explain the business model change processes in the case company.

Approaching business opportunity transformation in combination with innovation and internationalization processes does not allow us to fully predict what effect a change in one business model component would have at the individual, firm, or industry level (Teece, 2010; Anderson, 1999). However, this perspective emphasizes the multi-dimensional nature of a business model and allows us to understand the dynamics of business model evolution by looking at the different levels. Additionally, the complexity theory perspective emphasizes that the dynamics of business model evolution is predicated on different processes. It implies that, contrary to the current attempts of the extant research to develop business model kinds and types, complexity theory allows us to appreciate the unique nature of any business model without trying to classify or categorize it.

Importantly, complexity theory enables us to capture the dynamics of business model evolution (Doganova and Eyquem-Renault, 2009; McGrath, 2010; Demil and Lecocq, 2010). It does not provide a picture of a business model at a certain point in time, creating a static snapshot, but it does reveal how a new business model comes to be as a result of an intricate interplay between business model elements. In turn, it allows the connection between the elements to be traced. To sum up, complexity theory allows us to capture the process of business model development, avoiding a situation "when nothing continues to happen." This perspective assists us in capturing emerging as well as disappearing business model elements, enabling us to understand and explain how a business model evolves. Additionally, complexity theory helps us to comprehend the connections between different business model elements, to reveal its multi-faceted and unique nature.

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Appendix 1. Initial list of questions in the semi-structured interviews.

1. Could you please tell us the story of Lappset from your perspective?
2. How your business opportunity has changed over time?
3. How did your key targets change over time?
4. What were the key challenges?
5. What were the key barriers?
6. What were the critical events?
7. How did you choose your export countries?

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