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**The enabling capabilities of Business Model Innovation: Empirical  
evidence from the Portuguese Textile and Clothing Industry**

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# The enabling capabilities of Business Model Innovation: Empirical evidence from the Portuguese Textile and Clothing Industry

## Abstract

Business model innovation (BMI) has increasingly attracted attention by proposing the business model (BM) as a new unit of analysis in the study of innovation. However, there still appears to be a lack of consensus on the definition, dimensionalisation, and enabling capabilities of BMI. This thesis thereby aims to clarify the concept, identify the potential enabling capabilities, and investigate how the selected capabilities enable the firm to renew its BM. To these purposes, we present three essays where we first identify a set of interdependent value-based BMI elements, namely value creation, value proposition, value delivery, value capture, and value network innovation. In our second essay, undertaking a qualitative research and using the data gathered from 11 interviews with CEOs/Co-CEOs of well-established Portuguese textile and clothing (T&C) companies, we arrive at seven capabilities that enable the firm to renew its BM, viz. operational agility, product development, marketing, corporate foresight, organisational learning, R&D, and networking. Finally, in a third essay, we present the results of a multiple case study research that investigates how agility and BM ambidexterity enable BMI. Data analysis of 22 interviews with CEOs, Co-CEOs, and senior managers of three Portuguese T&C companies, coupled with the results of our literature review, led us to propose a circular self-reinforcing model where agility is identified as having an enabling effect on BMI, which in turn leads to BM ambidexterity. BM ambidexterity further promotes the development of agility, thereby further capacitating BMI. Theoretical contributions, managerial implications, research limitations, and future research ideas are discussed in each essay.

**Keywords:** Agility; BM Ambidexterity; Business Model; Business Model Innovation; Portuguese Textile and Clothing Industry

# Variáveis Capacitadoras da Inovação do Modelo de Negócio: Evidências Empíricas á Indústria Têxtil e do Vestuário Portuguesa

## Resumo

O conceito do 'Inovação do Modelo de Negócio' (IMN) tem atraído cada vez maior atenção ao propor o 'modelo de negócio' como uma nova unidade de análise quando na investigação da inovação. No entanto, parece que ainda não há um consenso sobre a definição, dimensionalização e variáveis capacitadoras da IMN. Esta tese visa, assim, a clarificar o conceito, identificar potenciais variáveis capacitadoras e investigar como é que as capacidades seleccionadas ajudam as empresas a renovar os seus modelos de negócio. Para este efeito, apresentamos três ensaios. No primeiro ensaio, identificamos um conjunto de elementos interdependentes baseados no valor da IMN, a saber a Criação de Valor, a Proposição de Valor, a Entrega de Valor, a Captura de Valor e Rede de Valor. No segundo ensaio, realizando uma pesquisa qualitativa e utilizando 11 entrevistas presenciais com CEOs de empresas portuguesas do sector têxtil e do vestuário, encontramos sete capacidades que capacitam as empresas para renovar os seus modelos de negócio, nomeadamente a Agilidade Operacional, o Desenvolvimento de Produtos, o Marketing, a Visão Corporativa, a Aprendizagem Organizacional, a Pesquisa e Desenvolvimento e o Desenvolvimento de Rede. No terceiro ensaio, apresentamos os resultados de um estudo de caso múltiplo que investiga como a Agilidade e 'Ambidestrelza do Modelo de Negócio' capacitam a IMN. A análise dos dados recolhidos através 22 entrevistas presenciais com CEOs e diretores séniores de três empresas portuguesas do sector têxtil e do vestuário, conjugado com os resultados da nossa análise da literatura, leva-nos a propor um modelo circular e auto-alimentado que indica que a Agilidade capacita a IMN e a IMN capacita a 'Ambidestrelza do Modelo de Negócio'. A 'Ambidestrelza do Modelo de Negócio' promove ainda maior Agilidade, capacitando ainda mais a IMN. Por fim, apresentamos os contributos teóricos, implicações práticas, limitações da pesquisa e diretrizes para investigação futura.

**Palavras-chave:** Agilidade; Ambidestrelza do Modelo de Negócio; Indústria Têxtil e do Vestuário Portuguesa; Inovação do Modelo de Negócio; Modelo de Negócio

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## **List of acronyms**

ATC: Agreement on Textiles and Clothing

ATP: Associação Têxtil e Vestuário de Portugal

B2B: Business to Business

B2C: Business to Customer

BM: Business Model

BMI: Business Model Innovation

CRM: Customer Relationship Management

DSS: Decision Support Systems

EDP: Electronic Data Processing

M2M: Machine to Machine

MIS: Management Information Systems

OEM: Original Equipment Manufacturer

R&D: Research and Development

SME: Small and Medium-sized Enterprises

SMED: Single-Minute Exchange of Dies

T&C: Textile and Clothing

VC: Value Creation

VCA: Value Capture

VD: Value Delivery

VN: Value Network

VP: Value Proposition

WTO: World Trade Organisation

## I. Overall introduction

In turbulent environments in which customers change their demands rapidly and competitors come up with disruptive innovations frequently, firms face a strong pressure to develop new business models (Amit and Zott, 2012; Chesbrough, 2007). The faster and easier a firm can renew its business model, the higher the market share it can capture (Teece, 2010). This has led to a growing interest in studying the concepts of the business model (BM) and business model innovation (BMI).

BM is recognised as a conceptual tool for describing how a firm creates, proposes, delivers, and captures value (Osterwalder et al., 2005). Consistent with this definition, the business model is composed of several constituent building-blocks that interact with each other (Santos et al., 2009). In this study, we propose an arrangement of five components, namely (I) value creation that describes internal creation and production mechanisms; (II) value proposition, describing how the firm's offerings are perceived as valuable by customers; (III) value delivery, explaining the way the firm delivers its offerings through distribution channels; (IV) value capture, describing the firm's financial architecture and the way it earns net profits; and (V) value network, that focuses on the firm's relationships with its partners (Metallo et al., 2018; Osterwalder and Pigneur, 2010; Teece, 2010). Accordingly, BMI refers to the practice of renewing the components of the firm's BM (following the component-based view) (Foss and Saebi, 2017) and we consider five elements of BMI in terms of value creation renewal (renewing internal creation and production mechanisms), value proposition renewal (renewing the offerings), value delivery renewal (renewing the distribution channels and CRM practices), value capture renewal (renewing the financial model), and value network renewal (renewing the partnership practices) (Clauss, 2017; Spieth and Schneider, 2016).

BMI scholars frequently emphasise the growing interest in the field among both academia and practitioners (Foss and Saebi, 2018; Tesch, 2019). Zott et al. (2011), for instance, enumerate the number of articles that include the term "business model" in their title, abstract, or keywords published in refereed journals - indexed in EBSCO Business Source Complete - identifying up to 1,177 articles in the 15 years that span from 1995 to 2009. Refining this search on the topic of BMI, we find that the interest in studying BMI-related topics has been growing increasingly with an even higher rate recently. This growing attention paid by scholars to this phenomenon becomes plain to see in Figure 1.

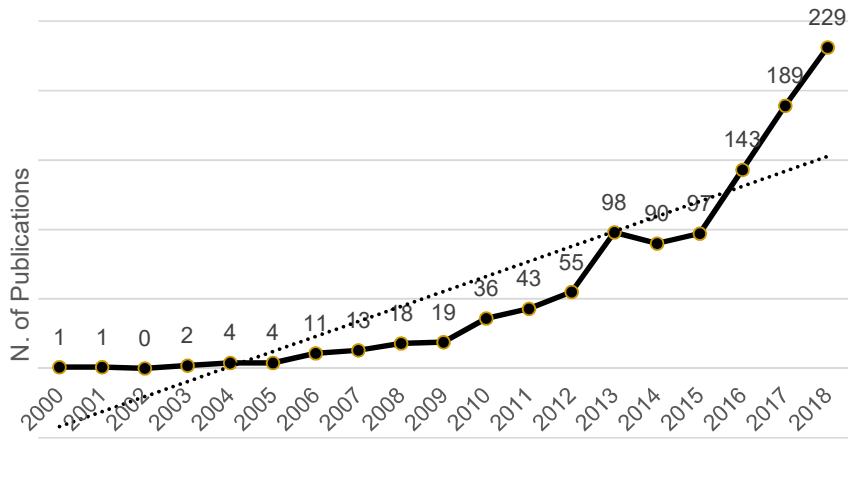


Figure 1. Usage of the term “business model innovation” in academic journals (source: the author)  
 Note: the publications are from sources indexed in Scopus and include the term “business model innovation” in their title, abstract, or keywords.

Yet, despite the growing interest in studying BMI, scholars still find it difficult to achieve a consensus on the definition of the concept and its constituent elements (DaSilva, 2018). Even less is known about the enablers of BMI (Tesch, 2019). We therefore try first in this thesis to develop a model of the concept of BMI, representing its elements; secondly, we identify several enablers of BMI; and thirdly, we investigate the enabling roles of two selected capabilities on BMI.

The topics addressed by our three essays are important as they are the focus of recent calls on the need for a deeper understanding of the concept of BMI, explaining how it works as well as identifying the organisational capabilities that enable the firm to renew its business model. Moreover, our study contributes by exploring the dynamics of the relationships between the enabling capabilities and BMI, which is poorly described in the literature. Spieth et al. (2014), proposing future research directions of BMI, refer to the ‘running the business’ perspective and suggest that future studies can address the question of how BMI is different from other types of innovation such as product or process innovation. In this sense, the focus is suggested to be placed on the *architecture* of the firm’s business model (elements and interdependencies), the processes underlying a business model for creating and delivering value to the customer, and the sequence of activities in relation with stakeholders that explain the logic of a business model. They also recommend future research to take the perspective of cognitive theory and dynamic capabilities in order to examine the question of “which capabilities, enabling factors and conditions allow decision-makers to experiment with and enact new business models in organizations?” (p. 243). Foss and Saebi (2018), in their recent article published in ‘Long Range Planning’, emphasise

that “more needs to be done in terms of establishing and consolidating the theoretical structure underlying BM and BMI research” (p. 18). Even though the authors acknowledge the existing theoretical contributions, they however address the need for “more consensus on definitional and dimensionalization issues” (p. 19). This justifies the need for conceptual models and frameworks derived from extensive reviews and critical evaluations of the literature, which what we attempt with our first essay. In their earlier review article published in the ‘Journal of Management’, Foss and Saebi (2017) identify four key gaps in the BMI literature and suggest future research to bridge these gaps: (I) construct definition and dimensionalisation, (II) congruence and identifying antecedents and outcomes, (III) contingency and moderating variables, and (IV) boundary conditions. As for their first identified gap, the authors suggest future research to take the BM construct as a starting point for conceptualising and dimensionalising BMI. They also recommend future research to consider taking an architectural view when defining the BM/BMI concepts in order to provide insights into the interdependencies among the constituent components. The second gap identified by Foss and Saebi (2017) calls for empirical investigation of BMI enabling capabilities as they reiterate the notion that “there are few studies of the drivers or antecedents of BMI” (p. 217). According to the authors, the dynamic capabilities view of the firm is of advantage in bridging this gap because it outlines how the firm can improve its readiness and responsiveness to opportunities and threats generated from environmental changes. Recent efforts also suggest certain research designs to be used in studying BMI. Tesch (2019) recommends using multiple case studies in the field of BMI as the findings can serve as “a starting point for further theorization” of BMI-related concepts (p. 255). In our second essay, we present a thorough review of the literature on potential BMI enablers which allows us to identify more relevant empirical fieldwork that suggest the linkages between the domains of BMI and dynamic capabilities. Those studies, reported in our third essay, are of particular importance as they take into careful consideration the concerns raised by the mentioned seminal/recent publications.

Finally, our choice of the Portuguese Textile and Clothing (T&C) Industry is motivated by the fact that Portuguese T&C companies have been making successful BMI efforts over the last two decades in order to be able to survive severe crises such as the financial or European debt crises and more particularly the termination of the ‘Agreement on Textiles and Clothing’ (ATC), according to which T&C products made outside the EU incurred tariffs when sold in European countries. These BMI efforts that are delineated in our third essay provide fresh insights into studying BM, BMI, and its enablers.

The Portuguese T&C industry has been in a dilemma whether to perform under the cost-leadership BM offering ordinary, low-price products or under the differentiation BM introducing original, premium-

priced products (Dhillon and Caldeira, 2000; Serra et al., 2012). Portugal is one of the main European producers in T&C after Italy, Germany, France, UK, and Spain (Euratex, 2017). The country has been known as a rich base for apparel manufacturing in Europe, representing 4% of total turnover (6th), 7% of companies (4th), and 8% of employment (4th) in European textile markets. The Portuguese T&C industry accounts for 10% of the total national exports, 20% of employment in the manufacturing industry, 8% of the manufacturing industry turnover, and 8% of the total production (ATP, 2017). With a record of 150 years of job creation, the sector has been one of the main sources of employment in manufacturing and export earnings (Nunes et al., 2015).

The Portuguese manufacturing industry has faced a host of challenges over the last two decades including the economic recessions posed by global crises such as the financial or European debt crises. Over and above these all-industry-inclusive crises, the Portuguese T&C sector has been particularly affected by the termination of the 'Agreement on Textiles and Clothing' (ATC), according to which T&C products made outside the EU included tariffs to be sold in European countries. After the elimination of these import quota by the World Trade Organization in 2005, the resulting market liberalisation, and the shift of production to countries with low-cost labour (new international division of labour), the Portuguese T&C industry experienced a severe downturn: in sales – from 6.86 million euros in 2005 to 5.36 in 2009; in exports – from 4.10 million euros in 2005 to 3.50 in 2009; and in employment – from 192 thousands workers in 2005 to 124 in 2012 (ATP, 2017). Since the last decade, however, the industry has successfully revived thanks to the Portuguese T&C companies developing new business models. This has led to a 36% increase in turnover, and a 46% increase in export earnings from 2009 to 2016 (INE, 2017). BMI success stories of Portuguese T&C companies encouraged us to focus on this industry.

The structure of the present thesis is as follows. First, we present the essay entitled: 'A value-based approach to business model innovation: defining the elements of the concept'. Here, we begin by developing a chronology of the theoretical development of both BM and BMI. Then, we present a literature review on the elements of BM anchored in the value-based perspective, followed by the proposal of the resulting set of five BMI components. Next, we illustrate each component of our proposed BMI framework with examples of contemporary practices adopted by real widely known companies. Finally, we close the first essay by a discussion on the interdependencies among BMI elements. The second essay, entitled 'Dynamic capabilities that enable firms to survive strategic crises: Lessons from the Portuguese Textile and Clothing Industry' is presented next. This essay begins with a review of the theories on the concepts of business survival and dynamic capabilities, presented in the form of a set of dynamic capabilities and sub-capabilities that are especially relevant for BMI. We then proceed to describe the research methods

used in the empirical study, followed by the results of data analysis of the interviews carried out in the Portuguese T&C Industry. Then, the research framework derived from the data analysis is provided and we discuss each identified dynamic capability and the practical implications for Portuguese T&C companies. The second essay ends with research limitations and future directions. Finally, the third and final essay is entitled 'Agility, ambidexterity and business model innovation: A cyclical model of self-reinforcing dynamic capabilities'. This study introduces the concept of business model ambidexterity and narrows down the focus regarding BMI enablers to agility. Based on the results of the literature review, a conceptual model is presented. Next, we explain the data collection methods and analysis, present its results and derive from those a final conceptual framework. Research propositions and sub-propositions are put forward, followed by a discussion of the theoretical contributions and managerial implications of this study. The essay ends by addressing some research limitations and future directions. The final part of this thesis provides overall concluding remarks.



## II. Essay 1

### A value-based approach to business model innovation: defining the elements of the concept

#### 1 Introduction

Given that the concept of business model (BM) emerged from the information systems literature, business management scholars still discuss the need for further investigation of its conceptualisation, elements, and processes involved (Foss and Saebi, 2017; Spieth et al., 2014; Teece, 2010). Business model innovation (BMI) is one of the products of proposing BM as a new unit of analysis in the study of innovation. Ever since the success of some prominent companies in innovating their BM came under close scrutiny (e.g., IBM when it embarked on service delivery projects while maintaining its hardware production systems), there has been a growing interest in exploring the reasons why some BMI efforts achieve spectacular results while others encounter failures. As specifically noted in the literature (Cavalcante et al., 2011; Koen et al., 2011), one of the major reasons for BMI failure is a lack of precise knowledge about different BMI elements and, more importantly, which certain aspects of BMI are more likely to result in optimum function regarding different internal and external contingencies.

This paper responds to calls for a deeper understanding of the conceptualisation and dimensioning of the BMI concept. As stated by Schneider and Spieth (2013, p. 23), "business model innovation's core elements and the process of their identification, design, and evaluation remain largely unknown". Foss and Saebi (2017) also identify one of the remaining gaps in the domain as "defining and dimensionalising the BMI construct" (p. 215). Thereupon, this essay aims to propose an integrated framework to incorporate the different ways of reshaping the BM. Bringing together disparate contributions in the literature along the value-based perspective (Brandenburger and Stuart, 1996), we have tried to identify the major components of BMI along this view and consider its dynamic nature by exploring the interconnections among those value-based elements.

We begin by reviewing background knowledge about the concept of BM. This is supported by the notion that successful innovation in a firm's BM requires a thorough insight into its underpinnings and implications (Chesbrough, 2007). Loosely defined, BM refers to a conceptual tool describing the way in which the company does business. Deeper definitions of BM diverge regarding different sets of its elements proposed by scholars. One of the reasons for this variation can be the use of different

perspectives. The value-based perspective, in particular, is of advantage as it "presents all the value aspects of BMs, enabling an exhaustive overview of the levers of business model innovation" (Rayna and Striukova, 2016, p. 23). BMI, in general terms, is defined as the practice of innovating the firm's current BM. It can be recognised either as the process of changing the whole logic of doing business (radical BMI), or the practice of changing one or more elements of the firm's BM (incremental BMI).

This article is organised as follows. First, a chronology of the theoretical development of both BM and BMI is prepared, highlighting the most important theorising attempts with reference to important studies as milestones. Then, after outlining the more frequently cited elements of BM in the literature, the resulting set of BMI components anchored in the value-based perspective is explained. The proposed BMI framework is also detailed, presenting the stories of companies as illustrating examples and examining the interactional effects among the identified BMI components. Finally, in the concluding section, some suggestions for future research are set out.

## **2 Theoretical background**

### **2.1 Business Model**

The origins of the BM topic can be traced back to the advent of e-commerce in the mid-1990s when some companies found it beneficial to change their business logic by doing away with physical stores and selling products online. The internet, therefore, was conceived as a means of changing traditional BMs and the term 'business model' was coined in both academic and industrial settings as a result of the meteoric growth of Internet-based businesses.

Accordingly, the theoretical evolution of the BM subject originates in the e-business literature. The work of Timmers (1998) is one of the earliest studies in the field shedding light on a number of different BMs that Internet-based enterprises could implement. Providing practical examples of companies employing those BMs, Timmers comes up with a framework of BM classification. The elaboration of frameworks and models to better understand the concept of BM was a prevailing approach in early scholarship (e.g., Amit and Zott, 2001; Mahadevan, 2000). Despite receiving attention from academia, the domain was only addressed in the e-business literature, restricting BM conceptualisation to the use of the Internet per se. The next generation of authors however extended the field into other areas, deepening and widening the enquiry into BM. Magretta (2002), as one of the earliest enquirers, suggested a broader implication of a firm's BM as a means to have a sounder understanding of customers and their demands, cost/revenue architecture, and value delivery mechanisms. After triggering off this broader conceptualisation, the field began to expand by receiving more attention from

other disciplines such as logistics management (Chapman et al., 2003), economics (Chung et al., 2004), or even social science (Seelos and Mair, 2005). A dominant feature of cultivating the theoretical underpinnings of the BM concept, exemplified in these studies, was the use of illustrations and examples of companies adopting different BMs.

Osterwalder (2004) played an important role in the formulation of an ontology, according to which a well-designed BM should address four areas: products/services, customers, internal mechanisms, and financial matters. As sub-indicators of these four dimensions, he proposed nine components for BM, which are still recognised as essential building blocks of BM: value proposition (the company's offerings to customers), targeted customers, distribution channels, customer relationship management, value configuration (the integration of resources with processes), key capabilities required for thorough execution of tasks, the network of partners, cost model, and revenue streams. Inspired by this ontology, the next stream of BM research placed more emphasis on components, typologies, and taxonomies. The article of Morris et al. (2005) is one of the earliest, most frequently cited publications in the area proposing six elements of BM, each focused on six major concerns of a firm, viz. offerings, customers, sources of competence, positioning, revenue model, and the owner(s)/manager(s).

Along with these theoretical advancements, several new, still persuasive topics emerged such as the notion of *hybrid* or *parallel* BMs (Bonaccorsi et al., 2006), highlighting the advantages of functioning under two or more BMs that enables the firm to shift from current strategies and practices to new ones. This idea developed later into the concept of *BM ambidexterity* (the ability to manage two different BMs concurrently), that is conceived as a synthesis of the literature on organisational ambidexterity and BM (Markides, 2013). Some of the emergent phenomena derived from studying BM through different lenses. For instance, BM design (Zott and Amit, 2007), that addresses how to configure BM elements in order to yield extraordinary results, has attracted a great deal of attention from design thinking scholars. Business model innovation (BMI) is another fascinating subject of study, emerged initially from the effort of Chesbrough (2007) with the aim of raising awareness of the equal importance of softer (non-technological) types of innovation (in this case, the BM). Another major advance in this period of time was the appearance of empirical studies examining the proposed BM theories. Zott and Amit (2008), for example, investigate the fit theory in the BM context and empirically confirm the hypothesis that the implementation of new BMs positively influences firms' performance.

BM theories still occupy the attention of scholars and notable conceptual articles have been published in recent literature. The study of Casadesus-Masanell and Ricart (2010) is one of those publications that provides a better explanation of BM by distinguishing it from strategy since these two concepts have

previously been treated as one. Using concrete examples in the telecommunication and airline industries, the authors argue that strategy - in a higher level - determines which BM is best for a firm to implement, whilst BM - in a more specific account - explains the way of achieving the company's objectives.

The 2010s' decade of research on BM begins with the phenomenal work of Teece (2010) imparting a fresh theoretical perspective of how the concept of BM is connected to the firm strategy and innovation success. Supplementing the literature with genuine theoretical insights on the BM design elements, BM sustainability, and provisional BMs, the author conveys the message that a successful integration of these three factors is essential for the success of BMI implementation. Another important academic endeavour in the early 2010s is the study of Zott and Amit (2010) that stresses the need to regard BM design as a key managerial skill. Presenting an activity-based framework for effective design of the firm's BM, the authors introduce two main parameters, viz. the design elements (content, structure, and governance of activities), and the design themes (novelty, lock-in, complementarities, and efficiency of activities).

The BM literature continues to grow in the mid-2010s by two sources of contributions: one from the mainstream BM scholarship, trying to delineate the theoretical foundations of the field; and the other from environmental research and practice introducing the idea of *sustainable BMs*. In the case of the former, some publications are worth noticing. Baden-Fuller and Mangematin (2013) criticise the lack of theoretically coherent typologies in the BM literature that is replete with repetitious taxonomies of observed cases. They propose a BM typology based upon the dimensions of customers, internal mechanisms, and monetisation strategies. DaSilva and Trkman (2014), in turn, attempt to expose the misuse and misinterpretation of the BM conceptualisation by distinguishing it from comparable concepts, such as strategy or cost-revenue model. Based on their view, the BM concept is a short-term perspective, describing the current configuration of business processes, compared to dynamic capabilities or strategy, which concern longer-term directions of the firm. The second stream of BM studies focuses on performance sustainability, representing the idea that sustainable developments should be based on key changes in the BM (Boons and Lüdeke-Freund, 2013).

More recent studies on BM are dispersed across multiple areas and there is only fragmentary knowledge suggesting the future directions of the domain (Wirtz et al., 2016). It can be, however, remarked that BMI has become one of the major divisions of the BM domain in recent years (Foss and Saebi, 2017). Figure 2 depicts a chronology of BM theoretical progression with reference to important studies as milestones.

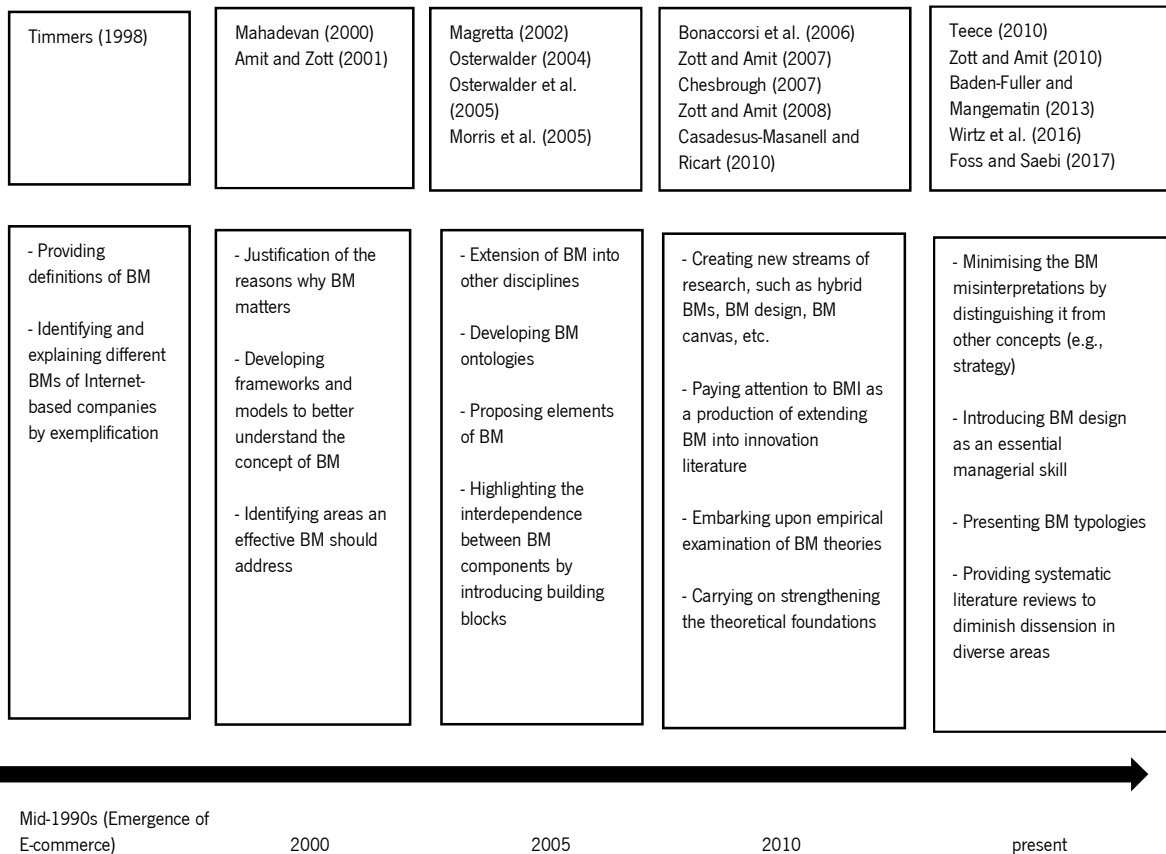


Figure 2. Theoretical evolution of the concept of Business Model (BM)

Looking at the existing definitions of BM, it becomes clear that no concrete consensus has yet been achieved (Arbussa et al., 2017). Nevertheless, either stated explicitly (e.g., Casadesus-Masanell and Ricart, 2010; Teece, 2010) or implied within the text (e.g., Chesbrough and Rosenbloom, 2002), most, if not all, of the previous studies agree that BM is a conceptual tool that describes how a firm does business and creates value for its stakeholders. We believe that the predominant reason for any remaining dissension pertains to the BM elements or components. These have advanced into building-blocks in later studies, appreciating the underlying assumption that the elements of a firm's BM are central pillars of its value chain that must be in sync with each other and without one, the whole system fails.

## 2.2 Business model building-blocks

As noted earlier, the specification of the elements of the concept of BM is of key importance, not only for its definition but also in making the concept distinct from similar concepts. As such, various building-blocks of BM have been identified to date and the difference between the classifications stems from adopting different approaches or perspectives. To specify the essential components of a BM, emphasis

has been laid upon various aspects, such as value chain elements (Timmers, 1998), core organisational processes (Cavalcante et al., 2011), BM functions (Chesbrough, 2007), or BM design elements (Zott and Amit, 2007, Teece, 2010). The nine BM building-blocks introduced by Osterwalder and Pigneur (2010) as BM canvas components are perhaps the best known, most widely cited elements: customer segments, value propositions, distribution channels, customer relationships, key resources, activities, and partnerships, and cost and revenue models. The problem with this element specification method, in our view, is the lack of a solid theoretical grounding by which not only the interconnections between the elements are more likely to be covered, but also a more comprehensive inclusion of BM-determining factors is achievable. This is in line with the *configurational approach* which takes into detailed consideration both the interrelationships between several attributes of a construct and the holistic essence of organisational concepts (Meyer et al., 1993).

From the perspectives already taken to incorporate different elements into the design of BM, we find the value-based perspective (Ghezzi et al., 2015; Rayna and Striukova, 2016) consistent with the configurational approach as it is anchored in the importance of *value* within the organisational structure of the firm. Taking this view, various authors have proposed different elements as comprising the BM concept, including three or four components. Four elements of BM are more frequently forwarded and regarded as essential. *Value creation* refers to the set of key internal resources, capitals, mechanisms, and activities by which a firm creates value for its stakeholders, including customers, suppliers, employees, and other business partners (Ghezzi et al., 2015; Morgan et al., 2013). The *value proposition* element, which reflects anything that makes a firm attractive to its customers, mostly describes the products and services offered to the customers (Chesbrough and Rosenbloom, 2002). Several aspects captured by this element are identified in the literature in terms of newness, customisation, brand, design, price, accessibility, and usability (Osterwalder and Pigneur, 2010). *Value delivery* explains the way a firm reaches and interacts with its customers. And finally, *value capture* articulates the way in which a firm deals with its financial issues to gain maximum profits (Baldassarre et al., 2017). Another building-block of BM that we add to the four mentioned factors is the *value network*, pertaining to the way a firm manages its partnership arrangements. Although this element is embedded in other dimensions of BM in some studies – such as in value delivery (Ghezzi et al., 2015), value creation (Clauss, 2017; Richter, 2013), or value capture (Bourreau et al., 2012) – we believe in the relevance of taking it as a separate element of BM, appreciating the fundamental role of inter-firm collaboration strategies in sustaining competitive advantages (Dellyana et al., 2016; Sainio et al., 2011).

Table 1 below is a synopsis of studies proposing various BM components. It also points to the value-based elements implied by each study. As can be ascertained from this table, even though the BM sides with the conceptual rather than financial representation of the business (Teece, 2010), the cost-revenue architecture of the firm (reflected in the value capture element) has still been recognised as one of the central components. Another noteworthy point learned from Table 1 is the fact that none of these landmark studies consider all of the proposed five value-based BM elements together, nor do they explore the way they interplay with each other, which is one of the contributions of the current essay.

Table 1. Value-based Business Model building-blocks in the literature (studies are ordered chronologically)

Study	Specified BM building-blocks	Value creation	Value proposition	Value delivery	Value capture	Value network
Amit and Zott (2001)	Value creation; opportunity exploitation; financial transactions	x			x	
Dubosson-Torbay et al. (2002)	Products/services offered to the customers; customer relationship management; partnership infrastructure; financial aspects		x	x	x	x
Morris et al. (2005)	Firm's offerings factors; market factors; internal capability factors; competitive strategy factors; economic factors; personal/investor factors	x	x		x	
Chesbrough (2007)	Value proposition; market segmentation; value chain structure; financial model (revenue, cost, and profit); network positioning; competitive strategy formulation		x	x	x	x
Teece (2010)	Product/service design; customer interface; market segmentation; revenue streams; value capture mechanisms		x	x	x	
Demil and Lecocq (2010)	Resources and competences; organisational system; value propositions; and cost-revenue structures	x	x		x	
Sainio et al. (2011)	Value creation driver; design elements; value exchange (with partners and customers)	x				x

Baden-Fuller and Mangematin (2013)	Customer identification; customer engagement; monetisation; value chain mechanisms	x		x	x
Richter (2013)	Value proposition; customer interface; infrastructure; revenue model	x	x	x	x
Taran et al. (2015)	Value creation; value delivery; revenue generation model; competitive positioning	x		x	x
Gebauer et al. (2017)	Value proposition; value creation; profit equation	x	x		x
Arbussa et al. (2017)	Value proposition; value chain; cost, revenue, and profit efficiency		x	x	x

### 2.3 Business Model Innovation (BMI)

Business Model Innovation (BMI), in conventional terms, is defined as the practice of innovating the firm's current BM. Developing around this general appreciation, a number of definitions of BMI have been offered such as the early one by Casadesus-Masanell and Zhu (2013, p. 464): "the search for new logics of the firm and new ways to create and capture value for its stakeholders". Some definitions now seem incomplete, concentrated only on certain dimensions, such as the value capture: "BMI refers to activities that considerably change the structure and/or financial model of a business" (Eshun Jr, 2009, p. 163). Another point of inconsistency in BMI definitions is the radical vs. incremental distinction. Some scholars regard BMI as a radical, disruptive kind of innovation, "the discovery of a fundamentally different business model in an existing business", "the process by which management actively innovates the business model to disrupt market conditions" (Saebi et al., 2017, p. 569). By contrast, a body of scholars appreciate more the incremental nature of BMI by defining it as the practice of changing one or more elements of the firm's BM (e.g., Frankenberger et al., 2013; Sorescu et al., 2011), rather than changing the whole logic of doing business.

As mentioned earlier in the presented chronology of BM's theoretical development, from 2010 onwards, there has been a surge in BMI studies as scholars find it interesting to explore how an existing company can innovate its current BM. The topic of BMI became prominent as a result of arguments put forth by two streams of literature. First, the BM literature came to the conclusion that the firm's ability to renew its BM ensures inimitable and sustainable competitive advantages (Teece, 2010). Secondly, the innovation management literature was provided by new proposed frameworks (e.g., Dervitsiotis, 2010) highlighting soft (non-technological) types of innovation, such as the BMI. Therefore, the emergence of



the concept of BMI results from two main groups of academic efforts originated in the BM and the innovation management areas.

Various perspectives have been taken to examine BMI, such as the organisational learning (Berends et al., 2016; Sosna et al., 2010) or the network-based view (Dellyana et al., 2016; Lindgren et al., 2010). BMI literature owes much to the seminal work of Chesbrough (2010) which deftly argues that other types of innovation, such as technological or product innovations, are of substantially lower value if a new supporting BM fails to be adopted.

This primary stage of BMI theoretical development was followed by some influential studies. The publication of Baden-Fuller and Haefliger (2013) is important as it explores how the choice of BM can affect the success of technological innovation. As they argue, the firm's BM is a key determining factor in capturing financial value from deploying a new technology. Therefore, introducing new technology requires adjustments (either in the new technology, or the BM, or both) so that technology and BM are aligned in order to produce the desired effects.

The evolution of the concept of BMI has been ongoing as different approaches are being adopted to extend the field. The use of the *cognitive* approach is remarkable as it incorporates insights from psychology and strategy research to explain how BMs can be innovated proactively (Demil et al., 2015). Martins et al. (2015) propose two cognitive processes, viz. analogical reasoning and conceptual combination that analyse the BMI process in four stages of identification, comparison, integration, and modification.

There has also been a recent interest in studying the relationship between BMI and sustainability. One strong impetus for considering the need for BMI came from the energy and environmental literature, where sustainability values seem to dictate change in incumbent firms. Richter (2013) finds that utility providing companies will need to opt for BMI in order to tackle the challenge of renewable energy sources. Introducing the idea of sustainability-oriented BMI practices, Schaltegger et al. (2012) find it fulfilling to synthesise social and environmental factors with processes involved in a firm's BM. Business case drivers (e.g., cost or risk reduction) identified by their work ably reinforce the proposition that a company's new BM is more likely to be sustainable if social or environmental concerns (such as green practices) are met. Carayannis et al. (2015), in turn, focus on the ways in which BMI can lead to organisational sustainability, arguing that the successful implementation of BMI provides new organisational design and governance that incorporate an effective reconfiguration of key resources, activities, capabilities, and entrepreneurship, to generate sustained competitive advantages to the firm. These contributions bring renewed attention to what has previously been studied as administrative (Damanpour, 1987),

management (Birkinshaw et al., 2008) or organisational innovation (Armbruster et al., 2008), reinstating the importance of organisational factors in innovation in a literature that is otherwise dominated by technological innovation (Teece, 1986; Utterback, 1971). There has been a recent growing interest in unlocking the practical values of BMI implementation by taking the circular economy view to emphasise the importance of regenerative and resilient systems of value creation. This has resulted in the introduction of the idea of *circular BMI* bringing to the fore the importance of environmental impact in the design and implementation of new BMs (Linder and Williander, 2017).

BMI systematic literature review efforts are in a state of flux to generate more insights about the definition, conceptualisation, and operationalisation of the concept, as well as its implications to other domains. The work of Spieth et al. (2014) is one such well-known effort identifying three prevailing BMI perspectives based on the three different roles a BM can fulfil: explaining the business, running the business, and developing the business. Building upon these three lenses, they further outline the inherent challenges in studying BMI and future research streams. More recently, the work of Foss and Saebi (2017) provides a systematic literature review on 15 years of BMI publications (from 2000 to 2015). Streams of BMI research, gaps and challenges in advancing the field, and future directions in BMI research are discussed by the authors. In particular, one of the gaps issued by the authors is the dimensioning of the BMI construct, so as to provide clarity not only about the elements of the concept, but also the *architecture* (interdependencies among the components), a feature that has been highlighted by previous theoretical analysis (c.f., Spieth et al., 2014; Schneider and Spieth, 2013). In addition, the radical vs. incremental character of BMI also remain contentious (Witell and Löfgren, 2013).

Anchored in the value-based perspective, carrying on the BM building-blocks and siding with the incremental view of BMI, we define BMI as the practices by which the firm devises novel ways to create, propose, deliver, and capture value and also to innovate its partnerships arrangements. In this sense, BMI involves the reconfiguration of certain BM components, putting more weight on changing particular aspects of the value chain, but not necessarily all of them to the same extent and at the same time. Moreover, the configurational nature of BMI is underscored. We therefore see the different elements of BMI as interdependent and explore how they interact with each other.

### **3 A value-based framework of BMI**

To approach the challenge of covering the key components of BMI, we find the *value-based perspective* particularly practicable as it features all the value aspects of BM and consequently paves the way to articulating BMI elements. Explicit implications of this perspective on BMI conceptualisation are stressed

in the literature: a "value-based view of a business model can provide insight into potential areas for business model innovation" (Rayna and Striukova, 2016, p. 21). The value-based business strategy, introduced by Brandenburger and Stuart (1996), has been employed in the BMI literature (Gambardella and McGahan, 2010; Zott and Amit, 2007) to elucidate the exact meaning of value in the BM context. Figure 3 represents the value created by a vertical value chain of suppliers, incumbent firms and end customers, according to Brandenburger and Stuart (1996). Value is here formulated as the difference between 'the willingness-to-pay' of the buyers (the maximum amount of money a buyer is willing to pay for a product or service) and the suppliers' 'opportunity costs' (losses caused by allocating resources to the incumbent firm).

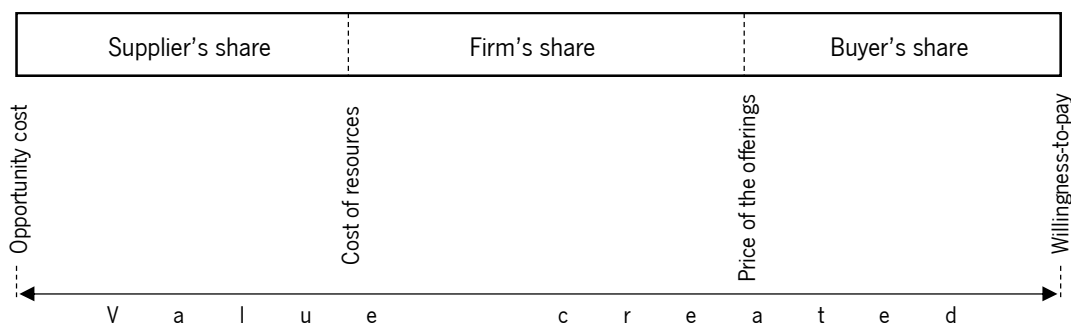


Figure 3. Understanding value creation and capture from the value-based perspective (adapted from Brandenburger and Stuart (1996))

Key to this perspective is the notion of 'added value'. The value added by each player is "the value created by all the players in the vertical chain minus the value created by all the players except the one in question" (Brandenburger and Stuart, 1996, p. 6), acknowledging that each player shares in the value created. That is, the ability of a firm to capture value from this vertical chain depends on its ability to add positive value.

One of the advantages of adopting the value-based perspective is this clear-cut definition of value creation and appropriation (capture). The extension of the cost-revenue ratio to the 'buyer's share' (willingness-to-pay minus the price) and the 'supplier's share' (cost minus opportunity cost) highlights the role customers and suppliers have in the whole process of creating value. Having said that, the analysis of the market and unmet needs, characterisation of the business environment, precise segmentation of target customers, maintenance of a close relationship with suppliers, and constant monitoring of their performance, should all be embedded in the process.

To create added value, the firm needs to develop a favourable asymmetry to distinguish itself from its competitors, resulting either in buyers' increased willingness to pay for the firms' offerings relative to

those of competitors, or in suppliers' reduced opportunity costs of contracting with the firm (Brandenburger and Stuart, 1996). The firm's efforts to achieve these results constitute value-based strategies, and BMI can provide ample opportunities to pursue them. Any innovation that allows the company to deliver offerings that are more in line with customers' needs and desires should increase their (relative) willingness to pay. This is expected mainly from innovations in value proposition, value creation and value network. In turn, innovations that result in more efficient, less costly operations will increase the firm's proportion in the appropriation of value. This is more likely to be achieved with innovations in value creation, value delivery and value network. All strategies that lead to the firm's improved solidity and sustainability should represent a lower risk to its suppliers, reducing their opportunity costs accordingly.

By emphasising the whole value chain, from inbound to outbound operations, the value-based perspective acknowledges that value-based strategies are not limited to capturing financial value from product/service delivery but rather gives prominence to the whole set of activities the firm develops to create favourable asymmetries in order to capture added value.

Building upon the value-based view, and given the importance of constituting dynamics of BM in its conceptualisation, our proposed BMI framework hinges upon the five proposed BM building-blocks identified earlier, namely value creation, proposition, delivery, capture, and network, as depicted in Figure 4. In this article, we explain how each BMI element can constitute a value-based instrument that enhances value creation and value appropriation by the firm. We therefore propose a more complete and sustained framework of BMI than previously advanced models that not only incorporates the five value-based elements of BMI, but also the mutual interdependencies among the components.

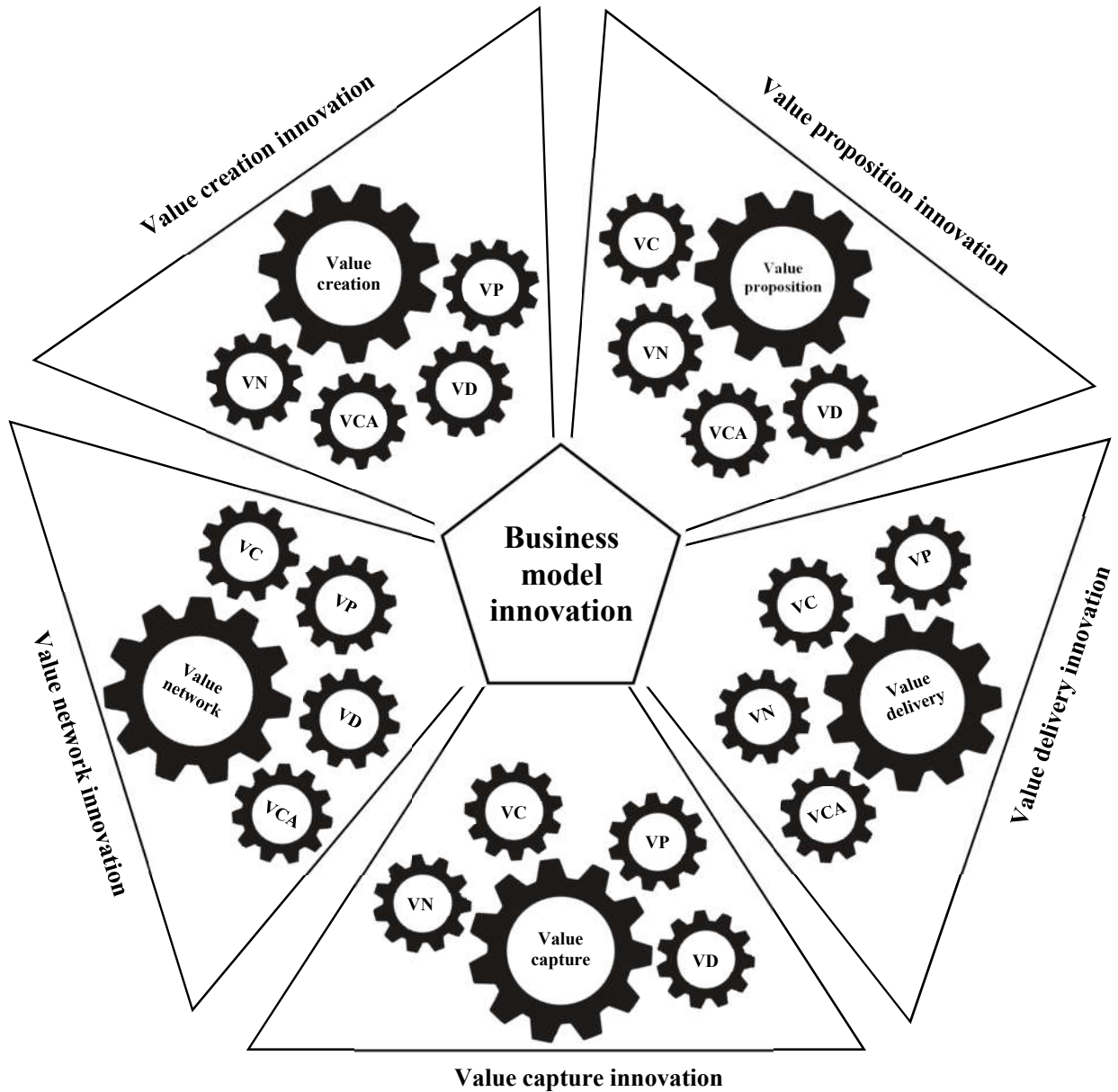


Figure 4. Value-based BMI framework (source: the author)

Notes: VC: value creation; VP: value proposition; VD: value delivery; VCA: value capture; VN: value network

By presenting each component of BMI separately, but interconnected with the other four, we mean both to represent the *configurational* or *transformational* approach of BMI (Demil and Lecocq, 2010; Gebauer et al., 2017) and to emphasise the possible incremental nature of BMI. On the other hand, it is plausible, and even likely, that a firm puts more deliberate effort into innovating a certain element of its BM.

This does not imply that other dimensions of BM will not be affected and need also change accordingly since each changing BM element is likely to impact the others (Demil and Lecocq, 2010). But this may happen to varying degrees and not always as a result of deliberate decisions. This highlights the dynamic

nature of BMI, which has remained less explored but is noted in the BMI literature (Demil and Lecocq, 2010) suggesting the notion that firm sustainability relies highly upon the dynamics of BM elements' interactions, in a way that a well-defined configuration of BM components is crucial to sustainable performance. In addition to this interactional nature of BMI components, because BMI is inherently about change, its dynamic character is even more relevant and must not be ignored.

The following paragraphs are devoted to describing each of the five elements of BMI and illustrating them with examples from notable companies. The configurational nature of BMI will also be explored by illustrating how changes in one BMI dimension may cause other elements to change as well.

### **3.1 Value creation innovation**

Since the advent of e-business and the increased competition characterised by internationalisation strategies, it has been very important for companies to adjust their internal mechanisms and infrastructural dynamics to create sustained value (Amit and Zott, 2001; Morris et al., 2005). Indeed, the critical need to address BM rather than similar concepts like a business plan, comes from its effectiveness in articulating the non-financial aspects of a firm as well. Value creation is defined as the set of activities and processes by which a firm creates value for its customers and other stakeholders (Zott et al., 2000). This dimension comprises, first what is meant by 'value', and second how can it be generated, that is, how products and services are developed and produced (Amit and Zott, 2001). New processes, capabilities, and technologies are proposed by Clauss (2017) as sub-constructs for measuring the value creation dimension of BMI. Value creation processes differentiate a firm from its competitors and to achieve greater success, they should be both effective and efficient (Matzler et al., 2013). Value can be created through the reconfiguration of key resources (human, financial, or technological), and departments' tasks (Mansfield and Fourie, 2004). Success in value creation innovation brings about sustained competitive advantages as this type of innovation is less likely to be duplicated than product innovation on the grounds that it occurs within the firm, making use of potentially unique resources and capabilities (Amit and Zott, 2001).

From the review presented above, it can be concluded that value creation innovation verges on process innovation. As such, in addition to product innovation, the value creation innovation component significantly comprises the introduction of new processes, mechanisms of production or technologies, as well as the development of any new resources, skills, or capabilities that are required. The advent of 3D printing technology has provided many appropriate examples illustrating value creation innovation. Boeing, the airline company, was one of the earliest to master this technology, using it to produce several

parts for commercial and military planes, and is actually able to build a whole cabin through 3D printing. Ford, the auto company, started using 3D printing to make the engine cover of a new car model, saving thousands of dollars and reducing the production time from four months to four days (Gilpin, 2014). This is a good example of how value creation innovations may increase the firm's added value by reducing costs with more efficient operations.

The advantage of looking at product/process innovation as value creation renewal is that it is not viewed as an isolated activity but rather an integral part of a whole that is the Business Model, drawing attention to how product/process innovation relates to all other business activities. Changing the sequence of the stages of a process is considered as a process innovation activity that can lead to time and money savings which is connected to value capture renewal. This requires a thorough knowledge of assets, capabilities, and resources and the vision to devise novel, more effective and/or efficient ways of combining them. This may entail re-assigning human resources to projects or activities where their skills and abilities may be utilized to greater benefit. Or redirecting financial resources to underfunded activities or to projects with greater potential. Therefore, to reach a better configuration of resources, an effective descriptive assessment of resource allocation is necessary. Companies that have started to introduce the M2M (machine-to-machine) mechanism are good examples illustrating how a better configuration of resources can be of value. M2M systems allow the control of machines by other machines and preclude the need to use human control. This allows the company to allocate its human resources to more challenging and fruitful activities.

Value creation innovation relies heavily on the ability to read the market and have the capability to respond swiftly with valued offerings with greater potential to increase customers' willingness to pay. Smaller firms' flexibility can sometimes put them in advantage. This is the case of OPPO Electronics (Kastrenakes, 2013) an unknown Chinese company that achieved a remarkable global market share in smartphones (7.5%, compared with Apple's 14.7% - IDC, 2017) by introducing a low-priced rotating camera smartphone. This allows users to take the same high-quality pictures from the back and front of the phone (for those popular selfies), precluding the need to install a second high-quality selfie camera that would considerably increase the price.

### **3.2 Value proposition innovation**

It is straightforward to say that, for a firm to obtain sustained profits, it must offer something attractive to its customers and that increases their willingness to pay. The value proposition element is about the firm's offerings (products and services) introduced either to approach its customers' problems or to

satisfy their needs (Osterwalder and Pigneur, 2010), as well as the intangible benefits associated with those product and services, of a more symbolic nature (Lusch and Webster Jr, 2011), such as brand, image and reputation. Value propositions can be new, or already existing in the market. Accordingly, value proposition innovation can be implemented by (1) introducing completely new offerings, (2) improving, adjusting or amplifying the existing offerings, or (3) changing the products' symbolic associations. Amazon is a vivid example of a company making the best use of the first two modes of value proposition innovations. It was pioneering by launching an online sales platform, initially selling only books. After a while, they introduced a new service, allowing users to sell their second-hand books to other users. Later, the same online sales platform was developed to diversify the range of offerings to music streaming, electronic devices, video games, groceries, apparel, furniture, and so on (Stone, 2013).

The determining factors of new value propositions are identified in the literature, mainly concentrated on marketing aspects, such as design, price, convenience/usability, accessibility, brand, and the like. Flexibility in adjusting the offerings to suit different customer segments is also critical to reaching as many customers as possible. Dunkin' Donuts (coffee and baked goods chain) is a good illustrating example. Serving international markets, they have grasped cultural differences, offering unique place-based products, such as Grapefruit Coolata in South Korea, Mango Chocolate Donut in Lebanon, and Dunclairs in Russia (Fleishman, 2015). Customisation takes this to the single customer level, and can be key to value proposition. The ability to change the existing products/services in order to suit the specific needs of particular customers is increasingly demanded by customers and made possible by technology. Suitable examples of customisation can be found in the apparel and accessories industry, where companies try to access as many customers as possible by offering customised products based on their individual preferences. As an example, Teespring<sup>1</sup> provides online self-design platforms letting users design their own T-shirts. Its advertising slogans – 'Find something made for you'; 'Every product, made for you' – clearly convey the company's desire to involve users in the co-creation of value proposition.

The rebranding of the aftershave Old Spice is a good example of innovating the value proposition by changing the symbolic associations of the product. An innovative and successful advertising campaign, based on humour with an NFL player, was used to break away from the image of a cheap product for the older generation and rebranding it instead as a new 'sexy, surprising, fun, and youthful' line (DeMers, 2016). Vodafone's takeover of Eircell (former Irish mobile cellular network provider) highlights brand value and shows how its loss was minimised by adopting a temporary double-brand strategy. Rather than dropping the notorious Eircell brand straight away, the composite 'Eircell-Vodafone' was chosen as the

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<sup>1</sup> Source: <https://teespring.com>



new brand, and only after about a year was the brand changed gently to Vodafone. This allowed the customers to get used to the Vodafone brand while associating it with Eircell's positive image (Daly and Moloney, 2004).

### **3.3 Value delivery innovation**

Value delivery innovation relates to new or improved ways of reaching customers. This includes innovations in communicating with customers and in handing over the firm's offerings by gaining access to different distribution channels. Having created an offering with value to a specific market, the next challenge is how to deliver it to customers in a more effective, profitable way. Viewing customers as 'the heart of any business model' (Osterwalder and Pigneur, 2010, p. 20), it is of essential importance to provide them with the ordered product/service punctually and effectively, so the effort devoted in previous stages (i.e., value creation and value proposition) will not be in vain.

Three important factors cited by scholars in delivering value are distribution channels (Chesbrough, 2007; Stamoulis et al., 2002), customer relationship management (CRM) practices (Demil and Lecocq, 2010; Osterwalder and Pigneur, 2010) and customer interface (Osterwalder et al., 2005; Shafer et al., 2005). In addition to making the offerings physically reach customers and directing practices that promote customer loyalty (Osterwalder and Pigneur, 2010), it is also essential to ensure communication with customers, both to provide after-sales services and to obtain useful feedback that allows the company to further improve its offerings and discover more appropriate delivery channels (Teece, 2010).

Other authors (Rayna and Striukova, 2016) consider communication as a separate BM dimension. But communicating with customers is the most important means of reaching them. To make customers aware of and interested in their offerings, companies must first and foremost communicate their value proposition (Teece, 2010). In fact, communicating with customers may be pivotal to developing the value proposition itself (Dawson, 2007) in such a way as to maximise customers' willingness to pay. In addition, part (if not all) of the value proposition is based on information and messages that convey to customers, not only the offerings' characteristics and advantages, but also its symbolic associations. The case of Old Spice described above illustrates this perfectly: although this is a physical product, the innovation described affected only the communication of the value proposition, allowing the firm to reach new customers with the same product. Besides, as the service economy gains pace, what some firms deliver to customers consists solely of communication and information. Such are the cases of Dropbox and Applause, presented ahead. Communicating with customers is, therefore, central to value delivery,

allowing for the definition and improvement of the value proposition, as well as to its presentation to customers.

The advent of e-shopping is the classic case to illustrate this element of BMI. Internet-based selling systems have helped lots of companies reach a broader range of customers around the world at diminutive costs. Online-based companies have attained great success after launching their online deals platforms. The apparel industry has been affected considerably by customers' online purchase behaviours, particularly in recent years. Other retail sectors have also been greatly affected, with some well-established companies, like department store J. C. Penney, replacing some (or all) of their bricks-and-mortar stores with online operations (Thau, 2017). Some chains, who have not adapted enough, have actually closed down altogether, as was the case of Woolworths in the UK (May, 2009). Using online channels has the added advantage of facilitating communication with customers, especially in obtaining customer feedback that enables effective promotion strategies and improvements to the value proposition (Teece, 2010). Amazon is well known for this.

Package-pickup service is another triumph of value delivery innovation, illustrating both a strategy that may raise customers' willingness to pay through greater convenience, and a strategy to reduce costs and increase added value. Take PostNord<sup>1</sup>, the Swedish postal company, as an example. Their practical service, called 'PostNord MyPack Collect' provides customers with about 6000 shops in the Nordic region as pick-up points. This service is of major advantage for the sender, the recipient, and the shop (parcel pick-up place). First, the sender avoids extra shipment costs caused by second or more return trips in case the recipient is not at home. Secondly, the recipient does not have to stay home waiting for the parcel to be delivered. Thirdly, the shop is given the opportunity to have new customers at their shop who might also buy their own products. This system has become ever more popular among online retailers. Well-established sellers of apparel such as LaRedoute, Mango, Zara, and Springfield take advantage of the possibility of selling their products online and using physical stores as pick-up points to their online stores.

A variety of BM scholars emphasise mapping proper customer segments as an important aspect of value delivery innovation. The goal here is, not only to ensure the best fit between offerings and customers, but also to maximise the firm's added value by reaching customers with the highest willingness to pay. This implies being able to control the appropriate distribution channels. Morris et al. (2005) assert that it is essential for a firm to take into consideration the optimum form of value delivery [i.e., business-to-business (B2B), business-to-customer (B2C), or both]; the specification of the targeted

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<sup>1</sup> Source: <http://www.postnord.se/en>

geographic market area, i.e., local, national, or overseas; and customer position in the value chain. Dell Inc. is well-known for building distinct supply chains, each focused on certain customer segments, yet taking advantage of synergies created by the effective configuration of its different supply chains (Simchi-Levi et al., 2013). Another great example of particularly innovative value delivery is the case of the Inditex Group (Spanish clothing and fashion group) which delivers its products to separate segments of customers through its corporate-owned subsidiaries, including Zara (general clothing for men, women, and kids), Zara Home (home and decoration textile), Pull & Bear (casual wears for teenagers), Bershka (clothing for fashion-conscious teenagers), Massimo Dutti (urban styles for men and women), Stradivarius (casual wears for young women), Oysho (lingerie, and beachwear for women), and Uterqüe (accessories and leatherwear for women) (Inditex-Group, 2017).

### **3.4 Value capture innovation**

Financial aspects have always been central in measuring firms' organisational performance. That is the grounds for assigning a whole building block of BM to the economic model of a firm (Chesbrough, 2007, Teece, 2010). Generally speaking, the value capture element entails the way a firm makes money by appropriating its share of value creation. The sources of revenue are a focal point in defining this component of BM. However, profit maximisation can also be achieved by reducing costs. Therefore, an evaluation of the fixed and variable costs of value creation, proposition, and delivery is embedded in the value capture element. That is to say, this element of BM is directly influenced by the other elements. Value capture innovation therefore means the practices of ensuring profit growth by changing the balance of revenue and costs. Apart from the internal reallocation of funds, this can be achieved by either finding new sources of revenue and investment through creating new ways of monetising the business and attracting potential investors and financial supporters, or by decreasing the costs of creating, proposing, and delivering value (Osterwalder and Pigneur, 2010).

Internal reallocation of funds can be illustrated by the above-mentioned shift of retailers from bricks-and-mortar stores to selling online. By divesting from physical shops, they can channel these funds into the online business, or otherwise to reinforce investment in new business areas. While closing over 130 apparel stores, J.C. Penney is opening 100 new home appliance showrooms and extending into home services (Thau, 2017).

Considering the revenue and cost structures as the two main factors in capturing value, there are other sub-dimensions affecting the cost-revenue balance. Price strategy, for instance, plays an important role in as much as it allows the firm to push the price as close as possible to customers' willingness to

pay without losing sales. This may entail segmenting customers according to their willingness to pay. One innovative pricing strategy that has become a growing trend is what has become known as 'freemium' (Kumar, 2014), that is, combining the offer of free products (usually more basic versions) with premium products, where customers are charged for better versions with extra and more advanced functionalities or services. Dropbox, the cloud storage platform, is a case in point: they offer a free limited storage plan and customers can upgrade to extra storage and file-sharing functionalities by paying a subscription fee (Kumar, 2014). Nespresso is another classic example of employing an effective price strategy, where the profit is made on a wide and varied selection of coffee capsules while selling coffee machines at low prices (Matzler et al., 2013). Adopting this 'razors-and-blades' price strategy, Nespresso persuades people into buying the low-priced coffee machines that will only work with their premium-priced coffee capsules with different flavours, which is where they make large profits.

As for access to capital, crowd-funding has become an alternative way of financing start-up projects, and platforms like Kickstarter and Indiegogo (Barnett, 2013) have been created to connect entrepreneurs with business ideas to great numbers of small investors that are willing to risk small amounts of capital to back a project they find promising. A similar way of raising funds is used by the non-profit organisation Kiva, that provides microcredit loans to (mostly) developing country borrowers by having more affluent lenders contribute as little as 25 dollars (Kiva, 2017).

On the side of cost savings, any number of efficiency improvements can contribute. According to Osterwalder and Pigneur (2010), some companies perform under cost-driven BMs, paying close attention to the sources of costs and trying to minimise them by using low-cost resources, automatic mechanisms, and outsourcing. Online order processing systems and fast turnover of stock are the other features of cost-driven BMs. IKEA saves millions by making their products ready-to-assemble. Passing on to customers the assembling activities enables IKEA to keep more stock in its self-service warehouses and consequently reduce the inventory costs, effectively transferring to customers part of the costs of the value created along the whole vertical chain. This way of streamlining costs by simplifying or reducing the company's offer to its essentials is a value capture innovation strategy common to most low-cost configurations. Of course, any process, organisational or sourcing innovation that secures greater efficiency may eventually lead to cost savings. As an example, some companies promote the use of automated solutions to increase the production speed, improve the accuracy of manufacturing processes, and consequently boost products' quality, and cut labour costs, which all result in considerable cost reductions.

### 3.5 Value network innovation

BM scholars generally regard the value network as a sub-factor of a specific element of BM (e.g., Clauss, 2017; Ghezzi et al., 2015; Richter, 2013). However, inter-firm relations is seen as a foundation of the value-based approach (Chatain and Mindruta, 2017). The importance of inter-organisational collaboration strategies in gaining competitive advantages is widely acknowledged in the business literature. The ability of firms to create value and innovate is highly dependent on their capacity to manage a complex network of partnerships (Dagnino and Padula, 2002; Dellyana et al., 2016). As information and knowledge become key sources of competitive advantage and IT becomes pervasive, the boundaries of the firm are much more permeable and its performance less self-contained (Lusch and Webster Jr, 2011) and indeed less self-constrained. In fact, more and more innovation seems to come from the ability of different firms to come together to combine and recombine their specific resources and capabilities into common projects to 'co-create value' for customers and other stakeholders (Lusch and Webster Jr, 2011, p. 132).

BMI must not be restricted to internal processes. New ways of doing business can be based on new forms and structures configured around a network of partners that share activities and resources along a value-chain (Dellyana et al., 2016). If the company's BM is not open enough to embrace inter-organisational relationships with external parties, it may fail to exploit the more efficient operational configurations that lead to greater added value and to explore new market opportunities with offerings for which customers are more willing to pay. Effective networks and valuable partnerships facilitate the transmission of information to the company encouraging the exploration of external, upcoming opportunities. Likewise, the support from suppliers and other partners may be pivotal in exploring new opportunities in foreign markets (Freeman et al., 2006). The dynamics within such networks produce value-creating innovation, meriting specific attention.

The Spanish apparel company Zara is a case in point as it owes much of its success to its agile and flexible supply-chain that pivots around a tightly knit global network of contractors, contributing with design, manufacture and retail in a most cost-effective and responsive manner (Christopher and Lee, 2004). As highlighted by Christopher and Lee (2004), this is only possible because the necessary levels of transparency and control are granted to the relevant member of the network, through accurate and timely information-sharing, thus ensuring confidence in the supply chain.

We therefore postulate the value network as a separate element of BM, pertaining to the way a firm adopts its position within the network of partners, including suppliers, distributors, stakeholders, and the other business partners. BMI will therefore include new arrangements in the network (extending or reducing the number of partners and rearranging the established relationships) and new ways of

collaborating and communicating with partners (Chesbrough and Rosenbloom, 2002; Morris et al., 2005).

Making changes in both the structure and arrangements of the network of partners is key to creating and sustaining competitive advantages. Ending unproductive or even damaging relationships, and in turn building up new partnerships with more appealing players in the market, can save a company from bankruptcy. A good illustrating example can be seen in the case of the Nokia-Microsoft alliance. Crashing from the UK second super brand in 2002 to 89th in 2010 (MacIntosh and Maclean, 2014), Nokia was operating on the razor's edge due to the fierce competition with emerging players in the low-cost segment as well as high-end leaders such as Apple. Hence, the CEO found a way out by prioritising its relationship with Microsoft as a particularly beneficial partner, making it possible for Nokia to introduce their own new smartphones featuring Microsoft software.

The partnership between Wal-Mart and Procter & Gamble (Kumar, 1996) illustrates innovations in how partners collaborate that result in increased value for both partners and for the customers. They transformed their tense customer-supplier relationship into a valuable partnership as they started sharing real-time data on sales, inventory and prices by using an electronic-data-interchange system. This allowed them to anticipate sales and automatically manage orders. The system covers the entire order-to-delivery cycle, with invoicing and transfer of funds also processed electronically, greatly reducing costs for both parties (of inventory, human error, admin operations, stock-outs, etc.) and ensuring product availability to customers.

All of these examples highlight also that commitment to partnerships is predicated on interdependence and trust (Dagnino and Padula, 2002; Geyskens et al., 1996; Kumar, 1996). In line with stakeholder theory (Jones, 1995), mere opportunism will not secure inter-firm collaborative efforts. Instead, a genuine commitment to long-term relationships based on mutual trust and cooperation (Jones, 1995) are key to the success of this element of BMI, with direct impact on suppliers' opportunity costs and overall value creation. Thus, when considering value network innovation, firms must not only build trust with their partners, but also take care not to jeopardise future collaborations by damaging trusting relationships.

### **3.6 Interdependencies among BMI elements**

Commonly argued by scholars, investigating the relationships between BM elements is of equal importance to identifying them (Santos et al., 2009). As with BM, studying BMI elements while ignoring the interdependencies would be a real loss, as emphasised in the literature: "Understanding how the

elements of BMI relate and how they create value are critical as an organization adapts or changes its BM" (Giesen et al., 2010, p. 21). Even in cases where BMI is implemented by making changes in only one element of the BM, other elements change inevitably (Sorescu et al., 2011). As acknowledged by recent research: "changes in one dimension are likely to cause the need for alignment in further dimensions of a firm's business model" (Spieth and Schneider, 2016, p. 682). Building upon the 'fit theory', scholars have commonly held that a BM is not about a set of constituents working in an independent manner, but rather, how these elements *fit* together to produce synergy and added value (Sorescu et al., 2011). It is therefore an effective alignment and interaction among the components that make a BM more successful than others. This provides grounds for the application of the 'configurational approach' to studying BMI as it takes into detailed consideration both the interplays between several attributes of a construct and holistic essence of organisational concepts (Meyer et al., 1993).

In the process of implementing BMI, where change is the defining factor as alterations are introduced to one or more components of the BM, the dynamic nature of this process comes to the forefront. The BM configuration is inevitably affected as BMI practices disturb acquired balances, especially when only some components are changed. This must be addressed in time to re-establish the required fit. On the other hand, BMI may contribute for a better fit among previously poorly adjusted BM dimensions. BMI is therefore an iterative process that requires time for internal consistency to be reached, even if the required response to the market is swifter.

Reviewing the BMI literature reveals the two main approaches used for describing the change process. First, the static approach focuses more on the change processes in the BMI elements in isolation, and second, the dynamic approach gives more weight to the interplay between the elements throughout the change implementation process (Demil and Lecocq, 2010). The latter approach is consistent with certain classifications of BM provided by previous studies (e.g., Frankenberger et al., 2013), that contradict the analysis of BM-related factors in isolation. Favouring the configurational approach, we follow the dynamic view and stress the interdependencies among BMI elements.

Evidence of the interactional effect among BMI elements can be glimpsed through some of the examples already provided in this article. Freemium pricing strategy as an innovative value capture alternative requires firms to adjust their product lines (value proposition) accordingly. In the case of PostNord, it's clear that value delivery and value network are inextricably linked. The company uses its network of partners (shops as pick-up points) to deliver parcels to customers. And Ford's example demonstrates how value creation innovation (in this case, introducing 3D printing) can impact other BMI dimensions, namely in this instance, value capture, as the new technology led to important cost savings.

Indeed, value capture benefits, in the form of increased revenue and cost savings, will be the underlying desired goal of most BMI initiatives.

The case of Applause App Quality, Inc.<sup>1</sup> provides a good example to thoroughly illustrate BMI interdependence. This web-based company provides software developers with technical feedback on their websites and mobile apps, including digital testing, usability feedback and human user experience feedback. Applause has built a global network of expert users (they announce more than 300,000 members as of 2017) that feed their databases and testing tools as well as providing market insights. Continuous testing, debugging and upgrading are essential in software development practices. They are much enhanced by the intense use afforded by extended networks. So, this service is of high value for the developers who are willing to pay for the service (from individual developers to huge tech companies). And it is also of value for the testing community (suppliers) that see their opportunity costs reduced: Applause provides training and encourages interaction among community members, making it more worthwhile for them to work with Applause than on their own. So, the company offers a new high-value proposition that itself relies on network value innovation, as the service provided is only possible because of the extended network of expert users they engage. They use the reviews, likes, and dislikes made by the users on the testers' reports to recruit new software expert members and extend the network. This value proposition based on value network relies also on an innovative value creation approach, as Applause has mastered the technology that enables any web-browser, any device on any operating system to become a part of the testing network. The company also has the capability of processing the information gathered to serve each customers' needs, further refining its value proposition. Value capture is also innovative as Applause generates revenue from aggregating the collective contribution of a globally dispersed community of software expert users and delivering it to software providers. The testing community members are paid for input that is approved by Applause customers (with a bonus for high-value input). This is important to attract a truly global and widespread network of expert testers, while making it financially sustainable for Applause and its customers to afford the service. Finally, value delivery initiatives as the services (testing results, user reports, market insights and customer support) are all provided online, maximising the delivery speed and responsiveness, which is part of what customers appreciate in the service (thus linking value delivery with value proposition).

Applause's example illustrates how the various components of the business model are intertwined and innovation on one component depends on innovation on all other components so that the whole configuration is consistent and works together.

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<sup>1</sup> Source: <https://www.applause.com>



## 4 Conclusions

Responding to recent calls for BMI elements specification (Foss and Saebi, 2017; Gebauer et al., 2017), and taking the value-based view, we propose a conceptual framework identifying five value-based interdependent elements for the BMI construct.

As indicated clearly in the literature, BMI elements identification is essential to approach the definition and conceptualisation of the concept itself: "the identification of business model innovation's relevant elements potentially leads to a better understanding of what business model innovation might imply" (Schneider and Spieth, 2013, p. 23). To clarify how companies can innovate their BMs along these elements is a way to figure out what is BMI and how it works. The primary contribution of this study lies, therefore, in the identification of a set of value-based BMI elements: value creation innovation (new ways of creating value), value proposition innovation (new bundle of products/services), value delivery innovation (new ways of reaching the customer), value capture innovation (new ways of customising the costs-revenue balance to maximise profits), and value network innovation (new ways to partnership working). We detail each of these dimensions and illustrate them with examples of real-life companies.

We also argue for, and illustrate, the configurational nature of BMI, highlighting and exemplifying the interdependencies among the different elements. We stress the dynamic nature of BMI, whereby inevitably, the changes in one BMI element entail changes in others, in a process that may be iterative and likely prolonged in time.

Finally, we conclude with some suggestions for future research on BMI. As an emerging area, many avenues for development are available. First and foremost, empirical studies are needed to investigate the applicability of the proposed framework. The importance and validity of the factors determining each element of BMI and how they interact require empirical confirmation, both via quantitative measures and with qualitative studies that help enlighten more specific details. A related area of research involves studying both BM and BMI typologies and taxonomies (see, for example, Baden-Fuller and Mangematin, 2013; Groth and Nielsen, 2015). The configurational nature of BMI, and indeed of BM, is still unexplored and the interactional effects among dimensions merit further theoretical examination and empirical testing. In the case of BMI, this requires analysing the dynamic nature of the innovation process, which seems another important avenue of research. In order to provide practical guidance to practitioners, other aspects seem relevant, such as determining factors that influence the success of BMI. The competitive environment as well as other external and internal relevant circumstances, including firm characteristics and capability profile, provide several possible variables to study. This may assist

managers in considering how best to innovate the BM of their own particular company, identifying priorities and concentrating their efforts towards specific BMI dimensions, while not neglecting interactions and repercussions on the whole system.

### III. Essay 2

## Dynamic capabilities that enable firms to survive strategic crises: Lessons from the Portuguese Textile and Clothing Industry

### 1 Introduction

Influenced dramatically by the financial crisis and the European sovereign debt crisis, many European industries are now struggling with the 'new international division of labour' (NIDL) that compels the shift of manufacturing to lower labour cost countries. These decisive global challenges underline the need to investigate why some firms can *survive* such crises while many others fail. Grounded in this narrative, 'survival' can be regarded as a period of the firm's growth and change over time, where it faces a crisis and stiff competition. This view is different from and broader than the one that defines the concept of 'business survival' as the second stage of the firm's lifespan, after birth and before success, where it has obtained certain customers having their demanded products or services delivered (Lewis and Churchill, 1983).

Survival is of essential significance for the firm since a desirable performance over the critical period enables eventual survival and success, whilst a poor performance precipitates failure and shutdown (Box, 2008, Naidoo, 2010, Korunka et al., 2010). Although the literature is well developed on the structural determinants of firm survival – mostly related to firm age and size –, less is known about certain *capabilities* the firm needs to develop in order to compensate for the resource scarcity and financial restrictions caused by a crisis or other environmental disruptions. This reinforces the need to provide a more detailed clarification of the concept of 'business survival' and explore the *capabilities* that are vital to the survival of firms in times of struggle.

One of the industries worth analysing in the context of business survival is the Portuguese textile and clothing (T&C) industry. After joining the European Communities in 1986, Portugal experienced a large current account deficit in the late 1980s and early 1990s, which led to a decrease in investment and an increase in private saving. Manufacturing industries were particularly negatively affected by this crisis for a lack of investment in new technologies (Blanchard, 2007). After the termination of the Agreement on Textiles and Clothing (ATC) by the World Trade Organisation (WTO) in 2005, that led to the entrance of low-cost producers from low-wage countries to the Europe's textiles, the Portuguese T&C industry – that

has also survived the financial and European debt crises – is struggling to keep the production localised and pursue a product differentiation strategy (Eiriz et al., 2017; Fernandes, 2017). Portuguese T&C companies are now facing stiff competition from two sides. On the one side, major international clothing-retail corporations (e.g., H&M, C&A, and Primark) who mainly adopt the cost-leadership strategy; and on the other side, various brands of the large, old established textile manufacturer, the Inditex Group, who have adopted a spatial division of labour, transferring a considerable portion of the manufacturing functions to certain low-wage countries. Although the booming sales figures of these retail and manufacturing companies reinforced the idea of overseas manufacturing, Portuguese T&C companies that survived are those that actually kept producing domestically. The success of the Portuguese T&C industry in maintaining domestic production has led to a significant rise in this industry's share of value added in Portugal's manufacturing sector from 10.52% in 2008 to 15.19% in 2016 (The World Bank, 2017). Given the success of the Portuguese T&C industry in maintaining domestic manufacturing, our research tries to address the question of what are the capabilities upon which the Portuguese companies drew to survive in times of crises and external disruptions.

Understanding the capabilities that successful Portuguese T&C companies develop in order to survive is important for theoretical and practical applications. From a theoretical perspective, it may help revitalise research on business survival from a viewpoint other than that of the firm's life-cycle. The shift of focus towards external disruptive changes emanating from globalisation allows the identification of capabilities by which the firm can survive such disturbances. These capabilities, by nature, are not restricted to a specific cohort of firms that exist in a particular stage of the life-cycle, but rather apply to any enterprise that faces a disruptive external challenge. In practical terms, the owner/managers of such enterprises can draw on the lessons learnt from the success story of companies that survive crises, and focus their efforts on developing the required capabilities.

To underpin the research findings from data analysis and frame the interpretation of results, we apply the *dynamic capabilities* view of the firm. This perspective is well-suited for our research on the grounds that it tries to grapple with the question of why some firms thrive in highly volatile environments and aims therefore to identify the key determinants of long-term business survival (Wilden et al., 2016). To do so, it takes special account of the role of the 'external environment' in determining the durability of firms over time (Ambrosini and Bowman, 2009). As explicitly and forcefully stressed by scholars, the dynamic capabilities perspective focuses on how a firm can create future precious resources or refresh the current ones in order to better respond to environmental variations (Teece et al., 1997, Wang and Ahmed, 2007). Another basic premise of this perspective that makes it appropriate for our research is the notion that

resources leading to sustainable competitive advantages are only those that are valuable, rare, imperfectly imitable, and non-substitutable (VRIN) (Ambrosini and Bowman, 2009; Eisenhardt and Martin, 2000). Resting on the notion that firms need to focus more on capabilities (the ability or qualities required to survive) than resources (the supply of physical assets a firm owns) in order to better respond to external changes (Zhang et al., 2009), we therefore confine our research to identifying dynamic capabilities that obey the VRIN criteria.

This essay is organised as follows. First, a review of the theories on the concepts of business survival and dynamic capabilities is presented. Then, the findings of the literature review are summarised in a Table that provides an initial set of dynamic capabilities to be investigated. The next section describes the research methods followed in the empirical study that lead to the proposal of a research framework derived from the data analysis. Next, we provide a discussion of the findings with a synthesis of previous research followed by practical implications for Portuguese T&C companies. This essay ends by identifying some research limitations and future directions for this line of research.

## **2 Theoretical background**

In this section, we first discuss the concept of business survival and review the studies that, often implicitly, identify capabilities by which a firm can cope with external disruptive changes. Acknowledging the view that the most effective way to define and conceptualise an organisational capability hinges upon the research question and empirical setting (Argote, 2012), we adopt the definitions that have been developed by reference to the textile manufacturing industry and dynamic capabilities perspective.

### **2.1 Business survival**

The literature on business survival is considerably devoted to studies built upon the organisational life-cycle theory (Lewis and Churchill, 1983; Lester et al., 2003; Dunn and Cheatham, 1993). The mainstream arguments in the literature thereby fail to recognise survival as an attempt to withstand disturbances caused by a crisis, globalisation or other environmental shocks. A substantial body of research overlooks the fact that firm survival might be the case for any stage of the life-cycle. That being said, a mature, full-grown business undergoes the same external shocks as a start-up and the notion of survival therefore applies to both cases regardless of their current growth phase. Such an appreciation of firm survivorship is consistent with the finance literature, according to which, the survival of an organisation is the probability it keeps on operating longer than a given amount of time after an event

(e.g., crisis) (Evrensel, 2008). In this definition, firm age or size is not of interest to the study. This explains why firm age and size are not controlled in our survival analysis.

In fact, survival and failure are the two sides of the coin in each growth stage and the shift to the next stage of growth, therefore, signifies survival in the previous stage. This conception of firm survival is especially useful for our research as the suggested survival capabilities are not supposed to be restricted to a specific subset of the enterprise lifespan. Following this critique, we define business survival as the firm's ability to withstand environmental disruptive changes that threaten its existence and growth. This definition ties in with a stream of literature holding that a firm survives when it carries on operating in the same industry handling turbulent market situations and stiff competition, while the alternative is to discontinue and exit (Banbury and Mitchell, 1995; Korunka et al., 2010; Li et al., 2010).

As outlined in the literature, to survive, a firm must achieve a number of objectives that distinguish a surviving firm from non-survivors. First and foremost, a survivor retains the main source of value, i.e., customers (Yu et al., 2014). Customer retention strategies, even when extravagant in the short-run, can bring sustainable competitive advantages in the long-term (Chaston et al., 2001). Profitability is another essential quality of a survivor. Those who can maintain sources of revenue are more likely to counteract external disruptive changes and recover from the crisis. The ability to read the situation and learn from the changing environment is another key task the companies competing on the edge should never fail to perform (Eisenhardt and Brown, 1998). Finally, it is undeniable that real survivors are those who develop critical capabilities which enable them to achieve the best reaction in times of radical external shock. The following paragraphs are devoted to pointing out several firm survival capabilities.

## **2.2 Dynamic capabilities**

The dynamic capabilities view of the firm is recognised as an extension of the resource-based view (RBV) (Teece et al., 1997). RBV focuses on the achievement of competitive advantages *within* the firm, while the dynamic capabilities view puts emphasis on the role of the external environment (Helfat et al., 2009). Given the within-firm focus of RBV, resources are of special concern. RBV scholars argue that the achievement of sustainable competitive advantages is a result of developing resources that are valuable, rare, inimitable, and non-substitutable (i.e., VRIN criteria) (Eisenhardt and Martin, 2000). This view however is not able to account for the reasons why some firms fail to compete in dynamic markets even though developing VRIN resources. The dynamic capabilities view of the firm, instead, highlights solutions for firms' immediate reaction to unexpected changes in the environment (Ambrosini and Bowman, 2009). In other words, while RBV dwells on the development of VRIN resources, the dynamic capabilities view

stresses on the reconfiguration of resources for the sake of adapting to or even creating market changes (Eisenhardt and Martin, 2000). Teece et al. (1997) put forward the dynamic capabilities view as an alternative to the competitive forces approach (Porter, 1980), the strategic conflict approach (Shapiro, 1989), and the RBV. The dynamic capabilities view has been recognised ever since as a relevant tool to understanding the newer sources of competitive advantage in changing environments.

According to one of the original definitions, a dynamic capability is “the firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments” (Teece et al., 1997, p. 516). The two principles embedded in this definition that were missing in the standard RBV, are the reconfiguration of resources and environmental changes. In fact, the focus here is on the dynamic nature of the environment and the way the firm adapts, integrates, and reconfigures its assets, resources, and competencies according to the changing environment (Teece and Pisano, 1994). In line with Teece et al. (1997), the term ‘dynamic’ indicates the firm’s capacity to renew the resource base to better adapt to the changing environment and the term ‘capabilities’ highlights the role of strategic management in achieving and sustaining competitive advantages. A capability here is defined as the firm’s ability to achieve a planned outcome by using tangible and intangible assets to perform a set of tasks (Tyler, 2001).

Different dynamic capabilities are recognised in the literature. The work of Collis (1994) is perhaps the earliest one identifying different orders of dynamic capabilities. While first-order dynamic capabilities are those that enable the firm to create its resource base, second-order dynamic capabilities focus on modifying it, i.e. adding new resources, disposing of the useless ones, changing the priority of resources, etc. Additionally, there are higher-order capabilities that Collis calls meta-capabilities or learn-to-learn capabilities. These capabilities enable the firm to renew its current capabilities by learning from experience. Extending Collis’ work, Ambrosini et al. (2009) introduce three levels of dynamic capabilities in terms of incremental, renewing, and regenerative dynamic capabilities. Incremental dynamic capabilities are gentle modifications to the firm’s resource base that are useful for organisations in environments where the pace of change is slow. Incremental dynamic capabilities are continuous improvements and small adjustments in the resource base that entail no major alteration in the structure of resources. In contrast, renewing dynamic capabilities are employed to produce major changes in the stock of resources of firms competing in unstable, highly turbulent environments. Major decisions such as mergers and acquisitions require the employment of renewing dynamic capabilities. In a higher level, regenerative dynamic capabilities are those employed to renew the renewing dynamic capabilities. These capabilities are of use in situations where the firm faces a turbulent environment and renewing dynamic

capabilities fail to appropriately change the resource base. As a result, managers decide to adopt new ways of developing and reconfiguring resources. In a different manner, Eisenhardt and Martin (2000) identify five kinds of dynamic capabilities: I) those that integrate resources to achieve competitive advantages, for example, strategic decision making through integrating current knowledge-based resources); (II) those that reconfigure (copy, transfer, or recombine) resources within the firm, for example, creating new products by knowledge brokering from previous products; (III) those that enable the firm to acquire and accumulate new knowledge within the firm; (IV) those that bring new resources into the firm from external sources through alliances or acquisitions; and finally (V) those that allow the firm to dispose of resources that no longer provide competitive advantages. Various examples of dynamic capabilities are provided in the studies reviewed above, for example, product development or strategic decision making by Eisenhardt and Martin (2000). In the following paragraphs, we review six dynamic capabilities that, based on the literature, enable firms to survive strategic crises.

### 2.2.1 Product development

It is evidently recognised that a firm in a critical condition needs to keep generating revenue to secure the financial capital necessary for investments that allow the firm to counter the effects of environmental disruptions (Cooper et al., 1994). Poor sales performance is reported as one of the pre-exit characteristics of firms (Li et al., 2010). The assumption that revenue generation is a function of product and market (Greiner, 1998) reinforce the notion that enterprises with better product development and marketing capabilities are more likely to survive from external stresses and pressures. This subscribes to a line of research highlighting the role of new product development upon firm survival: “new product introduction is vital to a firm’s survival and growth” (Başog et al., 2012, p. 93). Through product development, as a dynamic capability, managers are able to actively integrate resources, and their skills and experiences in order to better produce and, in consequence, generate revenue (Eisenhardt and Martin, 2000). Commercial success is to a large degree dependent on product superiority (Cooper and Kleinschmidt, 1986). The rapid and continual introduction of new products can be key to success in meeting environmental challenges (Deeds et al., 2000). Indeed, companies who outrival their competitors in introducing new products capture a greater market share, making dissolution much less likely (Banbury and Mitchell, 1995). In particular, a strand of research focuses on the different stages of the new product development *process* to better explain the successful new product program (Cooper and Kleinschmidt, 1986). Cooper (1990)'s Stage-gate approach is widely followed, decomposing the new product development process into different stages that can be condensed into idea generation, screening and



assessment, prototyping, technical and customer testing, and market launch. A strong product development capability is therefore a function of the fulfilment of each of these stages.

### 2.2.2 Marketing

Marketing capability is considered important for firms facing threats to their survival as it enables the effective transformation of input resources into desired financial outputs (Li et al., 2010). This capability is highlighted in firm survival literature and scholars draw upon the 4 Ps of the marketing mix to echo the view that excellence in product, pricing, promotion, and placement strategies increase the chances of surviving in an economic downturn (Naidoo, 2010). That is, making improvements on different features of the bundle of products in terms of design, quality, brand, packaging, price, and after-sales services has the potential to keep the company attractive to its customers and counter the effects of environmental disruptive changes. The customer has gained a central role in the marketing discipline, given the fact that “to survive in the future, every business will have to be customer-focused” (Webster Jr, 1994). This has led to a shift of attention from the producer’s 4 Ps to the customer’s 4 Cs (customer solution, customer cost, convenience, and communication) (Kotler, 1999), and the survival literature has directed the marketing capability focus towards customers’ needs and demands which determine the *marketing sense* (Yu et al., 2014). In line with Chaston et al. (2001), a more frequent communication with customers improves the survivability of firms who encounter a volatile environment and/or intense competition. Accordingly, the key to survive includes paying attention to the questions of what customers want and need, how much they are willing to pay for the offerings, how convenient it is for the customers to buy from the company, and how often the company interacts with its customers.

### 2.2.3 Corporate foresight

Another determining factor of firm continuity (Heiko et al., 2010; Rohrbeck, 2012) is the ability to analyse current trends of the market, detect signals of future environmental changes, anticipate possible new trends, and develop long-term strategies to better grasp future opportunities and mitigate threats (Rohrbeck, 2012; Battistella, 2014). This capability, termed as “corporate foresight”, has gained increasing attention from strategic management scholars and is key to the organisation’s ability to adapt to environmental changes (Rohrbeck, 2011). The importance of information in today’s knowledge-based economy explains why many firms fail to survive as a result of poor corporate foresight (Heiko et al., 2010). As argued by Rohrbeck (2012), corporate foresight activities create different types of value by identifying likely future changes, finding new valuable resources, improving strategic decision-making,

developing a mental model that supports strategic planning, promoting an organisational culture that brings all the members round to future orientations, and finally by effective configuration, deployment and implementation of new resources that, in turn, increase openness to change. In recent years, corporate foresight has been regarded as a dynamic capability (Battistella, 2014; Rohrbeck, 2012) leading to the idea that to adapt to a changing environment, firms need to frequently assess and interpret future trends and generate innovative solutions in advance. Rohrbeck (2011), in his seminal theoretical contribution to the field, presents a process used for describing foresight projects. The process begins with setting the objectives and areas for data extraction, then proceeds to target the proper information resources. After choosing the best method, data is collected and analysed. After the interpretation of the findings, decisions are made to take appropriate actions in a sufficiently timely manner.

#### 2.2.4 Organisational learning

Learning capability is defined as the ability to improve the organisation's memory through the creation (acquiring knowledge from external and internal sources), retention (preventing the acquired knowledge from being lost), and transference (distributing the acquired and maintained knowledge across the organisation) of knowledge by experience (Argote and Miron-Spektor, 2011). This capability, in particular, is widely regarded as a dynamic capability (Teece et al., 1997; Ambrosini and Bowman, 2009) enabling the organisation to provide its employees with the skills which are difficult to imitate, and in turn, gain competitive advantages (Chaston et al., 2001).

As suggested in the literature, those who have enhanced the learning capability of their employees to analyse the new, challenging situation and find optimal solutions are more likely to handle change and differentiate from competitors (Chaston et al., 2001). In particular, firms that incorporate double-loop learning processes are able to rethink their purposes and methods of knowledge production to establish innovative solutions for unresolved problems which, in turn, maximise their odds of survival (Chaston et al., 2001). Firms can benefit from different learning mechanisms. The trial-and-error method of learning is especially regarded as determining the evolution of dynamic capabilities within the manufacturing firm (Eisenhardt and Martin, 2000). Besides, experiential learning, termed also as 'learning-by-doing', is regarded as more effective in volatile environments than the traditional didactic learning (learning-before-doing) (Eisenhardt and Martin, 2000).

The theories of organisational memory and management information systems (MIS) explain the fact that the organisational learning capability goes beyond the individual learning and the long-term competitive advantages of learning derive from the effective storage, integration, and transfer of the

acquired knowledge (Argote and Miron-Spektor, 2011). The literature supports the finding that a frequent and effective maintenance and update of an organisation's memory leads to better new product development performance in volatile business environments (Lee et al., 2017b). So, in addition to individual learning by employees, the organisation should make sure it puts in place the necessary learning systems and activities, making sure the acquired knowledge is communicated, evaluated, stored and made retrievable so that it can be put into practice as required.

#### 2.2.5 R&D

Another factor reported as significantly reinforcing the possibility of firm survival (Korunka et al., 2010; Pérez et al., 2004) is the research and development (R&D) capability, defined as the firm's ability to acquire technological knowledge for generating ideas about new products and processes or extending the current ones, ahead of competitors (Feng et al., 2017; Lukas and Bell, 2000). It is generally agreed that investment in R&D activities can occasion growth in revenue and profit, and ensure future growth figures (Feng et al., 2017; Morbey and Reithner, 1990). As is common in the R&D capability literature, scholars emphasise two main aspects, namely exploration (the search for new products or processes) and exploitation (the extension of the current products or processes) and recognise them as determining the growth in sales and market share respectively (Lukas and Bell, 2000). Another commonly shared explanation for the relationship between R&D expenditure and survival is the role of *innovation*. Accordingly, the more R&D oriented a firm is, the more the firm is likely to come up with innovative solutions (Morbey and Reithner, 1990). Given that surviving firms emphasise innovative practices more than failed firms (Li et al., 2010), it can be further implied that, in times of struggle, when the firm faces a disruptive external change, innovative measures resulting from R&D projects can help the firm overcome difficulties and outstrip its competitors. Viewing R&D as an input-process-output system provides a better understanding of the main activities involved (Schumann Jr et al., 1995). Drawing on the OECD (2015) classification, a typical R&D process comprises three types of activity: basic research (research to obtain general knowledge about a given subject), applied research (detailed investigation into a particular area of the subject), and experimental development (using the acquired knowledge from experiments to introduce new products/processes or to improve the existing ones).

#### 2.2.6 Networking

The last dynamic capability we include in our study as reported in the literature is the networking capability, defined as the ability to establish and sustain a strong relationship with major entities in the

market to reach an optimal resource configuration (Mu, 2013). Recognised as one of the most important sources of competitive advantage, scholars regard this capability as a dynamic capability to explain why some firms survive while others do not (De Vaan, 2014). Based on the findings of Watson (2007), for example, those SME owners who enjoy a stronger social capital (a more participative involvement in network ties) are more likely to obtain the required knowledge for survival in a more cost-effective manner. Chen et al. (2009) find this capability highly beneficial for growth as it provides better access to external resources that compensate for internal resource deficiencies. The role of network ties is especially underlined in industries where both continuous and disruptive technological changes determine high levels of firm entry and exit (De Vaan, 2014). Despite the advantages of a broad network of partners (Watson, 2007), in case of fierce competition for scarce resources, however, it is more efficient for the firm to yield and maintain an optimal *configuration* and *composition* of its network ties (De Vaan, 2014; Moran, 2005). In this sense, two factors are highlighted in investigating the role of inter-firm networking on business survival, namely the network *structure* and *strength* (De Vaan, 2014). Accordingly, regarding network structure, it is believed that, in most cases, a cohesive and closed network engenders strong social capital, trust, and shared identity to the members. Sometimes, however, the existence of certain structural holes (absence of close ties) among the members allows the capture of diverse, non-redundant information that increases the possibility of survival within a market (Burt, 1995, De Vaan, 2014). The same discussion applies to the dichotomy of strong versus weak ties, according to which, despite the benefits of a network of strong relationships with other actors, in some cases, weak ties bring about new, diverse ideas, whereas the output of strong ties is only redundant information (Granovetter, 1977). The argument above stresses the point that a haphazard expansion of the firm's network and building strong relationships with all the members is not an effective networking strategy. Rather, it is important to build and maintain relationships with those who add significant value to the organisation.

### **2.3 Findings from the literature review**

As shown in Table 2, the literature review carried out above led us to identify an initial set of dynamic capabilities that firms can develop in order to better respond to environmental changes and survive. We used the identified capabilities to guide our empirical study of the dynamic capabilities of Portuguese T&C companies and to obtain as relevant and accurate information as possible from the participants.

Table 2. Dynamic capabilities identified in the literature review

Capabilities	<i>Sub-capabilities</i>
Product development	Idea generation Screening and assessment of new generated ideas Prototyping Testing Market launch
Marketing	Sensing customers' needs and desires Raising customers' willingness to pay Enhancing customers' convenience Engagement with customers
Corporate foresight	Promoting a future-oriented organisational culture Undergoing the corporate foresight process: Analyse current trends in the market Detect signals of future environmental changes Develop long-term strategies Find new valuable resources Effective configuration, deployment and implementation of new resources
Organisational learning	Knowledge creation Knowledge retention Organisational memory Knowledge transference Trial-and-error Experiential learning
R&D	Basic research Applied research Experimental development
Networking	Network structure Network strength

### 3 Research Methods

The overall objective of this study is to explore the dynamic capabilities that Portuguese T&C companies develop in order to better respond to environmental changes and survive. To achieve this goal, the

research question is formulated as follows: what are the capabilities upon which the Portuguese T&C companies can survive in times of crises and external shocks? Given the importance of epistemological assumptions when framing the research questions in the field of business and management (Bryman and Bell, 2011), we take the *postpositivism* stance in researching survival capabilities of Portuguese textile companies. This perspective helps us align our results with the theories used in this study and contextualise our findings in the T&C sector.

Postpositivism is a social science paradigm whose origins can be traced back to the work of Max Weber (1948) and was proposed as a corollary to positivism in the sense that it places more emphasis on the involvement of the researcher in the process of investigation and analysis (Fox, 2008). Postpositivism rejects the certainty and absolute truth of information and holds that the reliability and the extent of certainty about the generated knowledge hinges upon how well the researcher performs over the entire course of research (Sukamolson, 2007). That is, in postpositivist positions, the researcher acknowledges that his/her subjectivity is shaping the reality and therefore refuses the notions that reality is completely objective, a single true reality exists, and that the researcher should be detached from the research allowing the tools and methods to test and validate theories (Racher & Robinson, 2003). Regarding three aspects of a research paradigm, i.e., ontology (what is the essence and basis of reality), epistemology (how is the relationship between the inquirer and the subject), and methodology (how can the inquirer find out about reality) (Guba and Lincoln, 1994), postpositivism holds that reality exists separately from the researcher but can never be apprehended perfectly because of potential flaws and faults of the researcher (Racher & Robinson, 2003). Moreover, knowledge in postpositivism can be obtained through both quantitative and qualitative research methods that may complement each other to increase the accuracy of the results (Racher & Robinson, 2003).

Postpositivism shares similar assumptions with the research paradigm of interpretivism: “An examination and clarification of the philosophical assumptions behind these methods can reveal some strong similarities” (Racher and Robinson, 2003, p. 467). In line with Perlesz and Lindsay (2003), postpositivism researchers wish to apply a combination of positivism and interpretivism: “postpositivism is a useful paradigm for those researchers who maintain an interest in some aspects of positivism, yet wish to incorporate interpretivist concerns around subjectivity and meaning” (p. 29). This justifies the use of postpositivism in this study as, on the one hand, we adhere to the deductive aspect of positivism (Mantere and Ketokivi, 2013) by confirming/disconfirming the importance of dynamic capabilities/sub-capabilities that are identified by previous research using data gathered from interviews; and, on the other hand, we develop theory using the results of our data analysis which is reflected on the concept of

Operational Agility capability and its determinants as well as on the sub-capabilities of other pre-identified dynamic capabilities that are extracted solely from the interviews.

Further justification of the use of postpositivism in this study can be found in the characteristics of this research paradigm. Postpositivism involves the application of either quantitative or qualitative approaches and neither of these research designs violates the assumptions of postpositivism (Ford-Gilboe et al., 1995). In postpositivism, the researcher is actively involved in the setting and therefore cannot be detached from the research process (Racher and Robinson, 2003). The improvements that the researchers in this study have made to the firm survival dynamic capabilities framework explicitly show the involvement of the researchers. Finally, it is recognised that the research objectives in postpositivism may include “description, understanding, explanation, and/or prediction” (Racher and Robinson, 2003, p. 475). The findings and discussions provided in this study meet the mentioned objectives of postpositivist inquiry.

All in all, we used a qualitative approach to explore our research question and conducted semi-structured interviews with CEO/Co-CEOs of selected Portuguese T&C companies.

Given the specific topic of this research, the target population includes the Portuguese T&C companies who have been in existence at least since 1986, when the country joined the European Communities. This way, the sample would entail companies that have survived major crises, namely the Eurozone, financial, and European debt crises. The unit of analysis is the firm and the research design calls for non-probability sampling, applying a combination of two purposive sampling strategies - intensity and snowball sampling. As such, we adopted the intensity sampling on the grounds that it allows the inclusion of “cases that manifest sufficient intensity to illuminate the nature of *success* or failure” (Patton, 2002, p. 234). This sampling technique involves recruiting cases that appear to be the most well-known and prominent, yet not extreme or unusual informants of the given phenomenon (Suri, 2011). That is, in qualitative business management research, the intensity sampling appears to be particularly efficient in studying successful companies. We used the two official reports on the progress of the industry from the Portuguese Association of Textile and Clothing (ATP)<sup>1</sup> (ATP, 2017) and AICEP Portugal Global<sup>2</sup> (AICEP, 2013) to detect the intense cases (i.e., major successful Portuguese T&C companies). In addition, the snowball sampling is used on the grounds of its advantage in situations where the most information-rich key informants in the population can be distinguished and accessed by the researcher. The next best-informed informants thereafter can be reached as suggested by the former study subject (Patton, 2002).

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<sup>1</sup> Associação Têxtil e Vestuário de Portugal (<http://www.atp.pt>)

<sup>2</sup> <http://www.portugalglobal.pt>

This technique is particularly useful for our research as some successful Portuguese T&C companies might not have been reported in official records and the word-of-mouth recommendations of detected intense cases therefore can diminish the error in sampling. Adopting this approach to sampling, we asked the interviewed CEOs to guide us to whom we should interview next, in order to be able to grasp the success story of the industry. A mix of these two sampling methods is used over the data collection process which came to an end when we realised that a theoretical saturation is achieved as the same ideas were repeated by the new participants over and over (Gupta and Awasthy, 2015). All in all, 11 participants were recruited from different Portuguese T&C companies. A summary of the profile of the participating companies is presented in Table 3 below.

Table 3. Sample profile

<i>Participants</i>	<i>Company age</i>	<i>Company size</i> <sup>1</sup>	<i>Products</i>	<i>Marketing strategy</i>
Participant N1	21	Medium-sized	Women's clothing	B2B
Participant N2	90	Large	Yarn dies, Home Textiles, Garment	B2B
Participant N3	37	Medium-sized	Bedroom Linens	B2C
Participant N4	58	Medium-sized	Bedroom linens, Home textiles, accessories	B2B and B2C
Participant N5	36	Small	Fabric, home textiles, technical textiles, garment	B2B
Participant N6	32	Medium-sized	Technical textiles for military and firefighting	B2B
Participant N7	45	Large	Men's and women's underwear	B2B and B2C
Participant N8	20	Small	Garment	B2B
Participant N9	29	Large	Garment, leather, and accessories	B2B
Participant N10	49	Medium-sized	Clothes for babies	B2B
Participant N11	24	Large	Jeans for men and women	B2C

To gather the data, we used in-depth semi-structured interviews for two major reasons. On the one hand, the set of predetermined questions in the interview guide helps keep focus on the topic and check over the relevance of the capabilities highlighted in previous studies; and, on the other hand, the interviewees are granted leeway to digress and go beyond the expected answers (Bryman and Bell, 2011), so that the new, not yet addressed factors determining the dynamic capabilities of firms are more likely to be raised. Interview questions were refined over the data collection process based on the feedback from participants. Carried out in English, and lasting from thirty minutes to about two hours, all interviews

<sup>1</sup> Our definition of firm size is based on the European Commission's staff headcount, according to which, a small firm is the one with less than 50 employees, a medium-sized firm with between 50 and 250, and a large firm with more than 250 employees.



were conducted face-to-face, tape-recorded and then transcribed. Given that English is not the first language for any of the interviewees and quotes are transcribed literally from the interviews, the quotes may sometimes contain grammatical imprecision. The interview transcripts afterwards were arranged in a single structure and style (to enable the auto-coding function in NVivo) and then imported into the software to set off the data analysis process. We used NVivo 11 Qualitative Software Package (QSR-International, 2017) to further organise and examine the data. This software is of particular use for thematic analysis (King, 2004) as used in this study.

Concerning the coding method, after an initial review of the interviews' transcripts, we decided to apply the *structural coding* method. The *question-based* nature of this method (Namey et al., 2008) manifests its application for exploring our research questions. *Theoretical thematic analysis* using *templates* (King, 2004) is applied to further interpret the data by identifying, analysing and reporting patterns of meaning (themes). This technique, suggested to be readily compatible with structurally coded data (Saldaña, 2013) is particularly suitable for our research as the theoretical convictions, derived from previous literature, play an important role in our research and steer the analysis away from non-relevant information over the course of the analysis (Braun and Clarke, 2006).

## 4 Results

Following the coding manual by Saldaña (2013) and Namey et al. (2008), and using the auto-coding function of NVivo, we created separate structural codes for each of the central and related research questions to further explore each dynamic capability and their determining factors. Thereafter, calculating the frequencies of the number of themes in response to the questions about capabilities, we identified which factors were common in determining each capability. The results of running the code frequency query in NVivo are shown in Table 4 below.

Table 4. Word frequency query results (initial template)

<i>Nodes assigned to each interview question (Level-one codes in the initial template)</i>	<i>Most common words mentioned by participants* (Level-two codes)</i>
Firm success	Products (20); value (07); countries (05); South Asian (04)
Survival capabilities	Change (24); flexibility (22); products (19); customers (16); quality (14); needs (10); control (06); orders (06); quick (06)
Product development	Customers (35); testing (27); ideas (22); prototype (17); selling (12); design (10); after-sale services (10)

Marketing	Know (27); customers (24); competitors (15); products (10); brand (7); monitor (6)
Corporate foresight	Future (28); Changes (13); opportunity (11); products (09); trends (08); customers (06)
Networking	Partnership (20); supply chain (11); universities (10); products (8); customers (5); suppliers (3)
R&D	Products (37); brand (29); resources (20); financial (16); process (10); customers (10); human (9); suppliers (4); competitors (3)
Organisational learning	Training (24); work (22); staff (19); team (18); information (16); share (16); project (11); acquire (10); knowledge (10)

*\*Notes: Non-relevant/important words are excluded from the results; for grouping in NVivo, we used the "With word stemmed" option.*

The word frequency results helped us to build the initial template that comprises eight level-one codes assigned to each interview question sub-divided into a number of two-level codes extracted from Table 4. To revise the initial template, we took a closer look at the sections of transcripts where the level-two codes were extracted from. Employing four types of modification (insertion, deletion, changing scope, and changing classification) suggested by King (2004), we built a more developed form of the initial template. A description of the modifications we applied is provided in the following sections, each explaining the improvements on the sub-codes of the initial eight highest-level codes. As mentioned in the introduction, we tried to extract those codes that represent dynamic capabilities that are valuable, rare, imperfectly imitable, and non-substitutable (VRIN criteria) for the focused T&C companies.

#### **4.1 Firm Success sub-codes**

The first highest-level code is 'Firm Success' addressing the questions we asked from the interviewees about their definition of firm success, how they describe a successful company in the Textile industry, and the major challenges/crises they have faced thus far. These questions allowed us to obtain a clearer picture of the Textile industry and identify the other survival capabilities we did not explore from the literature. In the initial template, four level-two codes were extracted under the 'Firm Success' code, namely: products; value; South Asian countries; and customers. Using NVivo, a deeper scan of the sections where the codes 'products' and 'value' were generated from revealed that, to be successful in today's' Textile industry, it is essential to offer added-value products to customers.

For me, success is creating value by producing products [Participant N2].

Growth (in terms of the number of employees) does not determine the success of a firm, but the added value is a better indicator of success ... If you can add more value with the same number of employees, you are successful [Participant N4].

The other two extracted sub-codes, i.e. 'countries' and 'South Asian' indicate two major factors influencing the success of Textile companies. First, the participants stress the importance of foreign markets as the importation of low-priced products has contracted domestic demand. Some of them admit to their low performance at exploring and reaching overseas markets:

Our main difficulty is that we don't export enough. 95% of our products are sold in Portugal. And now that cheap products are coming from South Asian countries, we need to export more. We are searching for new markets and we plan to have our products sold in Spain and France soon [Participant N3].

Cheap production from South Asian countries is one of our biggest challenges because they have an unlimited production capacity and produce with minimum costs. It makes it difficult for us to compete against them [Participant N10].

Secondly, most of the participants point to the 'New international division of labour' and its challenges for their businesses. They, however, firmly wave aside the scenario of moving the production to low-cost labour countries. Alternatively, in their view, it is vital to maintain domestic production, increase quality, and penetrate new, foreign markets.

Some years ago, many textile companies directed their production to South Asian countries ... they made a mistake and exited the industry ... they lost the survival of their brands and their independence ... If you do the production in South Asian countries, you cannot control the quality of the production well [Participant N7].

I think the best indicator of our survival is that we have managed to deal with the global division of labour and survived, unlike the other companies that failed [Participant N4].

The main crisis/challenge for us occurred in 2000 when we lost 85% of our turnover mainly because our clients moved the production to South Asian countries [Participant N9].

The analysis above instructed us to improve upon the sub-codes of the 'Firm Success' code in the initial template and change them to five new sub-codes, viz. 'value-added products', 'exporting', 'new international division of labour', 'domestic production', and 'quality control' (see Figure 5).

## 4.2 Dynamic capabilities sub-codes

As the second interview question, we asked the participants about the major dynamic capabilities through which they tackle and survive the ever-present external shocks of the textile industry. This question allowed the participants to freely and extensively state which capabilities, in their opinion, are most important in their survival experiences. As illustrated below, apart from the capabilities emphasised in the literature, participants highlight the shift from mass-production to *mass-customisation*. We therefore defined a new code, called '*mass-customisation*', as the second level-one code in the developed template with several sub-codes (see Figure 5) substituting for the 'survival capabilities' code:

Our most important goal is to make jeans that are most fitted to our customers so they can feel an extreme degree of comfort wearing the jeans [Participant N11].

Identifying the sub-codes of the 'mass-customisation' code, we realised that the two sub-factors of 'flexibility to customers' demands' and 'quick response' to their requests are emphasised by the participants as capabilities for dealing with the high rate of changes in the Textile industry:

In this industry, many things change very quickly ... It is very important for us to be flexible ... [Participant N1].

Once they order a new style, we make the solution and respond to them quickly. Because in today's highly competitive world that competitors from low-wage countries can make the products cheaper, not with better quality, we have to be flexible and quick [Participant N4].

Fast response to the placed orders is very important for us ... One of our advantages over the rivals is that it takes only 24 hours for us to ship the orders to our clients in these three countries (Spain, France, and Italy) [Participant N10].

The other sub-factors highlighted by the interviewees are the need for producing *low-volume*, yet *highly varied* (different designs and styles) collections:

Nowadays, it's not beneficial to order massive quantities of clothes from South Asian countries ... it takes at least six months to have the ordered products here and the delivered collections therefore are out of fashion [Participant N7].

If our clients want to buy the products from Asia, they have to order large quantities and wait long to receive them. Although we offer a higher price, the quality is higher too and they don't need to buy large quantities, but few amounts of varied products and they receive their orders much more quickly [Participant N4].

### 4.3 Product development sub-codes

A general analysis of the participants' responses to this section's questions reveals that the participating companies, in order to better compete against the retailers and survive, have decided to pursue a *product differentiation strategy* over the cost leadership strategy which is being adopted mostly by the retailing corporations:

We prefer staying in this small niche (underwear and lingerie) and produce high-quality products than working in different niches and making medium-quality products [Participant N7].

To compare with our competitors, we don't change the price, because we focus on quality and the price is supposed to be higher [Participant N8].

To outsell our competitors, we will never decrease the price, rather we will raise the quality [Participant N11].

Referring to all the stages of the new product launch process, our participants also pointed out the ways/means of achieving the goals inherent in each stage. Relatedly, to generate new ideas for new products, they regularly visit fashion exhibitions, read fashion magazines (print and online), and check the websites of famous brands. The feedback from customers, partners, and employees on the current products are also recognised as a rich source of new product ideas. Concerning the assessment of newly generated ideas, the feasibility of implementing the new product ideas is assessed by looking at the costs and technological requirements:

We evaluate the feasibility of the ideas by looking at the machines and equipment needed to implement that idea [Participant N5].

For testing the prototype, besides technical tests such as colourfastness, it is also important to present the prototype to close customers and have their feedback before launching. As for the market launch, most of the participating companies have incorporated a business-to-business (B2B) strategy. One of the participants, however, pointed to the advantages of selling directly to the consumer and spoke of the company's parallel commercialisation profile, namely B2B and B2C:

Sometimes we sell with our private labels to the end-user in our shops, and sometimes we sell to other shops. In case of the former, we sometimes go to our shops to have the end-users' feedback [Participant N4].

Drawing on the analysis above, we defined six level-two and two level-three codes under the product development theme in the developed template (Figure 5).

#### 4.4 Marketing sub-codes

A review of the participants' responses to the marketing questions indicates the central role of the customer's 4 Cs in shaping their marketing strategies allowing us to maintain the 4 Cs as four level-two sub-codes under the marketing theme in the developed template. Data analysis led us to arrive at two further important factors. First, in the participants' opinions, the scope of marketing activities is not restricted only to customers but includes also the competitors. Competitors, from well-established textile incumbents to new disruptive entrants, should be monitored as a source of knowledge for innovation:

We visit fashion exhibitions because our competitors are there and this way we can understand what they are doing [Participant N2].

It is important to know the competitors, because we need to know what they are producing and at how much is the price of their products [Participant N3].

We monitor our competitors through our marketing team members that check out the competitors' activities like their campaigns, social media, influencers, roll-out, etc. [Participant N11].

The second factor highlighted by the interviewees is the *brand management* capability. The participants' frequent references to brand and branding induced us to further ask the next interviewees about their brand strategy. It turned out that most of the participating companies have been faced with the choice between the manufacturer's brand strategy and the *retailer's own-label strategy*<sup>1</sup>. Although admitting to the importance of branding, the participants however approve of the retailer own-label strategy as a plausible response to the worldwide expansion of favourable textile-retail companies:

... the thing is that a lot of retailers like IKEA have recently entered the Home Textile market and it's not worth any longer to sell products under our own brand [Participant N2].

Of course. I prefer selling products labelled with our own brand because it improves our sustainability [Participant N6].

The statements above suggested defining and adding two level-two codes i.e. 'monitoring competitors' and 'brand management' to the other four pre-defined sub-codes under the 'Marketing' theme in the developed template (see figure 5).

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<sup>1</sup> Making products that are labelled with the name of the retailer rather than with the name of the manufacturing company.

#### 4.5 Corporate foresight sub-codes

All the participants appreciated the importance of having a future-oriented outlook and developing long-term business strategies in order to survive:

Portuguese Textile companies need to always think about future and plan for long-term growth...  
Portuguese Textile companies need to plan for next five or ten years [Participant N9].

The most common words mentioned by participants in this section such as 'future', 'changes', or 'opportunity', do not imply any new theme or sub-themes we can add to the template. Further analysis of the transcripts, however, confirms the importance of implementing the five-stage corporate foresight process we captured from the literature (see Table 1). For instance, the CEOs addressed the need to have a consistent picture of the future products' characteristics, e.g. colour, material, design, and so on:

... there was a show in which we participated last year in Paris, and from the questions visitors were asking, we figured that there will be a desire for organic yarns in future to make products more sustainable [Participant N2].

... we've noticed the discomfort of wearing a typical underwear and we think future underwear products are better to be made with natural fabrics ... in some cases, we predicted the popular colour for next season underwear and we applied it in production [Participant N7].

This led us to modify the first stage of the suggested corporate foresight process and change the relevant sub-code to 'Analyse current trends of the *products' characteristics*' (see Figure 5).

Another foresight-related capability is the ability to develop an awareness of the current economic and political trends. Our data analysis indicates that the executives of the Portuguese textile companies are required to stay updated with economic and political changes in the external world. Our participants' references to the outcome of the 2016 US presidential election and the UK vote to leave the EU (Brexit) reveals that the foresight to prepare in case of economic and political changes is beneficial to textile companies.

The last sub-code identified here addresses the importance of contracting fashion trend forecast companies that provide manufacturers with up-to-date information on changes and trends in textiles so they can grasp future opportunities ahead of competitors:

We have subscribed to some fashion trend forecasting companies like WGSN, or MHA. They provide us monthly reports to inform us of the fashion trends [Participant N11].

#### 4.6 Organisational learning sub-codes

The results of the data analysis in this section were supposed to be presented within three sub-themes of knowledge creation, retention, and distribution, identified from the literature review presented earlier. We however defined another sub-theme named 'sources of knowledge' as a result of the participants' frequent references to *customers* and *stakeholders* (suppliers and partners) as valuable sources of knowledge.

... through our customers and other stakeholders, we try to find out the areas in which we should invest [Participant N2].

We always try to learn by making the best use of the Internet, and also the feedback from our customers [Participant N5].

Regarding the creation of knowledge, according to the participants' statements, rather than formal training courses, the participating companies are more focused on *problem-solving groups* and *project teams* to acquire knowledge.

We don't make formal training programs. Our new staff usually learn by working with the others ... We encourage our staff to work together so they can learn from each other [Participant N5].

On reflection, we changed the sub-themes of 'knowledge creation' to the two level-three sub-codes of 'problem-solving groups' and 'project teams' (see Figure 5). Concerning the knowledge retention sub-theme, the analysis reveals that no specific method is applied to prevent the acquired knowledge from being lost. As an exception, however, one of the CEOs mentioned the use of computer-based tools in maintaining and sharing the acquired knowledge:

We use a software package to record everything about an order, like the time, volume, etc. and the information is shared among the personnel via that software [Participant N5].

As to retention, knowledge distribution is mostly performed traditionally through communication among personnel and the participants stress the need to increase the speed and flow of information among members of staff.

We make daily meetings, very quick, stand-up meetings for sharing information [Participant N6].

... the personnel try to share the information by communicating with each other. But we have to improve internal communication and communicate more [Participant N4].



Drawing on the analysis above, two level-three sub-codes are defined and added to the developed template. First, the 'use of information systems' such as MIS, EDP, and DSS as determining both the 'knowledge retention' and 'knowledge distribution' sub-themes. Secondly, the 'interaction among staff members' and 'use of computer-assisted tools' sub-codes for 'knowledge distribution' (see Figure 5).

#### 4.7 R&D sub-codes

A first-glance analysis of the word frequency results (Table 3) suggests that the sub-codes determining the R&D capability overlap with other codes, especially with those of the organisational learning capability. A deeper review of the conversations however signals the unique aspects of the R&D capability. First, the focus here is on the *products* and *technology*, so that the research activities aim directly at detecting cutting edge technologies required for either introducing new products or extending the current ones:

New technologies are very important for us. We always try to use new machines to be the best in the market [Participant N3].

As a result, we add a new code called 'textile machinery' as a level-three sub-code under the 'applied research' theme, identified earlier from the literature review. As defined earlier, the 'applied research' theme refers to a detailed investigation into a particular area of the subject. The data analysis, accordingly, suggests that the particular subject for researching in textiles can be the machinery required for producing new, different products.

#### 4.8 Networking sub-codes

As expected from the literature review, all the participants subscribe to the importance of inter-organisational collaboration for the survival of their companies. The word frequency results point out that supply chain members, in terms of upstream suppliers and downstream buyers, are regarded as the main players in the manufacturer's network structure. This led us to add two level-three sub-codes, namely 'suppliers' and 'buyers' under the network structure sub-theme (see figure 5). The frequent references to *universities* also indicate the role universities play to provide textile manufacturers with the technical know-how for making different, unique products:

We recently made a partnership with a number of universities and developed a new gadget to use in the firefighters' clothes that monitors and reports their health status. This new gadget has brought us a good reputation [Participant N6].

Concerning the 'network strength' sub-theme, identified from the literature review, the analysis suggests that the participating companies, rather than increasing the number of network ties, try to strengthen their relationship with those who, on the one hand, share more similarities in goals and objectives, culture, and attitudes towards change and, on the other hand, produce complementary products:

Networking is important, but not in the way it's written in the books and theories. Because, in nowadays' real word, each company fights for their own goals and it's difficult to find companies with common goals. Potential conflicts might arise [Participant N7].

Our partners have to have the same view and outlook as we have, so we can speak the same language. Like us, they have to be very open to new designs and projects [Participant N9].

First, our partners have a similar structure to us, because they are a family business like us and so we have similar characteristics. And secondly we are producing complementary products [Participant N4].

This led us to add two level-three codes in the developed template, namely compatibility and complementarity as determining the 'network strength' sub-theme (Figure 5).

### **1 Firm Success**

- 11 Value-added products
- 12 Exporting
- 13 New international division of labour
- 14 Domestic production
- 15 Quality control

### **2 Mass-customisation**

- 21 Flexibility to customers' demands
- 22 Quick response to customers' orders
- 23 Low-volume production
- 24 Varied collections

### **3 Product Development**

- 31 Product differentiation strategy
  - 311 Focusing on small market niches
  - 312 Raising quality
  - 313 Setting a competitive price
- 32 Idea generation
  - 321 Visiting fashion exhibitions
  - 322 Reading fashion magazines
  - 323 Checking websites of famous brands
  - 324 Feedback from customers, partners, and employees
- 33 Screening and assessment of new generated ideas
  - 331 Feasibility study
    - 3311 Costs
    - 3312 Technology (machinery)

- 332 Brainstorming
- 34 Prototyping
- 35 Testing
  - 351 Technical tests
  - 352 Customer feedback
- 36 Market launch
  - 361 B2B
  - 362 B2C

#### **4 Marketing**

- 41 Sensing customers' needs and desires
- 42 Raising customers' willingness to pay
- 43 Enhancing customers' convenience
- 44 Engagement with customers
- 45 Monitoring competitors
- 46 Brand management

#### **5 Corporate Foresight**

- 51 Promoting a future-oriented organisational culture
- 52 Undergoing the corporate foresight process
  - 521 Analyse current trends of the products' characteristics
  - 522 Detect signals of future environmental changes
  - 523 Develop long-term strategies
  - 524 Finding new valuable resources
  - 525 Effective configuration, deployment, and implementation of new resources
- 53 Awareness of the current economic and political trends
- 54 Subscribing to fashion trend forecast companies

#### **6 Organisational Learning**

- 61 Sources of knowledge
  - 611 Customers
  - 612 Stakeholders
- 62 Knowledge creation
  - 621 Problem-solving groups
  - 622 Team projects
- 63 Knowledge retention
  - 631 Use of information systems (MIS, EDP, and DSS)
- 64 Knowledge distribution
  - 641 Interaction among staff members
  - 642 Use of computer-assisted tools

#### **7 R&D**

- 71 Basic research
- 72 Applied research
  - 721 textile machinery
- 73 Experimental development

#### **8 Networking**

- 81 Network structure
  - 811 Suppliers
  - 812 Buyers (retailers)
  - 813 Universities
- 82 Network strength

821 Compatibility 822 Complementarity
--

Figure 5. Developed template (source: the author)

#### 4.9 Final template

The developed template shown in Figure 5 presents major dynamic capabilities and determining factors derived from the data analysis and the literature review. Here, developing a deeper analysis of the data with a synthesis of the survival capabilities theories, we try to further revise the template and construct the final template.

To refine the template, we decide that it would be more straightforward if the main themes are assigned only to survival capabilities. Therefore, the first defined theme in the template, i.e. 'Firm Success' and 'Mass-customisation' should be either converted into new survival capabilities or placed under pre-defined survival capabilities of the template. Accordingly, regarding the 'Firm Success' theme, we find that the two sub-themes of 'Value-added products' and 'Domestic production' would fit better as sub-categories of the 'Product differentiation strategy' sub-theme, which is the first sub-theme of the 'Product Development' theme. These modifications can be justified by the premises inherent in the Porter (1985)'s competitive advantage theory, according to which, firms can differentiate from competitors by offering unique products valuable to customers (p. 119). Moreover, correspondent to another premise that "differentiation encompasses quality" (p. 124), the same classification change applied to the 'Quality control' sub-code. However, since this sub-code is repeated in the 'raising the quality' sub-code of the product 'Product Development' theme, we removed it from the final template. Now that only two sub-themes of 'Exporting' and 'New international division of labour' remain under the 'Firm Success' theme, we realised that it is worth paying more attention to the capabilities that address the firm's ability to exploit international markets. This is supported by the fact that the interviewees, although admitting to the importance of domestic demand, perceive foreign markets as potential growth opportunities. High-quality and innovative design elements of Portuguese T&C products stand out well in international markets. As a result, we add a sub-theme under the Marketing theme in terms of 'targeting domestic versus foreign markets' (see Figure 6).

The second remaining level-one theme which did not represent a capability was the 'Mass-customisation' theme. Our participants' emphasis upon the importance of minimising the delay between the placement of order and delivery of the product (lead time) led us to search the literature for manufacturing solutions. Our literature review suggests that *Operational Agility* is a pivotal dynamic capability to minimise the lead time in a company's operational processes (Baskarada and Koronios,

2018). This capability is frequently referred to in the literature with two aspects of flexibility and speed (Aitken et al., 2002). The achievement of Operational Agility therefore leads to more flexibility, more rapid response to changes, shorter manufacturing lead time and faster delivery, cost-efficiency, inventory reduction, waste elimination, more product variety, higher quality, more customisation of products, and customer satisfaction (Sherehiy et al., 2007; Aitken et al., 2002). That is, we decided to define Operational Agility as a level-one theme and remove 'Mass-customisation' since it is repeated in the sub-themes of the 'Marketing' theme. Accordingly, six sub-themes of 'Flexibility to customers' demands', 'Quick response to customers' orders', 'Low-volume production', 'Varied collections', 'Inventory reduction', and 'Production waste reduction' are added under the Operational Agility theme in the final template.

Another modification we made to the template was on the 'Brand management' sub-theme of the 'Marketing' theme. The importance of branding strategies in textiles (Malinowska-Olszowy, 2005; Kwon, 1990) hinted that a more detailed study of branding is required in our analysis. As mentioned earlier, the participants pointed out the two main branding strategies, viz. the *manufacturer's brand* strategy and the *retailer own-label* strategy. Looking more closely at the data, we discovered another branding strategy i.e. the 'ingredient' or 'component branding' (Kotler and Pfoertsch, 2010) which seems to be useful in particular for Portuguese textile companies. The following statements are from one of the participants making this salient point:

I think it is a mistake if you say that having your name on your products is necessary for success in the Textile market. Gore-tex is a good example of a successful company that we aim to be like them. It offers products with other companies' names, but the clothes made by Gore-tex are known to be special and of high-quality. So, the customers do not care about the label of their clothes, but rather it is important for them to buy clothes with Gore-tex garments [Participant N9].

From the analysis, it can be implied that this participating company finds ingredient branding a useful strategy to secure its long-term sustainability while continuing to work with clothing-retail companies. In other words, the CEO finds it impractical to sell products under the company's own brand due to disadvantages such as the termination of relationships with clothing-retail companies who represent strategic value for the company's social capital and it has taken a long time for the company to build trust with them. Therefore, they find that ingredient branding is a better choice for growth and development. Drawing on the analysis above, we added three sub-themes, namely 'manufacturer's brand strategy', 'retailer own-label strategy', and 'ingredient branding' under the 'brand management' sub-theme of the 'marketing' theme.

The last modification we made to the final template is moving the ‘monitoring competitors’ sub-theme of the marketing capability to the sub-themes of the R&D capability and redefining it as the “competitor intelligence” capability as conceptualised in the literature. Introduced initially by Fuld (1985) as inspired by the work of Porter (1980), this capability is defined as the firm’s ability to scan and analyse the actions, behaviours, and progression of competitors, either the leaders of the market or the new standout entrants (Choo, 1999, Li, 2018).

Drawing on the modifications described above, the final template is presented in Figure 6 below. The template, as illustrated in this figure, highlights seven major dynamic capabilities, accompanied by their determining factors, essential to business survival in textiles.

<p><b>1 Operational Agility</b></p> <ul style="list-style-type: none"> <li>11 Flexibility to customers’ demands</li> <li>12 Quick response to customers’ orders</li> <li>13 Low-volume production</li> <li>14 Varied collections</li> <li>15 Inventory reduction</li> <li>16 Production waste reduction</li> </ul> <p><b>2 Product Development</b></p> <ul style="list-style-type: none"> <li>21 Product differentiation strategy <ul style="list-style-type: none"> <li>211 Domestic production</li> <li>212 Focusing on small market niches</li> <li>213 Value-added products</li> <li>214 Raising quality</li> <li>215 Setting a competitive price</li> </ul> </li> <li>22 Idea generation <ul style="list-style-type: none"> <li>221 Visiting fashion exhibitions</li> <li>222 Reading fashion magazines</li> <li>223 Checking websites of famous brands</li> <li>224 Feedback from customers, partners, and employees</li> </ul> </li> <li>23 Screening and assessment of new generated ideas <ul style="list-style-type: none"> <li>231 Feasibility study <ul style="list-style-type: none"> <li>2311 Costs</li> <li>2312 Technology (machinery)</li> </ul> </li> <li>232 Brainstorming</li> </ul> </li> <li>24 Prototyping</li> <li>25 Testing <ul style="list-style-type: none"> <li>251 Technical tests</li> <li>252 Customer feedback</li> </ul> </li> <li>26 Market launch <ul style="list-style-type: none"> <li>261 B2B</li> <li>262 B2C</li> </ul> </li> </ul> <p><b>3 Marketing</b></p> <ul style="list-style-type: none"> <li>31 Sensing customers’ needs and desires</li> </ul>
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32	Raising customers' willingness to pay
33	Enhancing customers' convenience
34	Engagement with customers
35	Targeting domestic versus foreign markets
36	Brand management
351	Manufacture's brand strategy
352	Retailer own-label strategy
353	Ingredient branding
<b>4</b>	<b>Corporate Foresight</b>
41	Promoting a future-oriented organisational culture
42	Undergoing the corporate foresight process
421	Analyse current trends of the products' characteristics
422	Detect signals of future environmental changes
423	Develop long-term strategies
424	Finding new valuable resources
425	Effective configuration, deployment, and implementation of new resources
43	Awareness of the current economic and political trends
44	Subscribing to fashion trend forecast companies
<b>5</b>	<b>Organisational Learning</b>
51	Sources of knowledge
511	Customers
512	Stakeholders
52	Knowledge creation
521	Problem-solving groups
522	Team projects
53	Knowledge retention
531	Use of information systems (MIS, EDP, and DSS)
54	Knowledge distribution
541	Interaction among staff members
542	Use of computer-assisted tools
<b>6</b>	<b>R&amp;D</b>
61	Basic research
62	Applied research
621	Textile machinery
622	Competitor intelligence
63	Experimental development
<b>7</b>	<b>Networking</b>
71	Network structure
711	Suppliers
712	Buyers (retailers)
713	Universities
72	Network strength
721	Compatibility
722	Complementarity

Figure 6. Final template (source: the author)

Drawing on the final template we developed from the interplay between the literature and data analysis, the research framework is depicted in Figure 7 below.

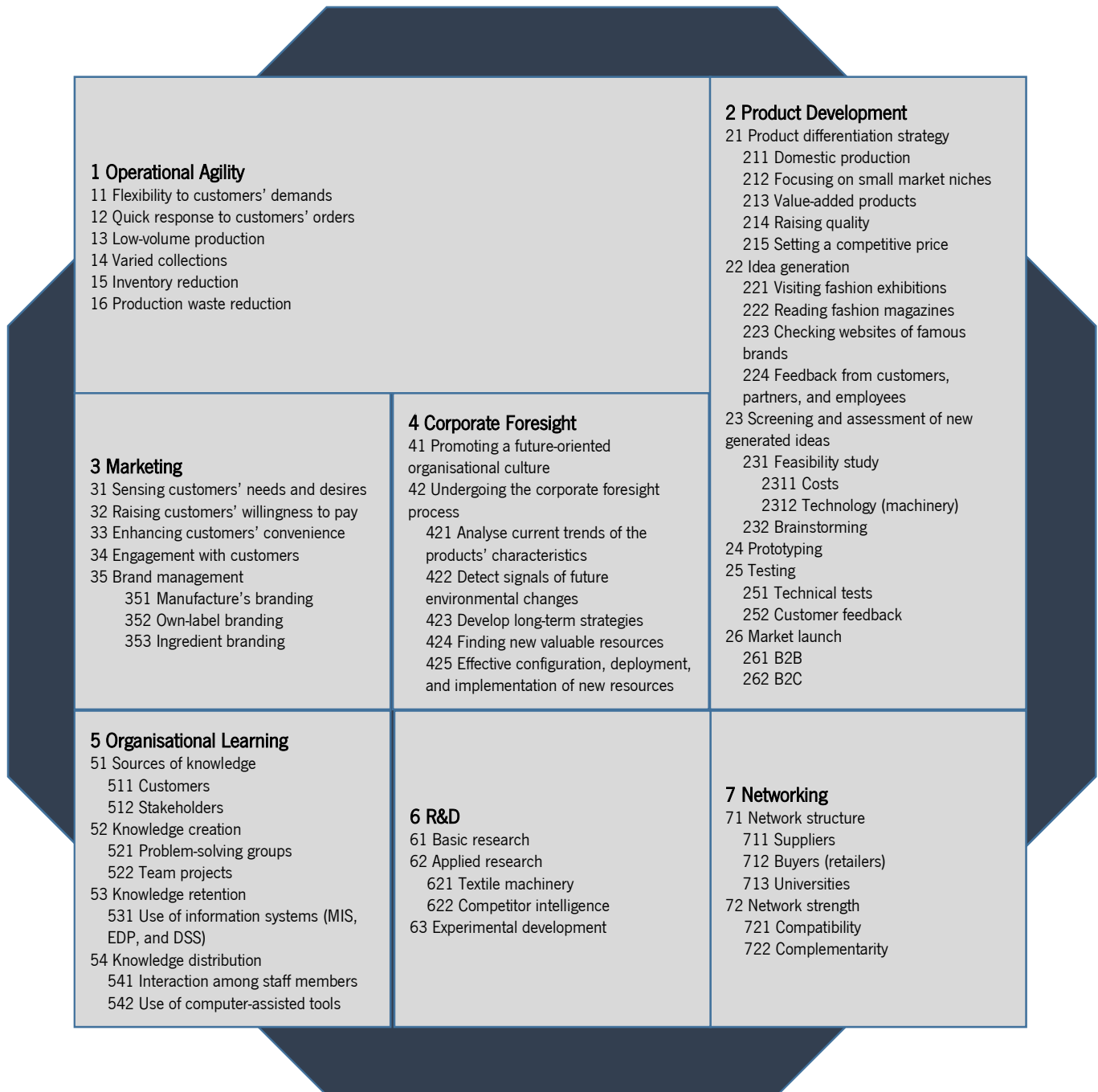


Figure 7. The firm survival dynamic capabilities framework (source: the author)

## 5 Discussion

We have tried in this study to identify the capabilities upon which the Portuguese T&C companies can draw to survive in times of crises and external disruptions with intense competition. A selective literature



review and data analysis of the interviews with CEOs/Co-CEOs of 11 well-established Portuguese T&C companies led us to identify seven major survival capabilities. The following paragraphs are devoted to each capability, linking the findings to the literature and to practice.

### **5.1 Operational Agility**

The first dynamic capability we captured from the data analysis is Operational Agility that improves the flexibility to customers' demands; minimises the lead-time and, in turn, enables quick responses to customers' orders; reduces inventory costs and production wastes; and above all, is aligned with the two aspects of the product differentiation strategy, namely low-volume production, and varied collections. Operational Agility - as a survival dynamic capability - is implicitly acknowledged in the literature. Gunasekaran (1999) views this type of agility as "the capability of surviving and prospering in a competitive environment of continuous and unpredictable change by reacting quickly and electively to changing markets, driven by customer-designed products and services" (p. 87). Aitken et al. (2002) highlight the importance of agility in producing the "right product, at the right price, and at the right time to the consumer" which is pivotal to firm survival (p. 60). Baskarada and Koronios (2018, p. 332) address one of the aspects of Operational Agility, i.e. "the ability to continually engage in rapid change" as a key determinant of firm survival in high-velocity environments. Given the emphasis our participants placed on the advantages of Operational Agility for firm survival throughout the interviews, the achievement of this dynamic capability is highly recommended for Portuguese T&C companies.

### **5.2 Product development**

Product development is the second dynamic capability we initially identified from the literature review and further developed its determining factors from the data analysis. 'Product differentiation strategy' is one of the sub-themes we captured as being frequently cited during the interviews. We found that those successful Portuguese textile companies who have survived crises and environmental disruptions are pursuing a product differentiation strategy. Conducting domestic production with a focus on small market niches (e.g., high-end underwear), they try to offer value-added, high-quality products. That is, to survive in today's textile market that is replete with retail companies working with low-cost producers or well-established manufacturers that have dominated the mainstream clothing market, there is no place for late entrants. This is in line with previous research on Portuguese textiles (Dhillon and Caldeira, 2000) that side with the strategy of differentiation against cost leadership.

The other proposed sub-themes of the product development capability in this study are the different stages of the product development process, namely idea generation, screening and assessment of newly generated ideas, prototyping, testing, and market launch. The findings from our data analysis suggest certain activities required for effective product development. Accordingly, to be able to generate ideas about new styles and collections, textile firms need to keep track of updates on raw materials (e.g. yarns, fibres, or fabrics), cutting-edge technologies, and state-of-the-art machinery. This is achievable by staying updated on the latest developments in textiles. All of our participants support this conclusion by referring to their routine perusal of fashion magazines and websites, and regular visits to textile exhibitions. This can also be achieved through customer feedback gathered by the marketing unit. One of our participants from a home textile company, for instance, referred to her experience in which one of their customers complained of the difficulty of ironing the bed sheets after washing. The company thereby embarked on a new production system for making crease-resistant, no-need-for-ironing bed sheets.

Feasibility study, prototyping and testing activities are also recognised as important sub-themes of the product development capability. In one of the participating companies we observed a well-equipped laboratory with high-tech equipment for testing and controlling various aspects of the production process, such as dyeing.

Regarding the last sub-theme of the product development capability, i.e. 'market launch', we arrive at two major commercialisation strategies in the Portuguese textiles in terms of B2B and B2C. Our data analysis indicates that the choice between these two markets is contingent on many factors and circumstances. Based on our findings, although textile manufacturers can take advantage of direct interaction with the end-user by having their own shops, the B2C scenario might be risky for those manufacturers who have been working in B2B markets as their clients (the intermediaries) might see them as a threat to their existence and stop buying their products. That is, either of the two strategies can bring effective solutions in different situations. Market launch in B2B and B2C settings are different in several respects. First, the focus in a B2C model is more on the product and marketing strategies, while in a B2B scenario the inter-firm relationships are given more weight. In the context of our study, B2C companies have dedicated marketing departments and spend time and money to employ marketing experts, develop advertising and promotion activities, evaluate price policies, and so on. B2B companies however dedicate their resources to establish new relationships with other companies and maintain relationships with existing partners by building trust and credibility. As suggested by our findings, this is one of the reasons why Portuguese B2B T&C companies find it risky to change to B2C models as the termination of relationships with B2B partners might pose a severe threat to their growth and survival.

Additionally, in a B2C business companies have more discretion to adjust their mix of products based on the needs of end-users. Our findings show that B2B T&C companies have an obligation to inform the partner of any additions or changes to the clothes. The quantity of merchandise however tends to be large in B2B and small in B2C. Hence, B2B T&C companies face less pressure to selling their products. On the other side, B2C companies, in general, are more likely to develop low-volume production systems with a high variety of different types.

### **5.3 Marketing**

Marketing is the third identified dynamic capability in this study. The 4C elements captured from the literature review and confirmed in the interviews indicate that firm survival in Portuguese textiles is achievable by sensing customers' needs and desires ahead of competitors. Pointed out by one of our participants, the marketing unit of a successful textile manufacturer should inform the buying company of the suggested new collections for next season. The buying company therefore gives priority to those textile manufacturers who manage to sense end-users' fashion needs and desires ahead of competition. Moreover, it is important to convince the client that the higher prices of made-in-Portugal products stem from raising the quality, creating new, different designs, and increasing the variety. The buyer's experience should also be as pleasant as possible. Stressing the importance of customers' convenience, one of our participants referred to one of the company's experiences of making a valuable contract for selling a broad bundle of products to a foreign client and that the company provided the client a week's stay in Portugal so that the buying company's delegates could get familiar with various categories of products, the manufacturing processes, and the standards of production in the host company. This engagement with clients not only increases the likelihood of purchase, but also might help the textile manufacturer come up with ideas for new collections through the clients' feedbacks. Suggested by our findings, therefore, textile companies that work in B2B markets should establish a deep engagement with the buying companies by providing services/expertise to increase the odds of survival in times of turbulent changes in the environment.

Apart from the 4Cs we captured from the literature review and further developed by the data analysis, the 'Brand management' sub-theme was derived from the interviews and added to the framework. This capability is of key importance in Portuguese textiles on the grounds that the product differentiation strategy is recommended for survival in this industry. This ties in with the well-known study of Wood (2000) on 'brand equity' that holds the view that "brands should be managed as valuable, long-term corporate assets" (p. 666). During the interviews, the CEOs frequently referred to the relative contribution

of branding strategies to survival in textiles. That is, to be able to survive and thrive in such highly competitive market, an effective branding strategy is required to be developed by Portuguese textile companies.

As highlighted in the research framework (Figure 7), three major brand strategies applicable to Portuguese textiles are identified: (I) manufacturer's brand strategy, (II) retailer's own-label, and (III) ingredient or component branding. A snapshot of the present textile and clothing industry suggests that the survival of Portuguese textile companies cannot be primarily secured through the retailer own-label strategy. This is because giant textile and clothing-retail companies that are supplied by low-cost manufacturers based in low-wage countries have dominated the own-brand markets. Thus, for those textile manufacturers that have been functioning with the retailer's own-label strategy and sell their products to intermediary companies, it might be more beneficial to upgrade to the manufacturer's brand strategy by launching their own outlets or to the ingredient branding. This would secure the long-term chances of survival in textiles, provided they develop the necessary marketing and networking capabilities.

#### **5.4 Corporate foresight**

Corporate foresight is the fourth dynamic capability we captured from the literature review and further developed throughout the interviews. Although admitting to the critical importance of forecasting future trends, the participants' responses to the question 'how do you predict the future?' reveal that they do not employ any specific functional method to further explore future opportunities. This implies that allocating certain people in small enterprises or an individual unit in larger companies to undergo the five-stage corporate foresight process (see figure 7) proposed by Rohrbeck (2011) can enhance the Portuguese textile companies' corporate foresight capability and, in turn, their survival chances. We recommend that this process can especially guide them to detect the characteristics of future demanded products. This is in line with recent studies that highlight the contribution of the mentioned foresight activities to the survivors' improvements in strategic decision-making and future opportunity recognition (Lee et al., 2017a). Rohrbeck (2011) provides useful instruments, real examples, techniques, and practices of corporate foresight which are strongly recommended for Portuguese textile companies.

#### **5.5 Organisational learning**

Organisational learning is the fifth dynamic capability addressing the firm's ability to create, maintain, and distribute knowledge both from internal (e.g., employees) and external (e.g., customers) sources.

Regarding knowledge creation, based on our data analysis, Portuguese textile companies are recommended to enhance their *problem-solving* and *team project-based* learning capabilities. This is consistent with previous research such as the seminal work of Goh and Richards (1997) on benchmarking the organisational learning capability that recognises these learning strategies as key measures of the capability and attests to the notion that the organisational learning capability is key to surviving in highly volatile industries (p. 575). Concerning knowledge retention and distribution capabilities, as presented in our research framework (Figure 7), the use of information systems and computer-assisted tools can considerably enhance the learning capability of firms. Relatedly, we recommend Portuguese textile companies to take advantage of management information systems (MIS), electronic data processing (EDP), and decision support systems (DSS) in order to further improve knowledge retention and distribution within the company. They are recommended to employ software-generating companies to develop information management software packages that are compatible with their operational systems.

## 5.6 R&D

R&D is our sixth proposed dynamic capability that we defined from the literature review as the firm's basic and applied research activities followed by experimental development practices (OECD, 2015). Regarding basic research activities, our data analysis indicates that the R&D executives of the Portuguese textile companies are required to stay updated with general developments in textiles like the new products of the leading competitors. The applied research practices, however, require a deep monitoring and analysis of technological advances happening in textiles. As can be seen in our research framework (Figure 7), the applied research activities of the Portuguese textile companies are recommended to be focused on textile machinery, and competitor intelligence. Textile machinery is essential to implement the product differentiation strategy, mentioned earlier to be of critical importance for survival in this industry. The R&D unit therefore is responsible for detecting new technologies and equipment required for producing different, value-added products such as smart clothes or athletic sportswear. This is in line with previous research on textiles, according to which, the technological features of this industry are constantly changing and technical innovations can be achieved even with low investment (Nordås, 2004). Therefore, the faster a company can develop different products via technological solutions, the greater the likelihood of survival.

Competitor intelligence is the second sub-survival capability of R&D practices proposed in our research framework. Previous research has shown supporting evidence for the importance of competitor

intelligence to firm survival. Augusto and Coelho (2009)'s findings imply that the firm's competitor intelligence capability raises its awareness of the emerging technologies required for introducing highly innovative products and, in turn, increases the likelihood of survival. From current practical models of competitor intelligence, we recommend the 'analytical framework for competitor analysis' by Li (2018) to Portuguese textile companies as it outlines the key components of an effective competitor analysis and steps needed to achieve each component.

Our findings also stress the importance of R&D efforts for textile firms as they enable other dynamic capabilities. Considering Marketing, for example, to be able to develop an "ingredient/component brand", the company must develop such ingredient/component which requires the incorporation of R&D activities into its branding strategies.

### **5.7 Networking**

The last proposed dynamic capability in this study is the networking capability that describes the firm's ability to build and maintain sustainable relationships with those suppliers and buyers (retailers) who add value to its supply chain. The strategic importance of networking to firm survival is widely highlighted in the literature (e.g., De Vaan, 2014; Watson, 2007). A more focused insight into research on the Portuguese textiles also reinforces the role of networking. Dhillon and Caldeira (2000) suggest that Portuguese T&C companies that engage more in inter-organisational electronic data interchange (EDI) systems get further access to information systems and information technology resources and ensure their competitive position in the global turbulent textile and clothing industry. Eiriz et al. (2017) find how dyadic network ties contribute to inter-organisational knowledge creation and distribution in the Portuguese T&C industry.

Collaborative practices with universities are also recommended for Portuguese T&C companies. Our interviews revealed that some of the interviewed companies - who compete in more mainstream markets - have never engaged in joint/collaborative partnerships with universities. By contrast, the rest of the participating companies who have embarked upon product differentiation practices frequently collaborate with universities on a win-win, mutual advantage basis to come up with ideas on new, different products and technologies. The fact that a large proportion of all Portuguese T&C manufacturing companies are located in northern Portugal makes it advisable that they build a closer relationship with universities placed nearby such as the University of Porto or the University of Minho.

Another two important factors determining the networking capability are compatibility and complementarity. Broadly discussed in the literature, these two factors are critical to a successful

partnership. More relevantly, in research on textiles, Tao and Fu (2007), studying China's textile industry, confirm the contribution of the compatibility of the focal firm with its supply chain members to its exportation performance. Taking another example, De Loecker (2011), researching on the Belgian textile industry, stress the importance of complementarity for Belgian textile firms that manufacture different products. In line with the argument provided, Portuguese textile companies are recommended to take into account the compatibility (in goals, objectives, values, and organisational culture) and product complementarity when engaging in inter-firm collaboration.

## **6 Managerial implications and useful resources**

This study brings forward seven key dynamic capabilities that enable the firm to survive in times of radical changes in the environment. The firm survival dynamic capabilities framework presented in this study, that enjoys strong support from previous research, is further furnished with fresh evidence from the Portuguese T&C Industry. This framework that highlights the seven dynamic capabilities along with their determining factors provides managers with a practical grounding in their companies' survival performance. Companies, in particular, those exposed to intense competitive pressure and drastic changes and experience, as a result, a period of financial distress and declining growth rates can apply our suggested survival framework to map their current survival status and detect the weaknesses and important issues to be resolved.

In addition to the mentioned framework, it is worthwhile here to suggest several non-traditional textile niches for Portuguese companies who want to benefit from the product differentiation strategy. A quick penetration and consolidation of these markets can essentially enhance their competitive position. Some practical information resources are also suggested for those who want to enter or improve in such niches: I) Smart textiles, also known as intelligent or electronic textiles, are a growing sector predicted to become more prevalent soon. The integration of fashion and technology has the potential to institutionalise brilliant, fresh ideas such as a complete suit for men (long-sleeved shirt, waistcoat, jacket, and formal trousers) that can be worn in hot climates for those who want to dress in a formal suit even when the weather is hot and humid. Another clever idea for home textiles could be curtains with heating and cooling capabilities. Smart textiles, beyond any doubt, have a lot of potential developments for the future. Several information resources as guidebooks are introduced in the last paragraphs of this article which cover a fair range of aspects of smart textiles.

II) Athletic sportswear is another niche that, although not new, seems to have potential. Given that modern-day athletes forever seek to enhance their performance level, there is always space for state-of-

the-art sportswear producers. The guidebook 'Textiles in sport' edited by Shishoo (2015) can be a practical source of information for those who want to enter or improve in this area. Another source suggested for practitioners in sportswear manufacturing is the book 'Materials and technology for sportswear and performance apparel' by Hayes and Venkatraman (2015).

III) Industrial textiles (clothes for industrial and manufacturing uses) also known as 'technical textiles' has a wide range of niches each of which offers many opportunities for Portuguese textile companies. As claimed by Kumar (2014), 'industrial textiles' are one of the three central pillars of the textile and clothing industry, along with clothing and home textiles. The guidebook 'Textiles for Industrial Applications' by this author is a compendium of the facts and figures on industrial textiles. The 'Handbook of technical textiles' edited by Horrocks and Anand (2016) is a practical guide tool that covers a broad range of issues from related raw materials, i.e. technical fibres, yarns, and fabrics to manufacturing processes of products used in different places like vehicles (cars, buses, trains, etc.).

IV) Protective textiles: this high-specialised segment is about the design and production of protective clothing. Here, there are many opportunities for making high-quality clothes that are protective of cold, heat, UV light, etc. Military, police, and firefighters are major target groups in this sector. The guidebook 'Textiles for protection' edited by Scott (2005) is suggested as a guide providing helpful information and explicit instructions.

V) Medical textiles: the constant progress in medical science proves the need for up-to-the-minute medical garments that improve the effectiveness of hospital/medical treatment. The cloth used for covering and protecting wounds, surgical drapes, medical scrubs, and the textile used in hospitals or doctors' offices that should have antimicrobial or antioxidant properties are all examples of medical textiles. Updated versions of gauze dressings that accelerate the healing of wounds or comfortable clothing for surgery doctors that influence their performance during the surgery underscore the importance of medical textiles. The work of Zhong (2013) entitled 'An introduction to healthcare and medical textiles' paints a concise picture of the sector. For a more comprehensive description of medical textiles we recommend two publications by Woodhead Publishing, namely 'Handbook of medical textiles' edited by Bartels (2011) and 'Advances in smart medical textiles' edited by Langenhove (2015).

VI) Highly customised clothing: these niches have not yet been filled by large, well-established textile companies. This sector features the design and production of clothes that are made for each individual client to be best fitted. It means allowing the customer to specify their preference in terms of raw material, design, colour, size figures of different parts of the clothes, etc. It can be predicted that the improvements



in the use of 3D printing technologies in future such as the cost, ease-of-use, etc. will enable the end-user to print their individually customised clothes themselves in terms of raw material, design, colour, etc.. The increasing popularity of online apparel printing stores that allow the customer to have a name or a slogan embroidered or stamped on the clothes is another signal that this niche has a promising future. Given that this sector has not yet been occupied by the dominant clothing manufacturers and retailers, Portuguese T&C companies can therefore get the most out of it by raising the willingness-to-pay of the customers.

In addition to the niches, it is also important to touch upon some publications and information sources on textiles we find highly practicable for Portuguese T&C companies. We start first with the two publishing companies that have been prolific in the dissemination of knowledge about the T&C industry:

(I) The Woodhead Publishing<sup>1</sup> has produced numerous publications on textiles and clothing. The practical and straightforward documentation of issues in Woodhead Publishing's publications offers particular advantages for those who want to successfully compete in this industry.

(II) CRC Press<sup>2</sup> is another publisher of practical resources on textiles and clothing. We found the publications of this publisher on textiles and clothing (from 2007 to now)<sup>3</sup> of valuable interest to those who want to exploit less-crowded niches of the textile industry.

(III) The 'Handbook of Sustainable Apparel Production' edited by Muthu (2015) is a rich source of information about various aspects of textiles – from eco-friendly raw materials and manufacturing technologies to consumer behaviour with a representational focus on sustainability. Documented in 23 chapters and authored by 33 contributors, the handbook provides practical and technical skills to achieve sustainability in textile firms' operations. In chapter 16, for instance, a comprehensive catalogue of internationally recognised test methods (e.g. fibre, yarn, fabric tests) and consumer safety standards in textiles and clothing is presented in the minutest details.

(IV) The 'Textile Science and Clothing Technology' is another prolific series of 26 books edited by Muthu (Muthu, 2014-2018) covering a broad range of topics on the production, manufacturing, supply chain, technology, engineering, green textiles, Nano-textiles, sustainability, social and environmental effects and many other aspects of the industry. Providing practical and technical solutions to productivity and eco-challenges in textiles, the detailed guidelines and clear roadmaps can help textile companies to implement effective and efficient strategies and improve their competitive position.

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<sup>1</sup> <https://www.elsevier.com/books-and-journals/woodhead-publishing>

<sup>2</sup> <https://www.crcpress.com>

<sup>3</sup> <https://www.crcpress.com/engineering-industrial-manufacturing/textile-manufacturing>

(V) Smart textiles and clothing, as mentioned earlier is one of the fastest growing interests in textile manufacturing and consumption. We here therefore suggest several publications that, in our view, are comprehensive introductions to this newly emerging sub-field of textiles. First, the book 'Smart Textiles; Fundamentals, Design, and Interaction' by Schneegass and Amft (2017) that is arranged in 17 chapters and authored by 47 scholars caters for textile manufacturers who take advantage of the product differentiation strategy. The book incorporates many practical insights and practices, such as the manufacturing process of intelligent clothing from raw material production to electronic integration techniques. For more background information in smart textiles, the two publications 'Intelligent textiles and clothing' by Mattila (2006) and 'Smart fibres, fabrics and clothing: fundamentals and applications' by Tao (2001) are recommended.

(VI) The Textile Institute<sup>1</sup> is a textile association offering various services to T&C practitioners and researchers. Apart from the vast number of practical publications on the field, the institute offers education and training programmes following specialised qualifications. It also has offered a membership worldwide to facilitate professional collaboration between members.

(VII) EURATEX<sup>2</sup> (the European Apparel and Textile Confederation) is an institution providing European textile companies with innovative solutions to enhance their performance. Reports, publications, and projects undertaken and supported by this institution e.g. 'European Technology Platform for the Future of Textiles and Clothing: A Vision for 2020' (EURATEX, 2004) have attracted research attention from both the academia and industry (e.g. De Brito et al., 2008).

(VIII) WGSN<sup>3</sup> is one of the most well-known fashion trend forecast companies that provides its clients with periodic reports on the current fashionable clothing styles and the probable future of the apparel industry. As highlighted by one of the participants of this study, the information provided by such these companies can guide the manufacturers explore what is next in textiles.

## 7 Conclusion, research limitations and future directions

In this study, we apply the dynamic capabilities view of the firm to the field of business survival arriving at a set of key dynamic capabilities by which firms increase the probability of survival in times of turbulent changes in the environment. Through a qualitative research on the Portuguese T&C Industry, we developed a dynamic capabilities framework that identifies seven capabilities together with their determining sub-capabilities, namely operational agility, product development, marketing, corporate

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<sup>1</sup> <https://www.textileinstitute.org>

<sup>2</sup> <http://euratex.eu>

<sup>3</sup> <http://wgsn.com>

foresight, organisational learning, R&D, and networking. Accordingly, our findings conclude that the achievement of operational agility requires that firms enhance flexibility to customers' demands and provides quick response to their orders, develop low-volume production methods and increase the variety of their products, and finally reduce inventory levels and production waste. To develop product differentiation strategies, domestic production needs to be maintained and an exploitation of new, small market niches by offering high-quality, competitively priced, and value-added products could induce a successful survival scenario. Given the generation of new ideas, we conclude from our findings that surviving companies need to better observe the external environment by engaging in relevant international events, monitoring the behaviour and movements of market leaders and other competitors, and carefully analyse and respond to feedback from customers, partners, and employees. After the generation of new ideas, surviving companies need to screen and assess the selected ideas using methods such as brainstorming or feasibility study. The next product development task is to prototype and test the new products and finally launch them in either B2B or B2C markets. Marketing is our third identified dynamic capability, based on which we conclude that surviving companies need to sense customers' future expectations ahead of competition, raise their willingness to pay, improve their convenience and satisfaction, and engage with them throughout the entire process of product development to further understand their needs and behaviour. We also conclude that an effective brand management can improve the company's survival performance. By making a wise choice of the three identified branding strategies i.e., the manufacture's branding, own-label branding, and, ingredient branding, the surviving company can secure maximum competitive advantage. Our fourth identified dynamic capability is corporate foresight. We conclude that surviving firms, to achieve this capability, need to first promote a future-oriented organisational culture and then develop the identified corporate foresight process in five stages: analysing current trends of the products' characteristics, detecting signals of future environmental changes, developing long-term strategies, finding new valuable resources, and using them effectively. Our next identified dynamic capability is organisational learning. We conclude that surviving companies need to gather new, up-to-date information from customers and other stakeholders frequently and repeatedly, create reliable knowledge from gathered information using methods such as problem-solving in team-based activities, retain and organise the created knowledge using information systems such as MIS, EDP, and DSS, and effectively share the stored knowledge throughout the organisation so that all members from different departments have immediate access to the required information. Moving on to the next identified dynamic capability i.e. R&D, we conclude that surviving companies need to conduct basic and applied research activities and incorporate experimental development procedures into their

existing R&D systems. Networking is our final identified dynamic capabilities. We conclude that surviving companies need to repeatedly modify their network relationships in two aspects of structure and strength. Accordingly, an effective relationship should be built and maintained with those suppliers, buyers, and R&D partners who add real value to the firm, share similar goals, objectives, values, and culture, and preferably offer products that are complementary to the ones of the firm.

Here, at the end of this paper, it is worth mentioning some of our research limitations and ideas for future research. First and foremost, our qualitative research design, despite its advantages, does not allow access to a large number of respondents. Further research on Portuguese textiles thereby is recommended to adopt quantitative designs in order to test our proposals. Quantitative studies are especially useful for a twofold contribution: first to test and validate the proposed research framework on dynamic survival capabilities, and secondly to cover a wider range of Portuguese T&C companies. The scope of this study did not allow us to further develop 'firm survival' as an individual variable. In this study, we take firm survival as a recognition of fact: our firms have continuously operated over the last two decades, through the European debt crises and the termination of the 'Agreement on Textiles and Clothing'; so they have very obviously survived these crises. Future research can be done to clarify the concept of firm survival and measure it in light of its dimensions and scale items.

In addition, taking into account the crucial link between dynamic capabilities and innovation efforts (Teece, 2007; Winter, 2003), future research can consider exploring the enabling effect of the identified dynamic capabilities on various types of innovation. Business model innovation (BMI), in particular, has the potential to attract academic attention as the recent BMI literature encourages further exploration of the field by taking the dynamic capabilities view of the firm (Ritter and Lettl, 2018; Teece, 2018). From the set of dynamic capabilities identified in this study, we find corporate foresight and operational agility of particular relevance. The most significant support for the enabling effects of corporate foresight and operational agility can be found in the recent work of David Teece (2018) on business models and dynamic capabilities. He views the identification, assessment, and monitoring of unknown future opportunities (sensing) and the allocation of resources to rapidly exploit the opportunities when they occur (seizing) as the first two elements of the dynamic capabilities framework (Teece, 2007) that together lead to the third element which is the transformation, shifting, or renewal of the business model. As a further explanation of the importance of dynamic capabilities for BMI, he argues that the development of a new business model starts with sensing future unknown opportunities by acquiring information about current customers' unmet expectations who are willing and able to buy something that fulfils those expectations. The corporate foresight dynamic capability identified in this study, as explained

before, enables the firm to achieve these objectives ahead of competitors. The next step is to find and implement the best configuration of resources, competencies, production factors, and operational parameters to seize the opportunities as soon as they arise. Provided the emphasis on the speed and ahead-of-competition movements in exploiting the opportunities (Eisenhardt and Brown, 1998; Teece, 2007; Teece et al., 2016), operational agility is implied to be essential in the achievement of the second element of the dynamic capabilities framework i.e., the seizing capability.

## IV. Essay 3

### **Agility, ambidexterity and business model innovation: A cyclical model of self-reinforcing dynamic capabilities**

#### **1 Introduction**

Ever since the dot-com bubble and a consequent shift from bricks-and-mortar to Web-based businesses in the late-1990s, the concept of business model (BM) has been increasingly invoked in various domains such as innovation management, resulting in the emergence and evolution of the business model innovation (BMI) concept (Foss and Saebi, 2017; Inigo et al., 2017). Proposed as a conceptual means of describing the logic of business (Teece, 2010), the BM equips owners/managers to further articulate the way their businesses create, deliver, and capture value (Foss and Saebi, 2018). The practice of BMI has been embraced as a credible source of competitive advantage advising managers on how to bolster their firms' performance (Frankenberger and Sauer, 2019). In an ever-changing world, the idea of BMI has been of interest to both academics and practitioners. For academia, as a newly-emerging way to look at organisational innovation, BMI puts forward BM as a new unit of analysis in the study of innovation (Zott et al., 2011) offering plentiful research opportunities. Practitioners take it as a means of reorganising the firm's structure, processes and activities in response to environmental changes and increasing global competition in the era of digitalisation (Inigo et al., 2017; Giesen et al., 2010).

Business model innovation (BMI) is conceived as the ability of a firm to make significant changes in one or more elements of its BM (Kranich and Wald, 2018) which are identified in the literature in various terms. While the majority of the BM literature cites the 'value creation' and 'value capture' as the two main components of a firm's BM (Zott et al., 2011), our research, superimposing the value-based business strategy (Brandenburger and Stuart, 1996) onto the field of BM, encompasses as many value-based components as are present in the literature. This allows for a more complete and pertinent delineation of the effects of BMI enablers considering that some organisational capabilities might have different influences on each individual component of BMI (Schneider and Spieth, 2013). We conceptualise BMI in terms of five components, namely value creation renewal (new ways of production and resource management), value proposition renewal (new offerings that make the firm attractive to its customers), value delivery renewal (new ways of reaching the customer), value capture renewal (new

ways of devising the costs-revenue arrangements to maximise profits), and value network renewal (new ways to partnership working).

Refining future research agenda, scholars (Schneider and Spieth, 2013; Foss and Saebi, 2018) have pointed out 'BMI enablers' as a potential stream of future research in the field. As a response to this call, recent studies (e.g., Dobusch and Schübler, 2014) have been carried out, findings of which are however more characteristic of the *antecedents* of BMI. That is, these studies are more oriented towards the causes or events that exist or come before BMI (Foss and Saebi, 2017) rather than organisational capabilities that improve the ability of a firm to make alterations in its BM for the better. It is of theoretical importance therefore to identify such capabilities and, more importantly, to analyse the mechanics through which each capability facilitates BMI. The identification of BMI enabling capabilities is also of immediate value to practitioners as the owners/managers are provided with a guide on how to further equip their organisation for BMI. Given that many BMI efforts are not particularly successful (Von den Eichen et al., 2015), firms with improved BMI enabling capabilities are less likely to fail in changing their BM.

The current research addresses the questions of *what* organizational capabilities make it more likely for a firm to successfully engage in BMI, and *how* these capabilities facilitate BMI. To better examine such theoretical problem, we draw on the *dynamic capabilities view of the firm* (Eisenhardt and Martin, 2000; Teece et al., 1997; Winter, 2003) as an interpretive lens. This represents a response to the recent, seminal calls by Ritter and Lettl (2018), Foss and Saebi (2018), and Gassmann et al. (2016), who direct future BM/BMI researchers to apply certain strategic management theories such as the dynamic capabilities view. We believe that this perspective, recently advocated for BMI (Teece, 2018), can trigger a lively debate. A dynamic capability is defined as the capacity of the firm to deliberately create new internal and external resources or reconfigure the existing ones in order to better respond to environmental changes (Helfat et al., 2009; Teece et al., 1997). What distinguishes dynamic capabilities from *ordinary* capabilities is the greater emphasis given to exogenous alterations (Winter, 2003). The principal goal of dynamic capabilities is to "match and even create market change" (Eisenhardt and Martin, 2000, p. 1107). This justifies the use of the dynamic capabilities perspective in investigating BMI enablers as, in line with Teece (2018), BMI success depends critically on the upgrading of ordinary capabilities to proactively respond to environmental changes. As with dynamic capabilities, BMI is considered a key requisite for the effective management of turbulence in the business environment that stems from the increased global competition (Doz and Kosonen, 2010).

With regard to the enablers of BMI, the literature is still both sparse and fragmented (Kraus et al., 2018). Although the roles of organisational learning (Sosna et al., 2010), R&D (Amit and Zott, 2012), networking (Gay, 2014), and product development and marketing (Cavalcante et al., 2011) are addressed, more consensus however can be found on the roles of agility and BM ambidexterity (Arbussa et al., 2017; Foss and Saebi, 2017; Khanagha et al., 2014; Spieth et al., 2014) and as a consequence, recent literature calls for empirical research on their roles. Teece (2018), for instance, suggests the implication of the dynamic capabilities framework for exploring the linkages between dynamic capabilities and BMI. Based on his argument, sensing future unknown opportunities and seizing them as soon as they become evident, ahead of competitors, are the first two elements of the dynamic capabilities framework (Teece, 2007) that lead to the development of a new business model. Based on the definitions of Agility and its dimensions that we provide from the literature in this study (Doz and Kosonen, 2010; Neumann and Fink, 2007; Sambamurthy et al., 2003; Teece et al., 2016; Vecchiato, 2015; Vickery et al., 2010), we find strategic and operational agility as two more robust, comprehensive, and compelling substitutes for the sensing and seizing capabilities. This allows us to even further extend the BMI enablers literature by including more determining factors in our investigation.

Moreover, even though early seminal theoretical studies in this area suggest empirical investigations of the enabling roles of agility (Doz and Kosonen, 2010) and ambidexterity (Markides, 2013; Tushman et al., 2010), *how* these capabilities facilitate the implementation of BMI remains underexplored. This study therefore attempts to fill a portion of this gap in BMI literature by proposing an empirically grounded framework that not only clarifies the mentioned 'hows', but also presents a unique pattern of relationships among agility, ambidexterity, and BMI. This framework adds to the existing knowledge on BMI enablers and serves to guide future research efforts.

This research is focused on the Portuguese textile and clothing (T&C) industry which has been facing serious challenges ever since Portugal joined the European Free Trade Association in 1960 (Truett and Truett, 2019). Together with Italy, Germany, France, UK, and Spain, Portugal is one of the main European producers of T&C products (Euratex, 2017). Apart from all-industry-inclusive crises, the Portuguese T&C industry has been particularly affected by the termination of the 'Agreement on Textiles and Clothing' (ATC), according to which, T&C products made outside the EU included tariffs to be sold in European countries. After the agreement in 2005, the industry experienced severe downturn: in sales, and in employment (ATP, 2018). Since the last decade, however, the industry has successfully revived thanks to BMI practices of Portuguese T&C companies allowing us to use insights from this sector to explore the enablers of BMI.



The study is organised as follows. First, a selective review of the literature is provided covering the concepts of BMI and its components, as well as two focal enablers of BMI i.e., agility and business model ambidexterity. Then, a conceptual model is proposed derived from the literature review. The following section deals with data collection methods and analysis. Next, the research findings are put forward presenting the resulting framework of relationships between agility, business model ambidexterity, and BMI. This is followed by three main propositions and a number of sub-propositions; the paper continues with a discussion of the theoretical contributions and managerial implications. Lastly, research limitations and future directions are addressed.

## **2 Literature review**

### **2.1 Business Model Innovation and its components**

Most BMI scholars, even in recent studies (Downs and Velamuri, 2018; Landau et al., 2016; Ritter and Lettl, 2018), agree that there has yet been no consensus on its conceptualisation. However, BMI definitions are not difficult to encounter (see Trapp et al., 2018 and Geissdoerfer et al., 2018 for a list of definitions). The dissension resides in approaching the concept from two different lenses focusing either on the whole architecture of the BM (holistic view) (Santos et al., 2009) or on each individual element (component-based view) (Arbussa et al., 2017; Amit and Zott, 2012; Kranich and Wald, 2018). BMI is thus alternatively conceptualised as either the process of reconfiguring the interactions between BM elements (holistic view) or changing one or more BM elements individually (component-based view) (Foss and Saebi, 2017). Our research follows the latter conceptualisation which gives more attention to the changes in individual BM elements. This approach is more comprehensive in addressing all the necessary aspects of BMI (Kranich and Wald, 2018), allowing us to explore in more detail the mechanisms through which enabling capabilities facilitate the implementation of such change. As sustained by Schneider and Spieth (2013), who suggest the "potential effects of BMI enabling capabilities on different types of such change" as a promising future research, "certain capabilities are either more or less important, depending on the particular elements and types of business model innovation" (p. 22).

As for the BMI components, there is not sufficient clarity in the literature about its dimensionalisation (Foss and Saebi, 2017). Commonly, scholars build upon the existing BM components to propose those of BMI (Clauss, 2017; Kranich and Wald, 2018). Given the wide variety of BM elements proposed so far (Ritter and Lettl, 2018), BMI components are also varied. From initial studies like that of Mahadevan (2000), who defines three main building-blocks (i.e., value stream, revenue stream, and logistical stream), to more recent proposals like that of Massa et al. (2017) presenting a profile of 34 components,

scholars often find it challenging to set rigorous boundaries for BMI dimensionalisation. Efforts however have been undertaken to guide the direction of future BMI research by taking the *value-based* perspective (Brea-Solis et al., 2015; Ghezzi et al., 2015; Rayna and Striukova, 2016; Zott and Amit, 2008).

The use of the concept of value in the domain of BM can be traced back to the emergence of the value-based business strategy (Brandenburger and Stuart, 1996), according to which the value created by a firm should no longer be considered as ‘the difference between the cost of buying resources, plus the cost of producing the product/service and the price that it is sold for’ (profit margin), but rather as the difference between customers’ *willingness-to-pay* and suppliers’ *opportunity cost* (Brea-Solis et al., 2015). The shift from the conventional *profit margin* model to the wedge between customers’ willingness-to-pay (the maximum amount a customer is willing to spend for a given product/service) and suppliers’ opportunity cost (all potential benefits a supplier foregoes by selling its assets to the focal firm and not to other candidates) leads to a more rigorous understanding of the value created by the firm (Brandenburger and Stuart, 1996). Accordingly, the firm creates maximum value if it maximises its customers’ willingness-to-pay and minimises its suppliers’ opportunity cost.

Within BMI research, this view elaborates on the way a firm: (I) creates value through new internal processes leveraging internal resources and assets; (II) converts the created value into new sellable products/services; (III) finds new ways to deliver the proposed value to the customer; (IV) captures financial value (profit) from the delivered value; and (V) activates new connections in a networking system to produce added value. Accordingly, five components of the BMI concept can be derived from literature, viz. (I) value creation renewal, (II) value proposition renewal, (III) value delivery renewal, (IV) value capture renewal, and (V) value network renewal.

Table 5. Business Model Innovation components taking the value-based view

Study	Explicit references to value-related BMI components	Value creation renewal	Value proposition renewal	Value delivery renewal	Value capture renewal	Value network renewal
Clauss (2017, p. 385)	“Three dimensions of business model innovation [...], namely value creation innovation, value proposition innovation and value capture innovation.”	x	x		x	

Foss and Saebi (2018, p. 9)	“BM and BMI constructs are fundamentally about the architecture of the firm's value creation, delivery and capture mechanisms.”	x	x	x
Ammar and Chereau (2018, p. 42)	“Business models can be described according to three main components: resources and competences, organizational structure and propositions for value delivery.”		x	
Hacklin et al. (2018, p. 86)	“We described all business models in terms of customer value proposition, distribution channels, customer segments, and revenue models.”	x	x	x
Teece (2018, p. 41)	“A business model describes the design or architecture of the value creation, delivery, and capture mechanisms [a firm] employs.”	x	x	x
Futterer et al. (2018, p. 73)	“BMI can be primarily driven by an innovation in one of the core elements, namely value offering architecture, internal value creation architecture, external value creation architecture, financial architecture.”	x	x	x x
Schoemaker et al. (2018, p. 23)	“Important functions of the business model include identifying unmet customer needs, specifying the technology and organization that will address them, and capturing value.”			x
Snihur and Wiklund (2019, p. 306)	“The BM defines the structure of the value chain (an activity-based concept), creating value, thereby addressing the underlying logic of how the firm delivers value to its customers.”	x	x	
Frankenberger and Sauer (2019, p. 286)	“New BMs modify manifold aspects of value proposition, revenue model, and value chain, and ultimately the customer base.”		x	x
Schneckenberg et al. (2017, p.404)	“Scholars commonly agree on value proposition, value creation, and value capture as three distinct but interrelated components of business models”.	x	x	x

Table 5 depicts the increasing academic interest in extending the value-based view to study BMI. Less is done to integrate all the aspects of this view into the BM framework. We therefore extract as many

value-based BM components as are existent in the literature and employ them to attain a more comprehensive insight into the BMI concept and, in turn, provide a better understanding of the mechanisms by which the enabling capabilities influence BMI. The following paragraphs are meant to set out each BMI component. Accordingly, the five elements are presented followed by determining factors that facilitate/enable the achievement of each one. The review that we provide to illustrate the determining factors of each BMI dimension helps to fill the gap in the literature regarding the construct definition and dimensionalisation (Foss and Saebi, 2017), reducing the “lack of clarity in the literature about the nature of a BMI” (p. 209). We, thereafter, explore how these five dimensions are interconnected and interdependent, addressing the architecture (Schneider and Spieth, 2013; Spieth et al., 2014) of BMI.

### 2.1.1 Value creation renewal

In crude terms, value creation defines the mechanisms through which a firm turns resources and assets into tangible and intangible outputs such as products/services and brand/reputation. Key to the concept of BM is that value is not solely confined to financial outputs but rather extends to any tangible or intangible benefits the firm delivers to its stakeholders and society. This includes the return to employees, customers, suppliers and other partners, brand, image, and reputation, and finally also to financial earnings (Hedman and Kalling, 2003). To renew the value creation base, various strategies have been cited in the literature among which the centrality of *resources* and *capabilities* is emphasised. BMI scholars take the resource-based view of the firm to clarify the ‘key resources’ mentioned in the BM literature as one of the main constituent elements (Hedman and Kalling, 2003; Massa et al., 2017; Osterwalder and Pigneur, 2010). Accordingly, key resources required for sustained value creation are those who are valuable, rare, inimitable, and non-substitutable (VRIN) (Martelo et al., 2013).

‘Key processes’ are also frequently mentioned in BMI literature as an essential element of the BM (Johnson, 2010; Huang et al., 2013) implying that changing processes can be one of the main sources of value creation renewal, especially for manufacturing firms. That is, firms can create new value by integrating new processes into the production system. Employing new manufacturing systems or improving the existing ones can facilitate new process development and consequently create new value. Flexible manufacturing, for instance, is reported to be an essential driver of novelty-based BM design (renewing the governance, content or structure of activities in order to create and seize new opportunities) (Wei et al., 2017).

The activity system perspective (Zott and Amit, 2010) is another view employed by a stream of researchers to elucidate how value can be created through BMI. Achtenhagen et al. (2013), for example, arrive at several critical capabilities required to achieve sustained value creation: exploring new business opportunities, using resources in a balanced way, developing an effective leadership style, creating a strong organisational culture, and ensuring the staff's commitment to the organisation. In line with Zott and Amit (2010), value can be created by changing the portfolio of activities in three ways: (I) by adding new-to-the-firm activities – such as embarking on new service development by manufacturing companies (Kastalli and Van Looy, 2013); (II) by changing the way the current activities are linked for waste reduction (Ghezzi and Cavallo, 2018) and better efficiency (Demil and Lecocq, 2010); and (III) by changing the person/group that are performing a given activity. Each of these three value creation renewal strategies requires the firm to gain new capabilities, obtain new techniques or equipment, hire new human resources, and train the existing ones (Amit and Zott, 2012).

From the review presented above, we identify the determining factors of value creation renewal in terms of renewing the production mechanisms, renewing the resources (financial, human, technological), and renewing the configuration of resources.

### 2.1.2 Value proposition renewal

As mentioned earlier, to obtain optimum added value, a firm must increase its customers' willingness-to-pay as much as possible. Customers, on the other hand, pay attention to what the firm proposes/offers and whether its offerings solve any of their problems or satisfy any of their needs (Osterwalder and Pigneur, 2010). Thus, the more appealing the offer to customers, the higher their willingness-to-pay tends to be. What is less emphasised in the BM/BMI literature is that a firm's value proposition is not only about its products/services but rather includes anything owned or created by the focal firm that holds an attraction for its customers, such as customer experience, brand, image, or reputation. This contention is a corollary of Osterwalder and Pigneur (2010)'s definition of the value proposition: "value proposition is an aggregation, or bundle, of benefits that a company offers" (p. 22).

A key pillar of the value proposition element corresponds to the customer-related pre-delivery factors. Here, the focus is on targeting the most relevant and appropriate group of customers. *Customer segmentation* is highlighted in the literature as one of the key functions of a BM (Chesbrough, 2010), a sub-construct of BMI (Claus, 2017), a part of BM design (Teece, 2010), and either a first- (Giesen et al., 2010) or second-order component of the BM (Massa et al., 2017). Four criteria for customer segmentation have been identified in the literature in terms of demographic, geographical, behavioural,

and psychographic information (Onwezen, 2018; Osterwalder and Pigneur, 2010). Therefore, BMI, in this case, can be implemented by changing customer segmentation, for example by expanding the customer target from low-priced markets that are achieved by developing the cost-leadership strategy to more premium ones that require the development of a differentiation strategy.

Customer satisfaction is a tribute to the standout *features* and *benefits* of the value proposition offered (Baldassarre et al., 2017). A new product/service therefore can be a BMI practice if it presents new, pragmatic features (e.g., price) or benefits (e.g., ease-of-use) (Brea-Solis et al., 2015). Standout offerings are novel, compelling to customers and bring notable profit advantages (Teece, 2010). While it is essential for a winning value proposition to present something 'new' to the market or major improvements in different features of the existing ones (e.g., quality, price), it is of more significance that the offering should be *difficult-to-imitate* so that before competitors can introduce duplicate offerings, the focal firm manages to saturate the market (Trapp et al., 2018).

Certain strategies can be incorporated into the development of a value proposition for the sake of maximising customers' willingness-to-pay. Lock-in is one such strategy, reported in the literature to serve as an added attraction (Zott and Amit, 2010). In this strategy, customers are particularly attracted to repurchase the offerings of the focal vendor because they have become dependent on its offerings and switching to other vendors involves high switching costs. In other words, they are locked-in by the firm to purchase repeatedly (Amit and Zott, 2012). The razor-and-blades strategy is another strategy increasing customers' willingness-to-pay for a given value proposition (Gassmann et al., 2016; Matzler et al., 2013). The firm sells an item with a lower expected price to persuade customers into buying a *complementary* value proposition that can be priced as high as their maximum willingness-to-pay.

A review of the literature suggests that companies with strong marketing functions are more proactive in launching new products/services (Cooper and Kleinschmidt, 1987; Coombes and Nicholson, 2013). Even though one of the realities of current business environments is that customers change their preferences quickly and frequently, the ability to *read* them and find out what exactly they need is crucial to the successful development of new products/services (Osterwalder et al., 2014). In line with Day (2011), companies with developed vigilant market learning (the ability to foresee future market changes), adaptive market experimentation (the ability to constantly learn from market experiments), and open marketing (improving marketing capabilities through a partnership) are more likely to have advantages in value proposition renewal.

As mentioned earlier, it is not only new products/services being offered that make the company attractive to its customers but also the improvements in current offerings. As such, making improvements

on different features of the existing bundle of products/services in terms of design, quality, brand, packaging, price, and after-sales services also represent value proposition renewal and sustain the company's attractiveness to customers (Cooper and Kleinschmidt, 1987).

Commercialisation is another factor determining the firm's ability to benefit from value proposition renewal (Ogawa and Piller, 2006). The ability to promote new offerings as something that is new, original, different, and useful is key to raise customer awareness. Using the most modern and advanced promotion methods such as guerrilla advertising or event marketing can boost the commercialization of new products/services.

From the review provided above, we identify the determining factors of value proposition renewal in terms of the introduction of new products/services, the exploration of new markets, the renewal of branding strategy, and the renewal of the firm's image or reputation.

### 2.1.3 Value delivery renewal

Having created a value proposition for the identified and segmented customer, the next step is delivering the value. Value delivery centres around two core factors viz. distribution channels and customer relationship management (before and after the delivery of the value) (Massa et al., 2017; Teece, 2010). Accordingly, value delivery renewal defines innovation in the way a firm communicates with customers, reaches them to deliver the created and proposed value, keeps them satisfied through after-sale services and draws in information from the customer that can be valuable inputs for further renewal (Claus, 2017). Value delivery is of special importance since it represents the interface between company and customer. It also always presents special challenges in the sense that any error, delay, or deviation in delivering the value jeopardises the efforts undertaken in creating and proposing it (Osterwalder and Pigneur, 2010).

Distribution channels bring to the fore the company's operational capacity to ensure timely delivery and the safety of the products/services (Osterwalder et al., 2014). A defective distribution channel is argued to have an impeding effect on the delivery of new products/services. Osterwalder and Pigneur (2010) highlight the firm's ability to build broad types of channels, whether direct or indirect, and owned or partner channels. The intrinsic advantages of direct/owned channels over indirect/partner channels are that they allow for a closer customer relationship and more control (Matzler et al., 2013). However, in certain circumstances, value delivery is outsourced so the firm can get access to more extensive markets, achieve a cost advantage, or preserve its core competencies (Zott and Amit, 2010).

Although the punctual and effective delivery of the value is of great importance, a far-reaching part of the value delivery lies in the stage in which the customer has been provided with the ordered item and the firm afterwards tries to keep them satisfied through after-sale services (Osterwalder and Pigneur, 2010). Certain strategies can be developed to secure speed, convenience, trust, and reliability of the value delivery procedure ensuring customer satisfaction and enhancing their loyalty (Santos et al., 2009). Cash on delivery (COD) – that allows customers to pay for goods only on delivery – and ‘Pickup points delivery’ – that enables customers to choose a desired shop as the pickup point – are the two examples of such strategies. Successful completion of this stage ensures subsequent purchase intentions of the customer whilst failure, not only results in a discontinuity in the customer-company relationship and potential switching over to competitors, but also harms its repetition prohibiting the company from reaching future customers due to the generated negative word-of-mouth (Urbinati et al., 2019).

Value delivery renewal may stem from lessons the company learns from analysing its customers’ behaviours through information gathering techniques such as loyalty cards or tracking purchases and evaluations in online shopping. Companies nowadays track customers’ purchase behaviour in terms of both demography and psychology analysing variables such as motivation, attitude, culture, perceptions, and customer lifestyle (Moslehpour et al., 2014). This way, the company raises its awareness of customers’ likes and dislikes in order to be able to offer more attractive products/services in the future.

Given the sensitivity of the post-delivery stage, the ability to retain communication with customers after product/service delivery allowing their feedback to be received properly is imperative to renewing the delivery processes (Osterwalder et al., 2014). The ability to better reach and communicate with either existing or prospective customers is reported to be of overriding importance granted that if the company manages to successfully introduce a genuinely new feature or product, it should be able to convey the news to customers thoroughly (Osterwalder et al., 2014). Otherwise, competitors may be capable enough of detecting the offered newness and incorporate it into their own products. As a consequence of extensive communication with customers, many companies get customers involved in the innovation process. Such companies that have the ability to incorporate customers into the development process are less likely to encounter new product/service launch failure (Ogawa and Piller, 2006).

Key to the delivery of value is, therefore, that the firm capitalises on its relationship with customers spurring them to *co-create* value (Saebi and Foss, 2015). Those value propositions that are created collectively by customers are less likely to fail in sales (Prahalad and Ramaswamy, 2004). It is suggested therefore that value delivery (renewal), because it allows for co-creation, much improves the firm’s ability to renew both value creation and value proposition. User-driven innovation practices (Baldassarre et al.,



2017) enable firms to change customers' roles from isolated, unaware, and passive to connected, informed, and active. In accordance with Prahalad and Ramaswamy (2004), value co-creation is achieved by: (I) building and maintaining a constant dialogue with customers that involves careful listening to and learning from them; (II) providing customers with access to data on design, manufacturing, and internal processes of value creation; (III) assessing the risk of products/services that are created collectively; and (IV) increasing transparency and accountability in value creation costs, scope of earnings, and profit margins.

From the review provided above, we identify the determining factors of value delivery renewal in terms of the introduction of new distribution channels, new customer interface, and new CRM practices.

#### 2.1.4 Value capture renewal

One essential part of any innovative activity is making a financial profit out of it. In the BM context, financial concerns feature in the value capture element and fall under the two main categories of revenue and cost functions (Bocken et al., 2014; Kranich and Wald, 2018). To put it simply, this component articulates the way(s) a firm earns (revenue models) and spends (cost structures) money. Sources of income, the volume of earnings, fixed and variable costs, and factors influencing the firm's profit margin are all classified under the value capture component (Clauss, 2017; Massa et al., 2017).

As mentioned earlier, we superimpose the value-based business strategy onto the conventional profit margin in order to point up the incorporation of the customers' willingness-to-pay and the suppliers' opportunity cost into the logic of the costs of resources/production and the price of products/services. Value capture therefore entails a broader range of factors influencing the customers' willingness-to-pay and the suppliers' opportunity cost such as the firm's reputation (Zott et al., 2011) and its relationship with suppliers (Osterwalder and Pigneur, 2010). As such, a positive change in the balance between the customers' willingness-to-pay or the price of offerings and the suppliers' opportunity cost or the costs of resources/production constitutes value capture renewal.

As illustrated in Figure 8, and emanating from previous studies (Sanchez and Ricart, 2010; Bocken et al., 2014), value capture renewal can be implemented in different ways as follows: (I) to achieve economies of scale by producing massive volumes of the same product type that offers cost reduction; (II) to decrease operational costs through improving efficiency in production and reduce waste; (III) to minimise the opportunity costs, building a more constructive relationship with suppliers that can also bring a reduction in the price of resources acquired from suppliers; (IV) to introduce new or high-end offerings that are capable of raising customers' willingness-to-pay and command premium prices that

are significantly higher than the costs. Provided that the offerings in this type of value capture renewal are of higher quality, customer loyalty is likely to be greater and, therefore, a greater market share is also expected to be achieved (Bocken et al., 2014).

The shaded area in Figure 8 illustrates situations in which there are desirable balances between customers' willingness-to-pay, price of products/services, costs of resources/production, and the suppliers' opportunity costs. Such conditions are ideal for value capture renewal.

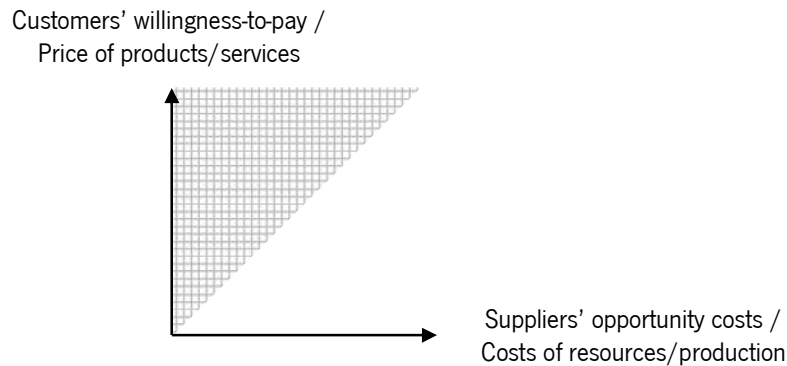


Figure 8. Value capture mechanisms (adapted from Bocken et al., 2014; Sanchez and Ricart, 2010)

One of the conclusions arising from the argument above is that the firm's value capture renewal can be affected by its ability to design the production mechanisms as flexible and agile as possible so they can be adjusted with minimum expenses when customers' demands change. This way, the costs of new product/service development stays minimal. In addition, business intelligence, defined as the ability to gather, organise, and analyse business information to support decision-making, can help managers evaluate their companies' operational efficiency and achieve optimum conditions for cost-effective value creation (Trieu, 2017).

Employees also play a key role in value capture renewal. In line with Arbussa et al. (2017), personnel commitments to cost reduction and flexible task management lead to a sustainable optimisation of costs in creating and delivering the value. Equally important, revenue generation is dependent on employees' efforts at coming up with new higher-value offerings that increase earnings. Frontline employees, for instance, given their direct interaction with customers, are able to develop better knowledge about customer behaviour and therefore suggest new sources of revenue based on the feedback they receive from customers. They are able to secure sales closer to the customers' highest willingness to pay level. Additionally, customer engagement, which sustains revenue generation is highly dependent upon their performance (Van Doorn et al., 2010).

Focusing on the revenue model, value added products/services are reported as one of the sources of income for the provider (Matzler et al., 2013). An offering can be sold successfully at a relatively high price only if it offers a unique value which competitors cannot offer. Therefore, product/service innovation are implied as important sources of income. Equally however, if not more importantly, is the ability to saturate the market before the intervention of competitors (Robertson, 2017). Clearly, if a company is not able to make the most of its innovative offering due to the fast-moving imitation of rivals that are quicker to capture the market, it may fail even to secure a return for its investment costs.

From the review provided above, we identify the determining factors of value capture renewal in terms of developing a new cost-reduction culture, introducing new cost-reduction activities, renewing the cost and revenue structure, and exploring new sources of income.

#### 2.1.5 Value network renewal

Despite the apparent benefits of inter-firm collaboration practices for long-run growth (Chesbrough, 2006), BM research has been less concerned with the added value gained through partnership activities so that a fewer number of studies (e.g., Battistella et al., 2017) consider 'value network' as a distinct element of the firm's BM. It is frequently articulated in the general innovation literature that partnership practices bring about significant positive consequences such as cost and risk minimisation, knowledge and technology transfer, and resource sharing (Sosna et al., 2010). Further, factors influencing the quality of inter-firm relationships are commonly suggested as prior experience, openness (the extent to which the partner is willing to share its resources and assets), trust, compatibility (the extent to which the partners' goals, cultures, and values are compatible with each other), and complementarity (the extent to which the partners' offerings or capabilities complement each other) (Dyer and Singh, 1998).

In the BMI literature, the subject of partnership/networking runs through 'open BM' theory suggesting that those firms who put more weight on external sources when designing their BM (open BM) are more likely to proactively respond to environmental changes than those who function under closed BMs (Chesbrough, 2006). In the context of BMI, it is argued that inter-firm networking and collaborative practices can lead partners to *open up* their BMs stimulating their BMI practices (Spieth and Meissner, 2018). Equally, the network of partners is regarded as a potential source of additional resources required for BMI (Giesen et al., 2007). Companies that leverage external sources of knowledge in order to stimulate their innovation mechanisms are more in contention for successful modification of internal structures and implementation of BMI (Saebi and Foss, 2015).

The mechanism of value network renewal is based on reconfiguring the network of partners in such a way that the firm, either directs its focus of existing relationships to certain partners who bring more competitive advantages, or builds a series of new partnerships (Giesen et al., 2010). In the former case, a *value network analysis* that is recognised as a “business modelling tool” (Allee, 2008, p. 21) can help the firm to distinguish between more and less valuable members of its network. Afterwards, a deeper and more direct communication and a more reliable and trustworthy relationship with the selected array of partners needs to be fostered (Battistella et al., 2017; Rayna and Striukova, 2016). Also, new partnership practices can be developed in the forms of outsourcing, crowdsourcing, franchising, merger and acquisition, strategic alliances, joint R&D projects, consortiums, clustering, out-licensing, and spin-offs (Santos et al., 2009).

Customers are one of the richest sources of change in the firm’s partnership structure. A better relationship with customers therefore allows further information exchange about potential partners. Different methods, such as testimonials, customer reviews and ratings can be executed to extract such information. Also, participation in industry gatherings, conferences, exhibits, and tradeshows is key to building a more efficient network. This requires an open business model as well as a corporate culture that encourages engagement with external sources of knowledge, innovative ideas, technology, finance, and network externalities.

Organisational social capital is another capability identified as enabling the firm to capitalise on the knowledge stock of both internal (Maurer et al., 2011) and external (Macke et al., 2010) entities. Correspondingly, inter- and intra-organisational social capital are proposed as enablers of value network renewal. In line with Ortiz et al. (2018), the cognitive dimension of inter-organisational social capital (shared organisational norms, values, and behaviours) enables the knowledge identification capability (the ability to search, identify, and assess knowledge), and the structural dimension of organisational social capital (the configuration of linkages between the focal firm and its partners) enables the external knowledge acquisition capability (the ability to integrate knowledge from the environment into existing knowledge bases). Moreover, the relational aspect of inter-organisational social capital (the ability to build and maintain trust, mutual help, and reciprocity with partners) is reported as enabling the organisational growth of partners (Kianto and Waajakoski, 2010).

Apart from inter-organisational social capital, research is conducted subscribing to the enabling effect of intra-organisational social capital on value network renewal. Based on the findings of Maurer et al. (2011), the stronger the organisation members’ social capital, the greater the firm’s performance in

acquiring market knowledge from external parties providing information about possible future customers, competitors, and partners.

From the review presented above, we identify the determining factors of value network renewal in terms of renewing the network of partners, building new types of partnerships, changing the prioritisation of partners, and introducing new communication channels.

## **2.2 Agility and its effect on BMI**

Agility, in the organisational context, is defined as the firm's ability to quickly and easily adapt its strategies and practices in order to better respond to environmental changes (Tallon and Pinsonneault, 2011). Assuming a dichotomy when defining agility is prevalent in the literature. While the first aspect (tactical/operational agility) describes the firm's ability to quickly redesign current operational mechanisms, the second part (strategic agility) is to create a foresight system in order to develop as accurate as possible predictions of future trends in the business environment (Vickery et al., 2010; Neumann and Fink, 2007). Additionally, based on a body of literature (Breu et al., 2002; Hopp and Oyen, 2004; Muduli, 2017; Sherehiy and Karwowski, 2014), the importance of employees cannot be overlooked when defining organisational agility. Workforce agility is thus recognised as one of the most important aspects of agility in organisations and is defined as the extent to which employees are able to accomplish various tasks so that managers can reconfigure the workforce, rapidly introducing new roles and tasks (Breu et al., 2002; Sumukadas and Sawhney, 2004). Therefore, our definition of agility is in terms of operational, strategic, and workforce agility. This conceptualisation allows us to develop a better understanding of the agility-BMI relationship.

### **2.2.1 Operational agility**

Operational agility, or agile manufacturing, is defined as the ability to design the production/operational systems as flexible as possible so that when customers' demands change, new customer-driven products/services can be introduced as quickly and effectively as possible (Denning, 2017; Gunasekaran, 2001). Sambamurthy et al. (2003) define operational agility as the extent to which a firm is able to adapt its operational mechanisms quickly and easily to match environmental changes. It is argued that operational agility is different from 'lean production' in the sense that the former, rather than cost efficiency and productivity, places a stronger emphasis on meeting *customer needs* (Gunasekaran, 1999). Lean production is employed to achieve economies of scale by producing larger volumes of the same type resulting in cost reduction whilst operational agility is employed to reach *economies of scope* increasing the production systems' reconfigurability and product variety (Gunasekaran, 1999).

Denning (2017) highlights three organisational practices through which a firm can enhance its operational agility: (I) build small teams working on specific projects delivering real value to customers and get immediate feedback; (II) redesign operational processes with the aim to incorporate customer value into each individual process; and (III) improve communication and networking among the created teams. Operational agility is further supported by a number of techniques such as virtual manufacturing (simulation and optimisation of operations via computer-based analyses) and concurrent engineering (concurrent, instead of consecutive, operation of product development practices) (Gunasekaran, 2001).

The argument above suggests the potential enabling effects of operational agility on value creation, value proposition, and value capture renewal. To elaborate further, we describe here two most commonly-used operational agility methods and their effects on different dimensions of BMI. 'Scrum' is a widely used method, according to which, a team of cross-functional organisational members is built to develop a new product/service throughout a process that begins with generating a list of prioritised customer needs and expectations (product backlog) by a group, called the 'product owner' unit; then, the development group, called the 'scrum developer', begins creating different parts of the end product/service. Concurrent with the scrum developer's operations, a group called 'scrum master' inspects the fit between the created parts and customers' wishes (Ahmad et al., 2014). Figure 9 depicts how the firm can make its new product development process nimbler through implementing Scrum.

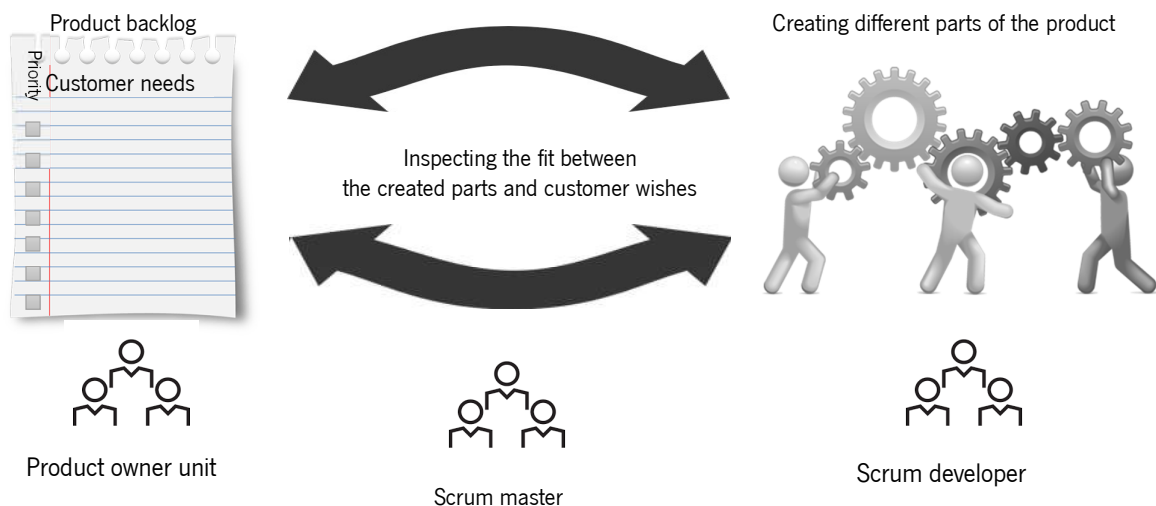


Figure 9. Agile product development through Scrum (adapted from Ahmad et al. (2014))

The processes incorporated in this method enable the firm to introduce new value propositions that are of higher quality and more aligned with customer needs (Campanelli and Parreiras, 2015), which, in turn, are more attractive to customers, potentially raising their willingness to pay and thus the price these

new offerings can command. This illustrates the potential effect of this operational agility method, not only on the renewal of value creation, but also on value proposition and value capture renewal.

'Kanban' is another agile production method through which employees are required to document adequate visual information from their established operations and share them across the organisation. The shared information facilitates communication among different operational units allowing staff to detect deficiencies, identify the optimum form of (re)configuring processes, and hence, reduce lead times, waste, and costs (Campanelli and Parreiras, 2015). This suggests the enabling effect of implementing the Kanban method on value creation and value capture renewal. In particular, the potential effect of operational agility on value capture renewal can be understood in terms of cost reductions in the sense that firms can achieve major costs savings by cutting their waste and eliminating those operations or processes that do not add real value to customers (Denning, 2017; Ghezzi and Cavallo, 2018).

Reflecting on the review provided above, we identify the determining factors of operational agility in terms of identifying customers' needs frequently, adjusting operations to meet customers' needs, inspecting the fit between operations and customers' needs, and improving communication among operational units.

### 2.2.2 Strategic agility

The strategic agility literature is still relatively in its infancy given that the concept has not been present for more than two decades (Weber and Tarba, 2014). The concept is defined as the firm's continuing ability to sense environmental changes and develop as accurate as possible foresight about future trends in the business environment (Doz and Kosonen, 2010; Vecchiato, 2015). It enables the organisation to steadily renew its strategies in order to take first-mover advantages and ensure sustainability (Weber and Tarba, 2014). Strategically agile companies are capable of operating in volatile, ever-changing environments by continuously changing their products/services or their structure (Weber and Tarba, 2014).

Our conceptualisation of strategic agility is based on the study of Doz and Kosonen (2010) which is recognised as one of, if not the earliest efforts extending the field of agility into the domain of BMI. Doz and Kosonen highlight the role of *strategic sensitivity* in improving organisational agility and define it as the ability to stay aware and alert of the business environment. They propose that strategic sensitivity, leadership unity (the ability to build and maintain persistent communication with employees supporting top management decision-making), and resource fluidity (the extent of flexibility in the deployment of

resources and in the reconfiguration of capabilities) make an organisation more agile. In the following paragraphs, we explain the potential enabling effect of strategic agility on BMI.

The enabling effect of strategic agility on BMI has been the subject of recent calls for research (Foss and Saebi, 2017; Spieth et al., 2014). A literature review of the two concepts suggests potential interconnections. Strategic agility (Vecchiato, 2015) and BMI (Schneider and Spieth, 2013) are acknowledged as essential capabilities for firms operating in volatile, complex, and rapidly changing environments. Additionally, both concepts entail the capability to develop highly flexible structure and internal systems/regulations (Bock et al., 2012; Doz and Kosonen, 2010).

Denning (2017) argues that strategically agile firms employ out-of-the-ordinary ways to develop new value propositions. As such, rather than over-focusing on current problem-solving systems and customer complaints, they imagine the future and come up with *market-creating* innovations that trigger a sharp increase in sales. That is, strategically agile firms target *blue oceans* of unexplored markets while others struggle in saturated *red oceans* of highly competitive sectors (Denning, 2017). This particularly suggests the enabling effect of strategic agility on value proposition and value capture renewal.

Drawing on recent research that stresses the importance of 'anticipating future business threats and opportunities' in strategic agility (Baskarada and Koronios, 2018; Vecchiato, 2015), we propose 'strategic foresight' – the firm's ability to analyse current market trends, detect signals of future environmental changes, estimate or predict possible new trends, and develop long-term strategies to capitalise on future opportunities and control threats (Marcus, 2016; Paliokaitė and Pačėsa, 2015; Rohrbeck, 2012) – as an essential constituent part of the business strategic agility. This allows us to build on the strategic foresight literature which covers a wide set of theories underpinning the determining influences of foresight practices on firms' agility. The importance of foresight efforts on innovation is acknowledged in the literature. Doz and Kosonen (2010) highlight the necessity of developing strategic sensitivity, defined as "the sharpness of perception of, and the intensity of awareness and attention to, strategic developments" (p. 371). By broadening strategic, organisational, or corporate foresight techniques (the literature indicates that these terms can be considered synonymous (Rohrbeck and Schwarz, 2013), companies learn how to identify, interpret, and meet discontinuous changes (Rohrbeck, 2012).

Strategic foresight is viewed as a process of systematically scanning the environment for relevant data, interpreting the foresight data gathered from the environment, selecting the preferred strategies, and integrating the acquired foresight knowledge into resources, capitalising upon future opportunities (Paliokaitė and Pačėsa, 2015; Rohrbeck and Schwarz, 2013). In a more detailed characterisation of the foresight process, Rohrbeck (2011) presents six stages: (I) set the objectives and areas for data



extraction; (II) target the sources of information and select the best data collection method; (III) gather the data; (IV) analyse the data and interpret the results; (V) make the decisions based on the findings; and (VI) take the practical course of action. Figure 10 depicts the strategic foresight process and the abilities required to perform each stage. As illustrated in this figure, the scanning and interpreting practices are continuous until the whole foresight process is over.

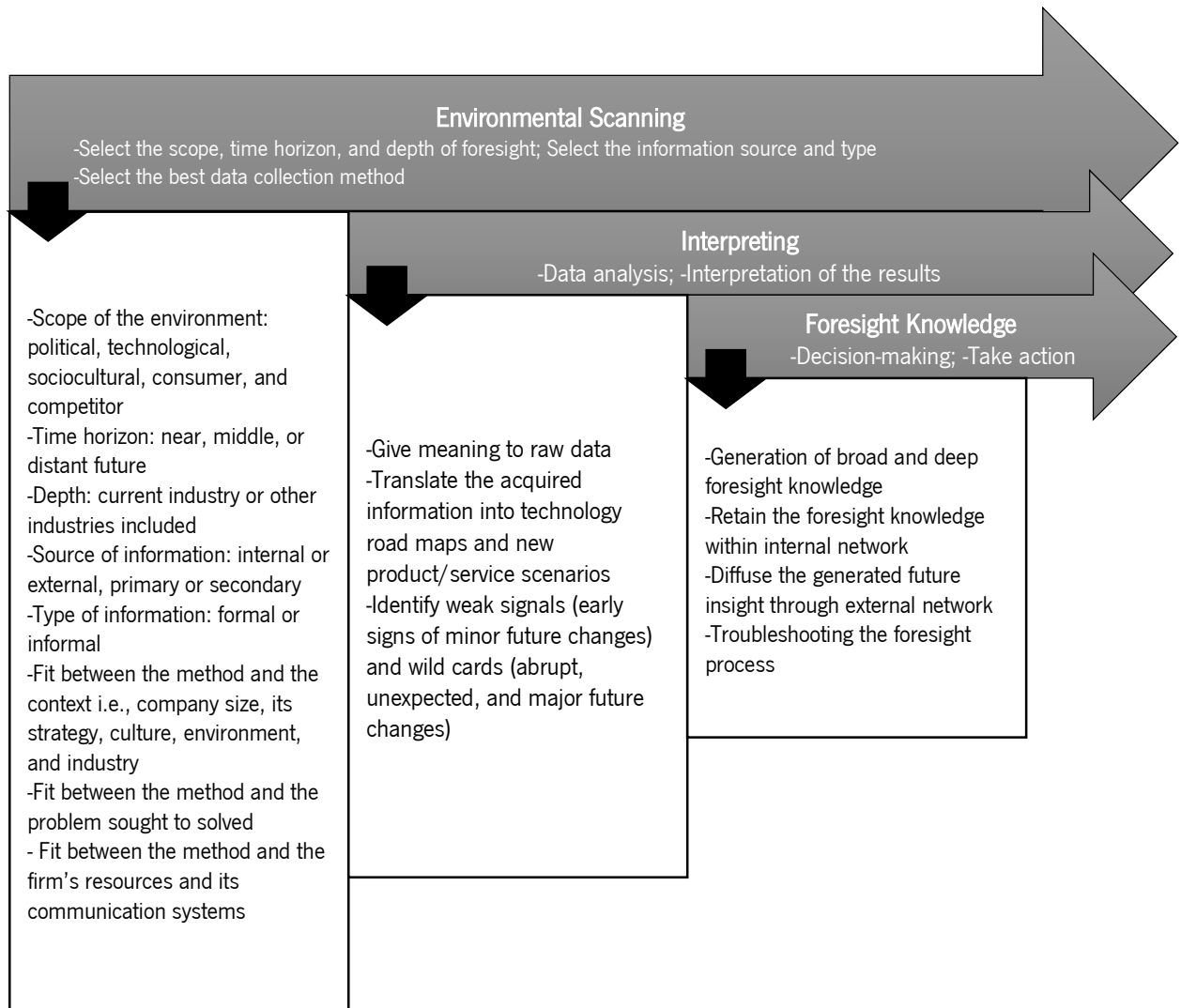


Figure 10. Strategic foresight process (adapted from Rohrbeck (2011) and Horton (1999))

Innovation has been found to be one essential purpose of strategic foresight practices in the sense that innovative business ideas derive from a prior imagination of the market and products/services in the future (Denning, 2017). The more this imagination becomes connected with foresight information, the more the prediction becomes accurate and reliable. Companies that have gathered foresight information are able to make strategic decisions more quickly and with more confidence (Marinova et al., 2013). BMI

is one of such decisions that needs a determinate, accurate, non-destructive, and reliable change of the firm's logic of doing business (Trapp, 2014).

Strategic foresight is argued to be a strategic capability enabling the firm to renew its structure (Paliokaitė and Pačėsa, 2015). It enables the innovation capacity of the firm in different aspects. Equipped with foresight skills, managers are able to refine the kind of information that flows to the firm allowing them to glean the data that is needed for developing future innovative products/services. Managers are also provided with methods and techniques of interpreting the collected data such as the 'technology or product/service radar' facilitating the extrapolation of current trends and, in turn, the prediction of future trends. In line with Achtenhagen et al.'s (2013) findings, firms that keep monitoring market changes, technological developments, and competitors' new offerings are more inclined to create, explore, and exploit new business opportunities and, in turn, are more likely to successfully renew their BMs. Strategic foresight has thus the high potential to directly impact value creation and value proposition renewal. Paliokaitė and Pačėsa (2015) argue that environmental scanning practices provide the firm with essential tools to examine the external resources determining which partners are well worth investing in and sharing resources. This implies the enabling effect of strategic foresight on value network renewal.

Our review of strategic agility presented above led us to identify the determining factors of this concept in terms of scanning the environment, gathering foresight data from the environment, analysing and interpreting the gathered data, and applying the acquired foresight knowledge.

### 2.2.3 Workforce agility

An agile workforce has been increasingly recognised as the key to creating an agile organisation (Muduli, 2017; Sherehiy and Karwowski, 2014) that is able to quickly adapt and change in response to environmental turbulence and stiff competition (Breu et al., 2002; Muduli, 2016). The advantages of having agile human resources in terms of cost, time, quality, and variety of activities undertaken by the company are stressed in the literature (Sumukadas and Sawhney, 2004). Agile employees are capable of handling the shift from one task to another enabling the firm to respond quickly to different emerging demands (Hopp and Oyen, 2004). Other organisational agility aspects such as manufacturing flexibility (Muduli, 2017) or technological flexibility (Hopp and Oyen, 2004) are highly dependent on workforce agility.

Workforce agility is defined as the extent to which the firm's workforce is able to accomplish varied tasks (Sumukadas and Sawhney, 2004) so that managers can reconfigure the workforce rapidly introducing new roles and assigning current employees to new tasks as needed (Breu et al., 2002). If

permanent employees are not agile enough to cover newly created tasks, the firm is forced to hire contingent or temporary ones (Sumukadas and Sawhney, 2004). An agile workforce has an open-to-change mindset and is able to react and adapt quickly to organisational changes caused by external factors (Muduli, 2016).

Dyer and Shafer (2003) highlight three behavioural characteristics of an agile workforce in terms of being proactive (the ability to seek and seize opportunities for the organisation as quickly as possible), adaptive (the ability to multitask, shift quickly between roles, and collaborate with others), and generative (the ability to learn and share the acquired knowledge as quickly as possible). Hopp and Oyen (2004) identify several factors that promote workforce agility in terms of the use of teamwork with cross-functional employees; flexibility in working hours, skill breadth and depth, and employees cross-training. The use of cross-trained employees, in particular, is postulated to play a crucial role in operational flexibility as employees with cross-functional skills enable the firm to achieve agile competitiveness (Meier et al., 2000).

Despite the undeniable role of human resources in any innovative efforts (Gupta and Singhal, 1993), the existing literature has not yet been applied well to the implementation of BMI. Investigating the theoretical foundations of BMI, Ritter and Lettl (2018) believe that the field has the potential to further enrich the strategic management domain through its seminal perspectives such as the resource-based view of the firm, highlighting the role of resources (physical capital resources, human capital resources, and organisational capital resources) on BMI success. Foss and Saebi (2017) also highlighting the skills and characteristics of the workforce, arguing that the success of BMI is depended on the workforce's resistance to or compliance with the change. Hence, they suggest studying the characteristics of employees for future research on BMI.

Beer et al. (1993) propose a workforce-focused process for managing unplanned changes. As shown in Figure 11, the process begins with enhancing commitment to change by employees' collaborative identification of problems. Accordingly, a team of engineers, shop floor employees, and managers is formed to diagnose the company's problems and develop effective solutions. The second stage is designed for creating a shared vision of the company's business strategies. More visibility of the values, objectives, mission, norms, and cultural identity of the company is provided. Moreover, information sharing is facilitated to improve awareness among employees. In the third stage, the unity and cohesion among employees is increased by first encouraging them to develop new skills and learn new knowledge required to fulfil their new roles, and secondly by improving the coordination of work across groups. The fourth stage is about the reconfiguration of the roles and responsibilities in a way that support team

working. An important consideration in this stage is that the pressure from senior managers should be controlled, encouraging employees to re-establish their roles themselves. In the fifth stage, formal policies and procedures are developed to institutionalise the desired change. The use of reward systems is one of such policies that encourages new employees to stay committed to the change created by previous ones. This stage is much connected with the last stage where the company's strategies and practices are monitored and streamlined to support and reinforce the change institutionalisation.

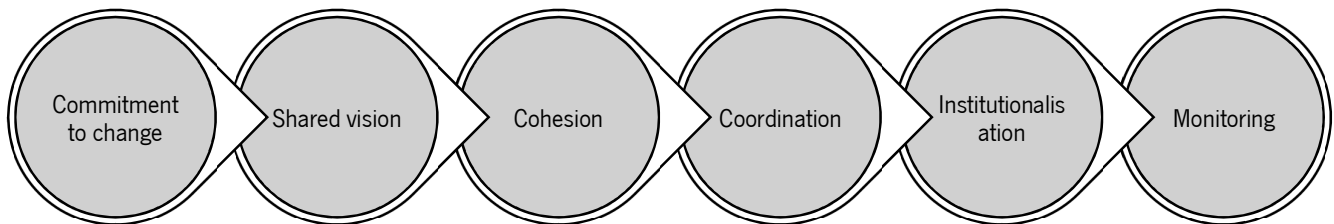


Figure 11. Workforce-focused process of managing unplanned changes (adapted from Beer et al. (1993))

In regard to workforce agility, scholars argue that companies trapped by inertia and bureaucracy are not able to respond to abrupt environmental changes and fail to compete against their nimbler, fast-moving rivals (Arbussa et al., 2017; Vecchiato, 2015). Because the workforce of strategically agile firms interact with each other in form of *reticulated networks* rather than hierarchical employer-employee relationships (Kotter, 2014), employees are able to communicate with each other more effectively and the management team is therefore able to make bold decisions more quickly and with less conflict, enabling the grasping of emerging opportunities swiftly (Doz and Kosonen, 2010) and thus achieving BMI.

From the review provided above, we identify the determining factors of workforce agility in two main categories of aspects and practices. Accordingly, three aspects – namely proactiveness, adaptability, and being generative – and three practices – namely team working, flexibility in working hours, and cross-training – are identified.

### 2.3 Business model ambidexterity and its effect on BMI

When defining ambidexterity, scholars refer to the simultaneous development of different organisational capabilities such as efficiency and innovation (Patel et al., 2013), efficiency and flexibility (Nissen, 2014), normality and abnormality (Turner et al., 2016), competition and cooperation (Lou and Rui, 2009),

refining and extending processes (Voss & Voss, 2013), and finally the more frequently mentioned capabilities, i.e. exploration and exploitation (e.g., Tushman and O'Reilly, 1996).

In the business innovation literature, it is noted that the long-term success of a firm hinges upon its ability to keep developing different types of innovation (O'Reilly and Tushman, 2004). In other words, firms that are only able to do a few improvements in their current products/services are doomed to failure in the long-run. In their seminal work, Tushman and O'Reilly (1996) develop the idea of organisational ambidexterity building on the premise that "focusing on only one [type of innovation] guarantees short-term success but long-term failure" (p. 11). In their view, therefore, ambidextrous organisations are those who adopt incremental innovations (exploiting current opportunities), yet simultaneously achieve radical innovations (exploring new opportunities).

The organisational learning literature has provided significant insights into the development of the concept of organisational ambidexterity, addressing the simultaneous fulfilment of the two objectives of learning, i.e. creating new knowledge and exploiting the existing knowledge (Levinthal and March, 1993). The optimal balance between explorative and exploitative learning capabilities ensures long-term success on the grounds that the exclusive engagement in each of these two to the exclusion of the other implies significant disadvantages (Auh and Menguc, 2005). Excessive exploration at the expense of exploitation is a costly practice that results in the generation of new, undeveloped and immature ideas (March, 1991). Levinthal and March (1993) refer to this situation as a 'failure trap' in which the organisation, after experiencing a failure, makes excessive exploratory efforts (experimentation, change, and innovation) to avoid future failures but the excessive attention to the search for change leads to repeating failures. On the other hand, the engagement in exploitation to the exclusion of exploration produces only short-term benefits and therefore cannot guarantee long-term development (March, 1991). According to Levinthal and March (1993), this situation represents a 'success trap' as the organisation falls into the pursuit of short-term, tangible outcomes of a particular activity and fails to explore new areas. Given the disadvantages of either of these two objectives, the simultaneous achievement of exploration and exploitation is what provides the organisation with significant competitive advantages (He and Wong, 2004).

Levinthal and March (1993) highlight three types of learning myopia and the simultaneous engagement in exploration and exploitation as a solution to overcome these myopias. The first myopia of learning is called the temporal myopia and addresses that learning, in some cases, tends to focus on short-term outcomes and therefore fails to consider long-term effects. As a result, although short-run survival is guaranteed by exploitative behaviour, the organisation fails to sustain growth in the long run.

Spatial myopia is the second form of learning myopia, according to which, the learning experience might be narrowed down to a certain range of issues closer to the learner and thus leading to a lack of awareness of other related factors. An example of this myopia occurs when organisational learning is limited to the processes and activities within the firm overlooking the dynamics of the external environment. Finally, failure myopia occurs when the learning process is excessively focused on success and achievement whilst failed experiences are not properly grasped and analysed. These myopias of learning imply the need for ambidexterity in organisations.

Drawing on the arguments provided above, we clarify two main types of ambidexterity: structural and contextual. Structural ambidexterity refers to the simultaneous achievement of different objectives through the use of separate units that are specialised in distinct activities and each unit pursues a certain goal independently of other units (Tushman and O'Reilly, 1996). As such, each unit is given a distinct organisational space where it can deploy private resources and apply its own strategies and methods to achieve particular goals that are different from the other units (Raisch and Birkinshaw, 2008). This suggests the importance of identifying the organisational structure when defining structural ambidexterity. In line with De Visser et al. (2010), for instance, mechanistic organizational structures that include high levels of formalization are more suitable for exploitation-oriented units whilst organic structures that have low levels of centralization perform better for exploration-oriented units. The level of conflict is also argued to be of central importance in the sense that structural ambidexterity is suggested to be more effective in cases where the extent of conflict between the objectives is very high (Chang et al., 2009). The managers must therefore reduce tensions within the organisation paving the way for cooperation and communication among separate units (Nosella et al., 2012).

Contextual ambidexterity is defined as the practice of using the same business units, structures, and properties to simultaneously exploit current opportunities and explore new ones (Wang and Rafiq, 2014). Gibson and Birkinshaw (2004) define contextual ambidexterity as the firm's ability to simultaneously develop alignment and adaptability. Alignment (the extent to which the patterns of activities in a business unit are well-organised and coherent) is a product of three factors, namely the coherent operation of management systems, optimum configuration of resources, and clear definition of objective for human resources; while adaptability (the ability to rapidly reconfigure the activities within a unit in order to better respond to environmental changes) is represented by three practices: motivating human resources to challenge unproductive activities in the organisation, management systems' flexibility that allow human resources to respond quickly to changes, and rapid reconfiguration of internal structures in response to market changes (Gibson and Birkinshaw, 2004). Therefore, the achievement of contextual ambidexterity,

apart from factors such as leadership style, organisational structure or culture, depends on the simultaneous improvement of alignment and adaptability capabilities. Meglio et al. (2015) recognise contextual ambidexterity as a dynamic capability that enables the firm to make the most effective use of resources and assets in order to mobilise, coordinate, and integrate exploration and exploitation activities.

It is commonly argued however that key to the concept of contextual ambidexterity is the idea that these capabilities can be treated as *complementary* rather than alternative approaches to growth and development (Chang and Hughes, 2012). To be able to achieve contextual ambidexterity, therefore, human resources are required to learn how to divide their time and energy across complementary activities, maintaining the balance and harmony (Tushman and O'Reilly, 1996; Nosella et al., 2012; O'Reilly and Tushman, 2013).

The organisational ambidexterity literature seems to lack clarity with respect to ambidexterity and dynamic capabilities. Viewing ambidexterity as a dynamic, rather than ordinary capability is one solution. Dynamic capabilities differ from ordinary capabilities in the sense that they put equal emphasis on strategic, long-term issues, unlike ordinary capabilities which focus only on short-term, measurable, and tangible outputs (Teece, 2012). Organisations oriented solely towards ordinary capabilities target resources and behave in the manner that the more resources they have, the better their chances of winning the competition. Dynamic capabilities, on the other hand, focus on the optimum reconfiguration of resources by which key competitive advantages can be achieved that not only enable the firm to develop the right products/services for the right markets at the right time but also ensure survival in the long-run (Eisenhardt and Martin, 2000; Winter, 2003). Given the argument above that stresses the importance of strategic and long-term planning in dynamic capabilities, ambidexterity should be viewed as a dynamic capability as the explorative practices embedded in ambidexterity foster a more long-term approach to growth and development. Moreover, apart from the efficiency of day-to-day operational routines, an ambidextrous organisation looks also towards future unknown opportunities. Finally, the primary promise of ambidexterity, i.e. maintaining an optimum balance between different interests, requires specific capabilities in addition to resources.

Another approach to explain how ambidexterity fits with the notion of dynamic capabilities is to narrow the focus on the antecedents or consequences of ambidexterity. Accordingly, one can propose that ambidexterity requires the simultaneous adaptability of visions and plans to future opportunities, the alignment of management systems and operational mechanisms to environmental changes, and the senior leadership rapid decision making processes in times of change (O'Reilly and Tushman, 2008). These enabling capabilities of ambidexterity share very similar qualities with the sensing,

seizing, and transforming capabilities that are commonly recognised as the main dynamic capabilities required for organisations operating in fast-changing environments (e.g., Helfat et al., 2009; Teece, 2007). Another example is the work of Lee and Rha (2016) suggesting that organisations build dynamic capabilities to make their supply chain healthier so that the simultaneous integration of existing assets and development of new routines enable the rapid adaptation to environmental changes.

Another potential linkage between dynamic capabilities and ambidexterity is the idea that ambidexterity enables the firm to develop key dynamic capabilities that are essential for achieving competitive advantages. Innovation, as a dynamic capability, is commonly recognised as one of the main consequences of ambidexterity (e.g., Simsek, 2009). It can be argued that to be able to succeed in both short-term and long-term pursuits, the firm on the one hand needs to maintain the continual process of improvement of current techniques, procedures, and practices and on the other hand it needs to implement innovations that are new to the firm, market, or industry and require radical or fundamental changes (Jansen et al., 2005). The principles of the concept of organisational ambidexterity suggest that the simultaneous engagement in conflicting practices - incremental and radical innovations in this case - hinges upon the firm's ability to effectively exploit and explore at the same time.

The notion of ambidexterity has more recently been applied also to the Business Model. The emerging of the concept of BM ambidexterity is a result of a number of studies (e.g., Markides, 2013) that use the organisational ambidexterity concept to address the question of 'how a firm can perform under two different business models simultaneously'. The idea of BM ambidexterity can be traced back to the seminal works on organisational ambidexterity where O'Reilly and Tushman (2004) point out the firm's ability to "shift [simultaneously] between different organisational models" (p. 75). BM ambidexterity is thus defined as the firm's ability to compete with two (or more) different BMs concurrently in a way that allows the firm to exploit its current BM, while simultaneously exploring new BMs, capitalising on a broader range of opportunities (Kranz et al., 2016; Markides, 2013). An example, reported in the literature, is a situation where companies already adopting a differentiation BM decide to engage also in the cost-leadership BM competing with both BMs simultaneously (Winterhalter et al., 2016). Also, established companies who are challenged by newcomers equipped with disruptive innovations can take advantage of developing dual BMs concurrently (Markides and Charitou, 2004). BM ambidexterity enables companies that have been offering high-quality products/services to penetrate lower-class sectors of the market at the same time, overcoming the threat of their emerging low-cost competitors (Winterhalter et al., 2016).



Depending on the extent of conflict between the new BM and current one, the firm can either introduce the new BM separately from, or jointly with the current one (Khanagha et al., 2014). As such, in the case where the new BM and the current one have no, or minimum conflicts, the new BM can be integrated into the existing structures. On the other hand, when the conflicts between the two BMs are potentially damaging to the firm's prospects, a separate unit is assigned to run the new BM (Khanagha et al., 2014). Markides and Charitou (2004) propose four solutions for different scenarios based on the level of conflict between the new BM and the current one: (I) separation: when the new BM absolutely conflicts with the existing one, the context of the two BMs (site, structures, resources, etc.) should be separated completely; (II) phased separation: when conflict is low, yet target markets of the two BMs are different, the new BM is implemented inside the organisation capitalising on current resources and later, when the new BM is established, it will be separated; (III) phased integration: when the two target markets are strategically similar, yet the strategies embody serious conflicts, the new BM is first developed in a separate context and then, over time, it will be integrated into the original BM; (IV) integration: when the new BM incurs minimum conflict with the existing one, it is implemented inside the organisation from the beginning, using the firm's infrastructures. Figure 12 illustrates the four BM ambidexterity strategies.

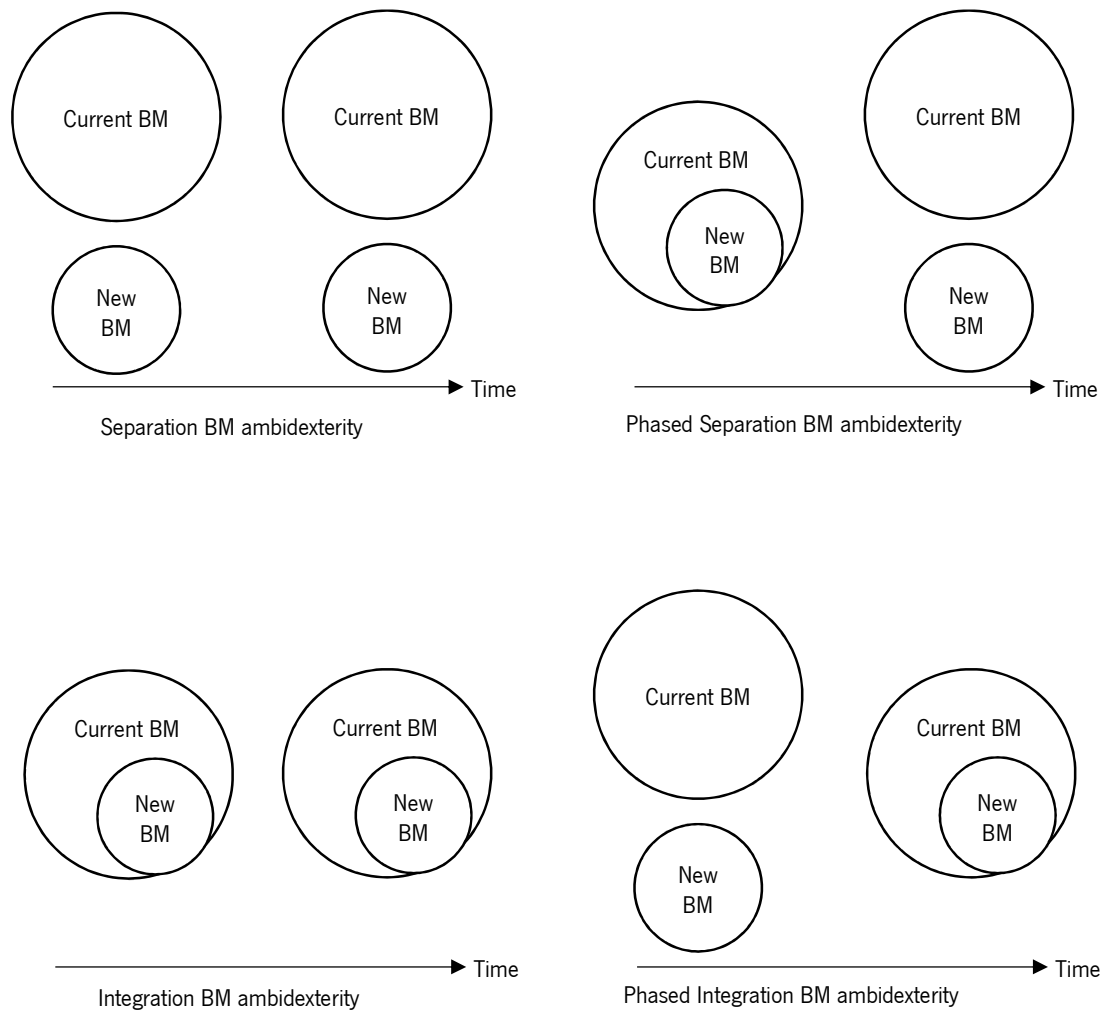


Figure 12. Four BM ambidexterity strategies (adapted from Markides and Charitou (2004))

Markides (2013) asserts that successful BMI depends on the firm's ability to sustain a subtle balance between autonomy and control of its new BM in such a way that the workforce assigned to implementing the new BM should be autonomous in some aspects and connected in other aspects. In similar lines, Winterhalter et al. (2016) conclude that companies following the differentiation strategy can develop BM ambidexterity through 'domain separation' (separate certain value chain activities of the new BM from the old ones) to implement a new BM reaching lower-priced markets. Running two different BMs simultaneously is a challenging task and might lead to a major failure if the new BM disrupts the current BM's plans and activities. Therefore, certain considerations and activities should be taken into account before and during the introduction of the new BM. Table 6 highlights several of such considerations and activities that increase the odds of success in BM ambidexterity.

Table 6. Practices to consider when separating/integrating the new and current BM (Markides and Charitou, 2004)

<i>Separation BM ambidexterity</i>	<i>Integration BM ambidexterity</i>
<ul style="list-style-type: none"> <li>- Assign a different, independent management board to implementing the new BM in a distinct unit</li> <li>- Give managers great operational and financial autonomy</li> <li>- Allow the new unit to build and follow a different culture</li> <li>- Encourage the new unit to stabilise communication with the current unit</li> <li>- Ensure the new offerings of the new BM do not cannibalise those of the current BM</li> <li>- Ensure the company's image and reputation is not damaged</li> <li>- Ensure customers do not shift from high-value offerings to less valuable ones</li> </ul>	<ul style="list-style-type: none"> <li>- Prepare the infrastructure to run the new BM simultaneously with the current one</li> <li>- Take advantage of the synergies between the new BM and the current one</li> <li>- Leverage the strengths of the current BM</li> <li>- Ensure the new BM does not include tasks which brings problems to the current BM</li> <li>- adopt existing policies to fit the new BM</li> </ul>

The concepts of organisational ambidexterity in general, and BM ambidexterity in particular, are suggested to be instrumental in studying innovation (Tushman et al., 2010) and more specifically BMI (Markides, 2013). The literature, however, is not clear about how ambidexterity and BMI relate to each other. Although there are some proposals about the enabling effect of BM ambidexterity on BMI, such as these following studies, they are still mostly underdeveloped and there is no empirical evidence. Khanagha et al. (2014), studying business model renewal and ambidexterity, find that the learning capital gained through experimentation with new structural forms enables the firm to develop a strategy-formation process to compete with dual BMs simultaneously. In accordance with Kranz et al. (2016), companies that develop a consistent balance between exploitation and exploration are more likely to succeed in renewing their BM. The authors highlight that having *slack* resources (financial and human) reinforces the ability to create and maintain such a balance. Additionally, developing spin-offs is reported as a potential strategy to add exploratory practices to the firm's structure and activities. So, although speculative and unconfirmed, these accounts suggest BM ambidexterity as a potential enabler of BMI.

From the above review, we identify three objectives of BM ambidexterity: the achievement of both short- and long-term BM changes; the simultaneous achievement of incremental and revolutionary BM changes, and the simultaneous exploration of current BM opportunities and exploitation of new BM

opportunities. Additionally, we identify four approaches of BM ambidexterity in terms of separation, phased separation, phased integration, and integration.

#### **2.4 Results of the literature review and the initial conceptual model**

As identified in the literature review, we first conceptualised BMI in terms of five dimensions, namely the capability to renew value creation, value proposition, value delivery, value capture, and value network. We then reviewed the BMI literature seeking for its enabling factors. The results of our review suggested that the more strategically and operationally agile, the stronger the firm's capability to renew its BM. We conceptualised operational agility as the firm's ability to maximise the flexibility of its production/operational systems. Strategic agility, in turn, was conceptualised as strategic foresight, the organisational capability to forecast future opportunities and threats. Additionally, our literature review suggests the role of workforce agility, defined as the capacity to develop agile human resources, providing an optimum reaction to ongoing and predicted environmental changes. Finally, our review of a recent stream of BMI research hinted that those firms who are capable of competing with different BMs (BM ambidexterity) are readier to renew their BMs in order to make the best of new opportunities. Regarding BM ambidexterity, we found that, depending on the potential conflicts between the new BM and the current one, the firm should adopt either integration or separation approaches.

Based on the results of our literature review, we developed an initial research model (Figure 13) that highlights the firm's agility and ambidexterity as enabling factors of its BMI base.

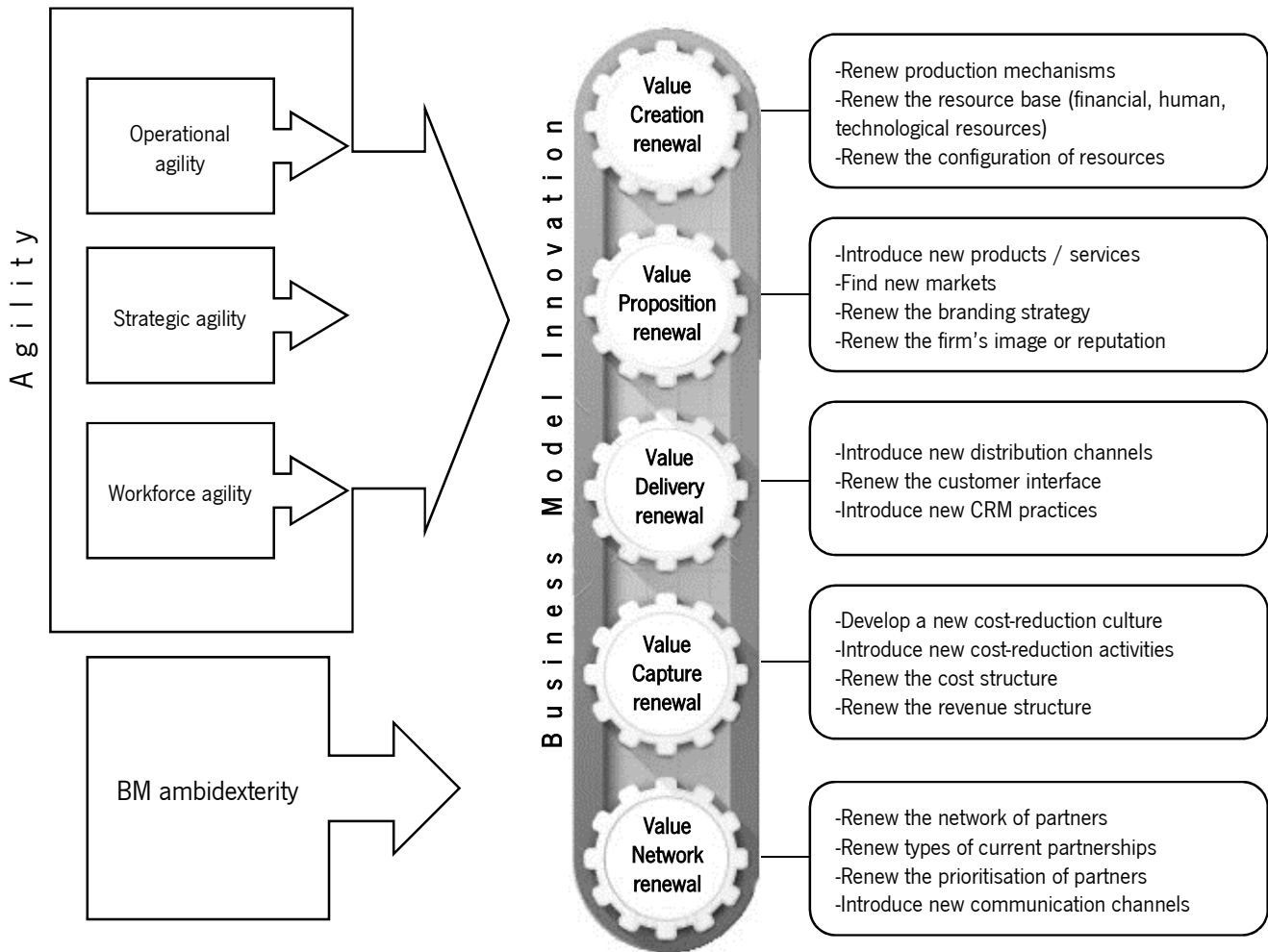


Figure 13. Initial research model derived from literature review (source: the author)

### 3 Research methodology

We have adopted a qualitative research approach since the nature of our research requires the use of inductive strategies for gathering and analysing data (Flick, 2009). Qualitative research “addresses questions such as what is occurring? and how is it occurring?” enabling a deep description, interpretation, and explanation of the results (Lee et al., 1999, p. 164). Further, a case study design is used on the grounds that: (I) one of our main research question is a “how” question (how the identified capabilities facilitate BMI?); (II) we are unable to manipulate the behaviour of the participants; (III) contextual conditions (established Portuguese T&C companies who survived the crises mentioned earlier) were of fundamental importance in our research; and (IV) the boundaries between the phenomenon and context were not evidently distinguishable (Yin, 2003). Case study research is best suited for situations where “the researcher is interested in a phenomenon (BMI, in this research) and the context (the organisational context of surviving Portuguese T&C companies) in which it occurs” (Houghton et al., 2015). We have

observed multiple cases adhering to the notion that the use of multiple rather than single cases helps achieve triangulation which increases confidence and accuracy of data analysis (Denzin, 1989). We also developed our research design based on an explanatory design as the primary purpose of this design method is “to determine how events occur and which ones may influence particular outcomes” (Hancock and Algozzine, 2016, p. 33). In accordance with Stake's (1995) book, *The Art of Case Study Research*, a constructivist position is adopted allowing us to build our research hypotheses *after* obtaining the results of data analysis. This is particularly relevant to our research given the dearth of literature on the potential links between operational and strategic agility, ambidexterity and BMI (Ghezzi and Cavallo, 2018; Foss and Saebi, 2017; Markides, 2013).

As presented in table 7, we followed the case study research framework introduced by Eisenhardt (1989) to conduct our multiple case study.

Table 7. Case study process stages following the Eisenhardt (1989)'s framework

<i>Step</i>	<i>Activity</i>	<i>Current research</i>
Getting started	Define the research questions	- What are the enablers of BMI? - How the identified enablers influence BMI?
Selecting cases	Define the sampling method and cases	- Sampling: the intensity sampling method - Cases: Portuguese T&C companies that have been operating before 2005 and pursue ambidexterity
Crafting instruments and protocols	Define research methods	Semi-structured interviews and observation
Entering the field	Collect data	- 22 face-to-face interviews with CEO/Co-CEOs of the selected cases - Site visits to the companies' facilities
Analysing data	Analyse data	Narrative analysis of the transcribed interviews
Shaping propositions	Formulate propositions based on the results	Propositions about the relationships between agility, ambidexterity, and BMI are developed.
Enfolding literature	Discuss the findings comparing with either supportive or conflicting literature	The discussion of empirical and theoretical results led us to develop the justifications of the relationships proposed.
Reaching Closure	Finish the process when theoretical saturation is achieved	The process is finished by the formation of our research model that led us to certain conclusions about the relationships between agility, ambidexterity, and BMI.

The population of the current research are Portuguese established T&C companies who have been operating for more than 20 years. This allows us to gain insights into how these firms could survive the

mentioned crises (especially the termination of the ‘Agreement on Textiles and Clothing’ in 2005) by renewing their BMs. To select the cases, we used the purposive sampling, in general, and intensity sampling method in particular (Patton, 2002) allowing us to identify “excellent or rich examples of the phenomenon of interest, but not highly unusual cases” (p. 234). Although the findings of a case study research are mostly applicable within the selected context (Baxter and Jack, 2008), “to best generalise, however, the inquirer needs to select representative cases for inclusion in the qualitative study” (Creswell, 2007, p. 74). Therefore, as highlighted in Table 8, we tried to include in our sample different types of companies in terms of B2B (Business to Business) vs. B2C (Business to Customer), clothing (i.e., apparel) vs. non-clothing, and SMEs vs. large firms<sup>1</sup>. We solicited advice from the Portuguese Association of Textile and Clothing (ATP)<sup>2</sup> to better identify the most representative cases.

Table 8. Research sample profile

<i>Names given to our case companies</i>	<i>N. of interviews</i>	<i>Age of the company</i>	<i>N. of employees</i>	<i>Share capital (in euros)</i>	<i>Products</i>	<i>B2B vs. B2C</i>
MixedApparel	8	37	200	1.500.000	Various types of clothing	B2B
DenimPro	3	25	1150	4.250.000	Men & women denim wear	B2C
CarSeatcover	11	31	1000	5.000.000	Car seat covers	B2B

The unit of data collection in our study is set to CEOs or senior executives of the selected cases. To gather the data, we used face-to-face, semi-structured interviews and non-participant observation conducted through visits to the three case companies together with the documents provided by ATP. All in all, 22 interviews were conducted in English, all tape-recorded and transcribed afterwards. Given that none of the interviewees are native English speakers, quotes may sometimes contain grammatical inaccuracies. To simplify the specification of the sources of the quotes presented in the results, we label our three case companies by MxAp, Denim, and Car. Accordingly, in MixedApparel (MxAp), eight interviews were conducted with two CEOs and the director of the production department. Quotes from CEOs are labelled as MxAp-CEO1 and MxAp-CEO2 and quotes from the director of the production department are labelled as MxAp-Production. In the case of DenimPro, our second case company, three interviews were carried out with directors of marketing (Denim-Marketing), production (Denim-Production), and sales and expansion (Denim-Sales). Finally, in our third case company, i.e. CarSeatcover, we conducted 11

<sup>1</sup> Our definition of firm size is based on the European Commission's staff headcount, according to which, a small firm is the one with less than 50 employees, a medium-sized firm has between 50 and 250, and a large firm has more than 250 employees.

<sup>2</sup> Associação Têxtil e Vestuário de Portugal (<http://www.atp.pt>)

interviews with seven executives responsible for the following areas: sales and expansion (Car-Sales); operational management (Car-Operation1 and 2); engineering (Car-Engineering); purchasing and procurement (Car-Procurement); IT and communication (Car-IT); and plant controlling management (Car-Controlling).

#### **4 Results**

To obtain more accurate and reliable results from our data analysis, we used methods that are especially appropriate for qualitative case study methodologies (Baxter and Jack, 2008), rather than general qualitative data analysis techniques. As such, we followed Yin (2014)'s analytical protocol which is proposed particularly for case study analysis and incorporates specific instructions for multiple case study research. Yin's data analysis protocol encompasses two stages: analytic strategy and analytic method. Accordingly, as presented in Figure 14, we adhere to a combination of two analytic strategies (relying on theoretical propositions, and developing a case description) and one analytic method (logic models) throughout the course of data analysis. Our reliance on theoretical propositions stems from the importance of previous research in the field, findings of which are reflected in the initial research model of our study (see Figure 13). Moreover, case descriptions have provided a clearer picture of each case company, in particular their BMI practices. The information used to describe each case is derived from two main sources: interviews and non-participant observation (Houghton et al., 2015). As for analytic methods, we used logic models to describe the activities each case company performs to renew its BM. Additionally, the enabling effects of agility and ambidexterity are also depicted via the corresponding logic models. The use of logic models allowed us to illustrate initial theories derived from our literature review in the context of our cases, providing a framework for further analysis of data (Yin, 2014).

Finally, we used Miles and Huberman (1994) four-stage data analysis process that is suggested by previous research (Houghton et al., 2015) to be employed in qualitative case study research. Using a broad coding (or initial coding), we came up with general codes that provided a starting point for further exploration of the data (Saldaña, 2013). Afterwards, we used pattern coding to develop meta-codes or themes which represent first-order or higher-order theoretical constructs of the study. Notes taken during the coding process helped us detect causes and explanations of the potential links between themes. In the third stage of data analysis, the code tree was organised by merging codes or changing their scope or classification. Lastly, considering the relationships between research constructs derived from data analysis, we formulated several propositions about the relationships between BMI, agility, and BM ambidexterity.



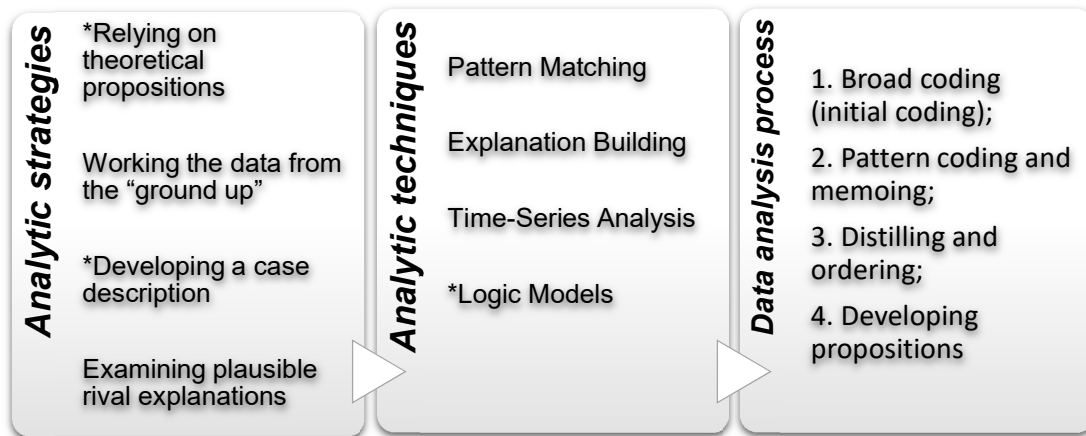


Figure 14. Case study analytical protocol (adapted from Yin (2014) and Miles and Huberman (1994))

We also draw inspiration from Van de Ven's (2007) engaged scholarship model which has received valuable insights from academia for providing a solid basis that guides the generation of theoretical knowledge on the one side, and the application of the generated knowledge for problem-solving purposes on the other side (Storberg-Walker, 2003). As displayed in Figure 15, Van de Ven proposes that the process of theory development and application includes four stages of problem formulation, theory building, research design, and problem-solving. In the first stage, the research problem is recognised and situated addressing the questions of who is the research target group, what is the real issue, where and when is the research to be undertaken, why the solution of the problem is of interest, and how to resolve the problem. After the recognition of the problem, the information is collected and processed to determine the settings and relevant parameters. Next, the researcher defines the objectives, questions, and activities that are required to resolve the research problem.

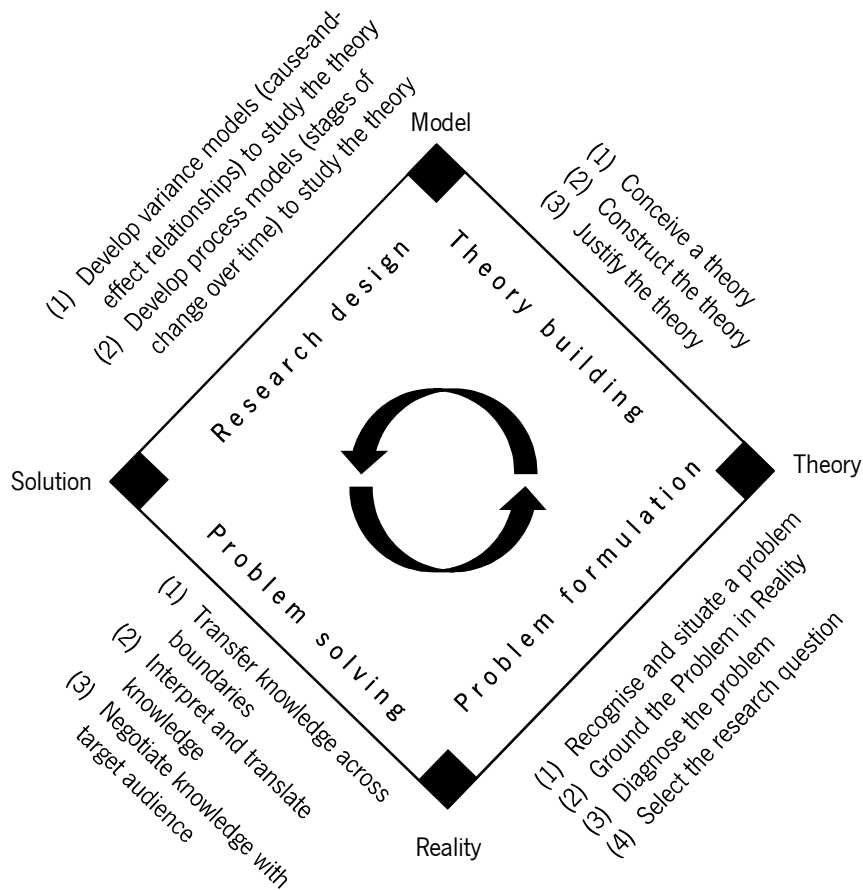


Figure 15. Engaged scholarship diamond model (source: Van de Ven (2007))

After the formulation of the problem, the process of theory-building initiates with an observation or experience that leads to the generation of hypotheses (when concrete observation of variables is possible) or propositions (when dealing with abstract knowledge about theoretical constructs). Next, the consequences of the hypotheses/propositions are deduced by applying them to a case and the theory-building process proceeds with justifying or evaluating the theory using inductive reasoning.

Having built and justified the theory, the model follows by developing either variance or process models. Variance models are applied when causal relationships are established to answer the questions of ‘what causes what’, whilst process models serve to explore the development and change stages of a concept, addressing the questions of ‘how things develop and change over time’. Variance models, in particular, fit the purpose of this study as they are designed to answer research questions of “what are the antecedents or consequences of the issue” (Van de ven, 2007, p. 145).

After formulating the problem, building the theory, and designing the research method, the last stage is problem-solving. The main goal here is to be able to present the results of the research to an audience in a way that makes them aware of the scientific and practical application of the generated theories. An important task in communicating the knowledge, as Van de Ven argues, is to effectively manage the boundaries. The researcher needs to be aware of the ways of communicating the findings with different groups of audience who might be researchers (from relevant domains or other disciplines) or practitioners. The effective interpretation of knowledge when transmitting is the focus of the next stage of problem-solving, where the researcher makes modifications and improvements to ensure that the message is conveyed with minimum loss and deviation. Finally, the last step is to negotiate interests between the different groups of audience in order to manage the consequences of potential conflicting interests.

#### **4.1 Case description**

##### Case 1: MixedApparel

MixedApparel was established 37 years ago as a family business. Now, with about 200 employees, it offers a broad range of T&C products including womenswear, menswear, childrenswear, babywear, sportswear, and underwear. The overall BM transformation the company has achieved over the years is the shift from economies of scale to economies of scope in response to the entrance of low-cost labour manufacturers in the market. As such, the company's logic of business is now more oriented towards a wide variety of mass-customised clothing items rather than mass production of a limited variety of clothes. Our analysis of the company revealed several specific BMI practices which have most influenced its growth in the company's history.

Initially, the company was reaching its customers only through *agent companies* which were specialised in finding clothing-retail companies and contracting them to buy the manufacturer's products. These third-party companies, despite their contribution to the manufacturer's sales, were gaining a considerable amount of commission, appropriating a good part of the value. Over the years, however, the company managed to broaden its communication and networking capabilities enabling it to reach customers directly and consequently cut the cost of agencies.

The second major BMI carried out by MixedApparel was the addition of *services* to the company's portfolio to take advantage of goods-services combinations. At first, the company's relationship with customers (clothing-retail companies) was limited only to delivering the ordered products. Later, the company started to play a more active role, providing customers with guidance and suggestions on new

products, such as what are new fashion trends, what designs/colours are trending, what is the most appropriate price for new clothes, etc. These services have brought the company a stronger relationship with customers increasing their reliance upon the company. This way the company ensures that in case of future crises, its customers prefer the company to other manufacturers, even to those that offer lower prices.

The third major BMI practice implemented by MixedApparel was the shift from a production-centred BM to an *R&D*-centred one. The company found that mass production alone was no longer beneficial and hence decided to give higher priority to *mass customisation*. Accordingly, the production department inside the company is assigned to either produce premium orders or prototypes of lower-class ones. Production of the latter is subcontracted to third parties. This way, the company has managed to decrease its production facilities and, in turn, engage more in R&D activities. As an expansion of this BMI practice, the company started subcontracting to manufacturers in North Africa, taking advantage of low-cost labour. Currently working with 25 subcontractors, MixedApparel is able to offer a broad range of clothing items.

#### Case 2: DenimPro

DenimPro is a well-established apparel producer, with a working history of 25 years offering mainly denim wear for men and women. Currently, with more than 1000 employees, the company has earned a strong market dominance and reputation for offering best-fitting denim wear. There are two major factors making the company special compared to national rivals, namely its established presence in multinational markets and a bold positioning in B2C markets and branding. Hence, the company has now direct access to the end-users either via its physical stores or online shopping platform.

BMI practices in DenimPro can be seen as major milestones in the history of the company as emphasised by the informants throughout the course of interviews. In very early stages, DenimPro was selling its clothes only to local retailers through wholesale channels following a B2B model. It did not take long for the company to evolve into a B2C model launching its own retail stores. The company's capacity for product differentiation gave the CEOs the confidence to develop their own brand under which they could offer jeans that were different from the existing ones in terms of quality, fitting, comfortability, and durability. Triumphant over local rivals, the small national market was not sufficiently attractive to the company. Hence, the sales and expansion department took action to open the company's retail stores abroad, starting with neighbouring countries. The rapid expansion of the company's frontiers triggered the idea of building a *multi-channel* business model that, although seemingly ambitious at first, was

commercially viable over time due to the true differentiation of the company's jeans. As a result, the company is able now to reach millions of individual customers via different models including its own retail stores, its online shopping platform, department stores, multi-brand retail stores, e-tailers, franchising, and outlet stores. The transformation into a multi-channel business model, despite resulting in increased profits, has been challenging given the potential inconsistencies inherent in the activities of each channel. The managers thereby have decided recently to develop an *Omni-channel* business model under which, instead of having several channels working in parallel, the channels are integrated into one model establishing consistency across channels in terms of product offer, pricing strategies, campaigns, communication methods, and so forth. Along with all growth activities, the company has integrated environmentally friendly practices in operational mechanisms. The introduction of new garment washing systems that consume less energy and reduce the waste of water is an example.

### Case 3: CarSeatcover

With more than three decades of experience in the textile industry, CarSeatcover is currently operating as a producer of car seat covers. With more than 4000 employees and three production bases in Portugal and in two other countries, the company represents a successful example of an industrial textile producer. The industrial textiles segment includes a wide array of textile items that open up less saturated markets to Portuguese T&C companies. Unlike the clothing markets, which are intensely competitive by the presence of well-established global manufacturers such as the Inditex group or clothing-retail companies like H&M and C&A, the industrial textiles sub-sector is less crowded and hence more attractive to textile manufacturers who are able to transform their BMs without inhibiting their core businesses.

The company started by producing bulk bags for industrial usage to only Portuguese retailers. After a short time, the owners accepted an order for sewing car seat covers for a third party and were happy with the results. This initial successful experience led the company to focus solely on seat covers working directly for different international OEMs (original equipment manufacturer) and later expand its production bases by launching two factories in two foreign countries to be geographically closer to its customers' factories. These OEMs are different sectors of car manufacturing companies producing different parts of the car, such as the seat. The next major change in the BM of the company was the transformation from mass production of few (low value) product types for a limited number of car companies to mass customisation of (higher value) varied products in low quantities for a large number of car companies. The biggest lesson the company's CEO has learned from the global financial crisis was that such crises have a less negative impact on premium car brands than on others. Therefore,

capitalising on its market experience and resources, the company's target markets were changed to premium car brands such as Mercedes-Benz, BMW, and Audi. Given the successful experience of working with premium brands, the company has recently adopted a new BM serving higher-end brands such as Porsche, Lamborghini, and Aston Martin. The BMI practices of our three case companies are presented in Table 9 below.

Table 9. BMI practices of case companies

<i>Case companies</i>	<i>BMI practices</i>	<i>Type of BMI</i>
MixedApparel	Reach customers directly instead of through intermediaries	Value network renewal
	Add services to the company's portfolio to take advantage of goods-services combinations	Value proposition renewal
	Develop from a production-centred BM into an R&D-centred one	Value creation renewal; Value proposition renewal; Value network renewal
	Outsource production to a network of partners	Value network renewal
	Direct delivery to the end-user via online platforms	Value delivery renewal
DenimPro	Develop new eco-friendly production mechanisms	Value creation renewal; Value proposition renewal; Value capture renewal
	Develop from B2B to B2C model	Value network renewal; Value delivery renewal
	Develop from local customers to global ones	Value network renewal; Value delivery renewal
	Develop a multi-channel BM	Value proposition renewal; Value network renewal
	Develop an Omni-channel BM	Value proposition renewal; Value network renewal; Value creation renewal
CarSeatcover	Sell to OEMs directly instead of through intermediaries	Value network renewal; Value delivery renewal; Value capture renewal
	Develop from mass production of few product types to mass customisation of (higher value) varied products	Value creation renewal; Value proposition renewal
	Start relationships with high-end car companies	Value network renewal; Value proposition renewal; Value capture renewal

## 4.2 Coding and developing propositions

Following Miles and Huberman's (1994) data analysis process, prior to manual coding of data, we drew a “provisional start-list of codes” (p. 58) based on our literature review and initial research model. Accordingly, three main variables, viz. BMI, Agility, and BM ambidexterity were coded to three master codes, namely BMI, AGI, and BMA, correspondingly. Similarly, the dimensions of each variable were presented by lower-order sub-codes. Therefore, five second-order codes were created indicating the dimensions of BMI: value creation renewal (VC), value proposition renewal (VP), value delivery renewal (VD), value capture renewal (VCA), and value network renewal (VN); and three second-order codes indicating the dimensions of Agility: operational agility (AGI-O), strategic agility (AGI-S), and workforce agility (AGI-W). This procedure led us to “mark off segments of data in each class of variables” (p. 58). Table 10 illustrates our start-list of codes which adheres to the structure set by Miles and Huberman (1994, p. 59-60).

Table 10. Start-list of codes

<i>Variables</i>	<i>Codes</i>	
<b>Business model innovation</b>	<b>BMI</b>	<b>1</b>
Value creation renewal	BMI-VC	1.1
Renew production mechanisms	BMI-VC-RP	1.1.1
Renew resources (financial, human, technological)	BMI-VC-RR	1.1.2
Renew the configuration of resources	BMI-VC-RC	1.1.3
Value proposition renewal	BMI-VP	1.2
Introduce new products/services	BMI-VP-INPS	1.2.1
Find new markets	BMI-VP-FNM	1.2.2
Renew the branding strategy	BMI-VP-RB	1.2.3
Renew the firm's image or reputation	BMI-VP-RIR	1.2.4
Value delivery renewal	BMI-VD	1.3
Introduce new distribution channels	BMI-VD-DC	1.3.1
Renew the customer interface	BMI-VD-CI	1.3.2
Introduce new CRM practices	BMI-VD-CRM	1.3.3
Value capture renewal	BMI-VCA	1.4
Develop a new cost-reduction culture	BMI-VCA-CRC	1.4.1
Introduce new cost-reduction activities	BMI-VCA-CRA	1.4.2
Renew the cost structure	BMI-VCA-CS	1.4.3
Renew the revenue structure	BMI-VCA-RS	1.4.4
Find new sources of income	BMI-VCA-SI	1.4.5
Value network renewal	BMI-VN	1.5
Renew the network of partners	BMI-VN-NP	1.5.1
Build new types of partnerships	BMI-VN-TP	1.5.2
Renew the prioritisation of partners	BMI-VN-PP	1.5.3
Introduce new communication channels	BMI-VN-CC	1.5.4
<b>Agility</b>	<b>AGI</b>	<b>2</b>
Operational agility	AGI-O	2.1

Identify customers' needs frequently	AGI-O-ICN	2.1.1
Adjust operations to meeting customers' needs	AGI-O-AO	2.1.2
Inspect the fit between operations and customers' needs	AGI-O-IF	2.1.3
Improve communication among operational units	AGI-O-IC	2.1.4
Strategic agility	AGI-S	2.2
Scan the environment	AGI-S-S	2.2.1
Gather foresight data from the environment	AGI-S-G	2.2.2
Analyse and interpret the gathered data	AGI-S-A	2.2.3
Put the acquired foresight knowledge into practice	AGI-S-P	2.2.4
Workforce agility	AGI-W	2.3
Aspects		
Proactiveness (Proactive exploration of opportunities)	AGI-W-P	2.3.1
Adaptability (multitask, shift quickly, and collaborate)	AGI-W-A	2.3.2
Being generative (learn and share quickly)	AGI-W-B	2.3.3
Practices		
Team working	AGI-W-W	2.3.4
Flexibility in working hours	AGI-W-F	2.3.5
Cross-training	AGI-W-C	2.3.6
<b>BM ambidexterity</b>	<b>BMA</b>	<b>3</b>
Ambidexterity objectives	BMA-AO	3.1
Focus on both short- and long-term BM changes	BMA-AO-SL	3.1.1
Simultaneous achievement of incremental and revolutionary BM changes	BMA-AO-IR	3.1.2
Simultaneous exploration of current BM opportunities and exploitation of new BM opportunities	BMA-AO-EE	3.1.3
Ambidexterity approaches	BMA-AA	3.2
Separation	BMA-AA-S	3.2.1
Phased separation	BMA-AA-PS	3.2.2
Phased integration	BMA-AA-PI	3.2.3
Integration	BMA-AA-I	3.2.4

Having this start-list of codes, we began the manual coding of the data of our case companies. We adopted a more deductive, top-down approach to coding data on the grounds that our literature review had led us to a pre-set coding scheme (see Table 10) that we used to harmonise with our initial research model (Saldaña, 2013, p.65). The results confirm the significance of some factors derived from our start-list of codes. Moreover, some factors emerged from data that will be added to the final coding tree presented in the following tables later in this section. Table 11 illustrates the results of our broad (initial) coding.

Table 11. Broad coding results

<i>Variables</i>
<b>Business model innovation</b>
<b>Value creation renewal</b>
<b>Practices</b>
<ul style="list-style-type: none"> <li>Subcontracting the routine parts of production</li> </ul>



- 
- Gathering and analysing data from production to find solutions to decrease the lead time or improve efficiency
  - Using process automation
  - Using new eco-friendly technologies
  - Recruiting versatile human resources
  - Recruiting shop floor workers from low-wage countries like Morocco
  - Allocating a team to finding and solving production problems
  - Training current human resources
  - Involving human resources in decision making
  - Providing HR benefits like insurance, kindergarten, Gym, etc.
  - Using finishing techniques such as colour loss, colour discharge, de-sizing, and stonewashing in a unique and sophisticated way so the jeans look different
  - Identifying best practice through trial and error efforts

#### **Outcomes**

- Making better use of resources
- Standardising production by which the most possible similar quality and performance is achieved in each production unit
- Having an organisational culture that encourages innovation (e.g. rewarding those who offer new ideas)
- Making human resources feel like a family

#### **Value proposition renewal**

##### **Practices**

- Adding new features and benefits to clothes, e.g., changing the raw materials so the retailer can sell the clothes with lower/higher prices.
- To outsource the routine parts of production and, in turn, invest more in research and design of new clothes
- To align all organisational activities and policies with sustainability. For example, to use more cotton and less polyester and other non-natural raw materials. Also, to help customers recycle clothes.
- Providing customers with a product information brochure that gives information about the high quality of raw materials, production standards, fair-trade, employees fair treatment, and so on.
- To provide added-value services to retailers. For example, to help them develop their new products or improve the current ones.
- To provide suppliers with the required machinery and teach them how to use them.
- Renewing the buildings and the outside area of the factory.
- To produce difficult-to-imitate products by decomposing the production cycle into separate parts (e.g., swing, or dyeing) and outsourcing each to specific subcontractors
- Recycling plans to provide raw materials

##### **Outcomes**

- Increased variety of produced clothes
- Introducing newly designed clothes ahead of competitors
- Expanding the production capacity by finding different subcontractors so the company can cover a wider customer segment including both genders, different age groups, different countries, different cultures, and so on.
- Offering personalised products

#### **Value delivery renewal**

##### **Practices**

- Delivering the clothes ordered by retailers (brands) directly to the end-user
-

- 
- Creating an online shopping website to approach end-users
  - Creating a customer complaints system
  - Providing visits to the retailers' managers to come and see the factory
  - Using franchising
  - Building outlets
  - Delivering the products with discounts

**Outcomes**

- Getting closer to the end-user
- Providing added-value services to retailers

**Value capture renewal**

**Practices**

- Making and keep a certain amount of savings and use it in certain cases
- Spending more on seamstresses increasing their salaries and offering more financial rewards
- Developing managers' negotiation skills
- Recruiting people with high negotiation skills
- Gathering and analysing data of each production stage to calculate the waste in each stage
- Investing in computer-based automatic machines
- Implementing risk analysis of new projects before investment

**Outcomes**

- Getting better prices for either raw materials or products sold to retailers
- Reducing waste in production

**Value network renewal**

**Practices**

- Investing more on valuable relations and terminate valueless ones
- Building new required relationships in the forms of outsourcing, subcontracting, clustering, and acquisition
- Building new relationships with those who share common goals and values
- Merging and/or acquiring efficient suppliers
- Providing suppliers with required assistance e.g. technical services, training, etc.
- Helping suppliers improve their performance
- Providing retailers with consulting services
- Collaborating with universities and educational institutes
- Creating spin-offs
- Collaborating with international fashion institutes

**Outcomes**

- Reconfiguring the network of relationships
- Improving the image of the company for suppliers/customers
- Building and improving loyalty with suppliers/ customers

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**Agility**

Operational agility

**Practices**

- Making the production flexible and agile by subcontracting the routine parts of the production
- Gathering and analysing data from production to find solutions to decrease the lead time or improve efficiency
- Using the critical path method to decrease the lead time and increase agility
- Process automation

**Outcomes**

- Shift from mass production to mass customisation
-

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Strategic agility

**Practices**

- Following up-to-date technologies
- Monitoring competitors' products
- Gathering information about new emerging raw materials

Workforce agility

**Practices**

- Recruiting versatile human resources
- Recruiting seamstresses from low-wage countries
- Allocating a team to finding and solving production problems
- Training and teaching current human resources
- Providing human resources with services like insurance, kindergarten, Gym, etc.

**Outcomes**

- Involving human resources in decision making
- Making human resources feel like a family

---

**BM ambidexterity**

Achieve both short- and long-term results

Simultaneous presence in different price level markets

Simultaneous improvement of current products and the introduction of new ones

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Having the initial codes, we started a deeper analysis of data by eliminating redundant codes, adding more emerging codes, merging some codes and creating themes, changing their scope, and changing their classification (Saldaña, 2013). Theoretical consistency was also improved by separating the items that are part of the definition of each construct from the items that can be classified as antecedent conditions. The following paragraphs and tables describe how the codes are derived from the quotes of the informants.

#### 4.2.1 Value creation renewal

The analysis of data related to value creation renewal mechanisms showed that the main attribute of MixedApparel that makes it unique among competitors is the capacity to *subcontract* its production activities to certain subcontractors with a broad range of capabilities. This change has enabled the company to overcome crises caused by abrupt environmental changes. Taking advantage of new production technologies applied by subcontractors, MixedApparel is able to allocate its own resources to higher strategic value activities.

*After the entrance of low-cost producers from low-wage countries, we changed our business models in a way that we decreased our internal production size and built, in turn, partnerships with subcontractors. So, currently, we only produce either premium orders (i.e. high-end*

*clothes) or prototypes of lower-class clothes that are mass-produced by our subcontractors. This way, we can focus more on research and design instead of production (MxAp-CEO1).*

An important subcontracting initiative that MixedApparel takes is having the different production parts done by different subcontractors enabling the company to offer new clothing items that are difficult-to-imitate by competitors. The textile cluster located in the Northern Region of Portugal has provided manufacturers with a wide range of easy-to-access textile services (e.g., sewing, dyeing, pressing) offered in close proximity. MixedApparel capitalises on this aspect of the Portuguese T&C by attaining a broad knowledge of the local manufacturers and establishing a reliable network of subcontractors.

*Working within a cluster located here in north of Portugal enables us to have access to different clothing services like dyeing, sewing, and fabric easily and quickly (MxAp-CEO2).*

*We remain competitive with our rivals by subcontracting each production part to subcontractors who are specialised in specific functions like dyeing. We would lose our competitiveness if we did all parts by ourselves (MxAp-Production).*

The most important challenge of subcontracting for MixedApparel is the ability to maintain long-term relationships with subcontractors. Short-term subcontracting relationships do not provide sufficient benefits for the company due to the costs of terminating relationships with a subcontractor and finding a new one. Therefore, the company tries to feed its subcontractors with lucrative projects enhancing their commitments to the relationship.

With regard to internal production mechanisms, our data analysis reveals that *traceability*, meaning the ability to discover information about different stages of production and factors related to each stage, plays an important role in the production efficiency of MixedApparel. Traceability, achieved by means of digital technologies such as RFID, enables the company to optimise the use of resources and the amount of time spent on each part of the production. Moreover, the company always tries to improve internal *communication* between different levels of production in order to minimise delays caused by breakdowns or machinery failures. As implied below, the two factors mentioned above enable the company to renew its production mechanisms.

*We use internal communication, and traceability to trace the production cycle and verify the lead time, stages, persons involved in each stage, time of each stage, and so on. With these capabilities we generate production data [...] we use the data to better understand production patterns that helps us to create new processes (MxAp-CEO1).*

In the case of DenimPro, our data analysis reveals that the company's mission and values, which prioritise *differentiation* over economies of scale, determine its production policies and hence the manufacturing processes and mechanisms. To produce truly different denim jeans, the company's production department works closely with the R&D section in order to share the acquired knowledge on required combinations of raw materials as well as production techniques.

*[...] to gain and maintain business knowledge. Deep knowledge of the business is very important for us and we always try to keep up to date with the latest developments in textiles (Denim-Marketing).*

*Some years ago, to make a special type of push-up jeans, we needed a stretchy fabric like Lycra that should be very elastic so it can fit the body perfectly. Current stretchy fabrics at that time were not of good quality, so they could not withstand our washing tests. We therefore started to research and make a type of fabric that can be stretchy enough and does not affect adversely by washing. We could then make a type of fabric that was like Elastoester which is common nowadays (Denim-Production).*

One of the value creation renewal practices DenimPro has introduced into its production processes is the use of a tool that the company's managers call 'product matrix' by which the production and R&D departments work together linking customer needs and wants with production mechanisms.

*[to produce new clothes] First, the R&D and production teams work together to make something we call Product Matrix that considers the customer needs, fashion trends, prices, target points, etc. and production processes as well. Only after finishing this Product Matrix we start making sketches for new clothes (Denim-Production).*

Another factor enabling DenimPro to achieve product differentiation is its ability to employ sophisticated finishing techniques on the jeans after they are sewn and dyed completely. The objectives of finishing activities in DenimPro are twofold: first, to improve the performance and comfortability of the jeans; and secondly, to improve the look and feel of the clothes, giving the customers confidence, self-esteem, and attractiveness by wearing the jeans.

*The comfort, I mean fitting-to-body, and quality are two important features and priorities for us. The finishing is also a very important element of our business because things like bleaching, mercerising, ripping and distressing, etc. make our jeans different from the others (Denim-Marketing).*

*We see attractiveness [of the company's clothes] in two terms: 1. physically, we want our customers to feel maximum comfortability; 2. emotionally, we want our customers to feel more confident, empowered, sexy, etc. We want them to feel like they can conquer the world because they are wearing our clothes (Denim-Production).*

In CarSeatcover, lean manufacturing techniques are paid a lot of attention and the production management department makes a continuous effort to detect and employ up-to-date lean manufacturing methods to improve the production by reducing the setup time and the like.

*I have a bachelor's degree in industrial engineering and I try to put into practice the lean methods I learned, like the SMED to reduce the production time (Car-Operation1).*

Best practice is also sought and the managers try to achieve best practices in production by experimenting with different ways and methods of production.

*Most of the time, best practices result from our experiences and our past failures. So, we try to improve the production by assuring that previous mistakes will not happen again and resources will not be wasted (Car-Operation2).*

*We have weekly meetings where we get together and talk about our achievements and failures in the week, our planned achievements in next week and best practices to achieve them (Car-Operation2).*

Additionally, the standardisation of production processes is highlighted by one of the informants. This enables the company to produce products in all its three factories with the same standards and quality. Also, each production improvement achieved in any of the three bases is transferred to the others effectively.

*The standardisation of processes is very important for us to control the quality in our other factories. The way that we work in this factory is the way we do all over the world (Car-Engineering).*

*I think standardisation is very important because this way we can reach a best solution and prevent waste of time and resources. It is very important to avoid the duplication of work to reach a solution [...] it is important for us that the production solutions are shared in all our plants (Car-Operation1).*

Finally, the quality of the process is regarded as important as the quality of the product. By increasing the production process quality, the production management team tries to minimise the production time. Also, new IT technologies are used to control the productivity of the production processes.

*In our production, the perfect situation for us is that we use high-quality processes to produce a high-quality product (Car-Operation1).*

*We have an informatics system to control the production. For example, we use mobile phones to make it easier (Car-Operation2).*

Table 12 below presents the final coding tree of the value creation renewal theme.

Table 12. Final coding tree - value creation renewal

<i>Variables</i>	<i>Company</i>
<b>Business model innovation</b>	
<b>Value creation renewal</b>	
<ul style="list-style-type: none"> <li>• Subcontracting mass production to subcontractors with diverse product lines <ul style="list-style-type: none"> <li>-Subcontract distinct production parts to certain subcontractors</li> <li>-Sustaining the relationship with subcontractors by feeding them with lucrative projects</li> </ul> </li> <li>• Internal mass-customised production <ul style="list-style-type: none"> <li>-Introducing traceability</li> <li>-Using new eco-friendly technologies</li> <li>-Making better use of resources</li> </ul> </li> <li>• Develop a close interaction between R&amp;D and production departments</li> <li>• Build deep and wide knowledge of raw materials</li> <li>• Using 'product matrix' to link customer needs with production mechanisms</li> <li>• Using special finishing techniques to improve the appearance, comfortability, performance, or feel</li> <li>• Strict control over foreign production units</li> <li>• Using technological resources to improve production processes <ul style="list-style-type: none"> <li>-Use automated machines to produce certain pieces</li> <li>-Use smartphone apps to control the productivity of production</li> <li>-Employ up-to-date lean manufacturing techniques e.g. SMED to minimise production time</li> </ul> </li> <li>• Standardisation of production processes</li> <li>• Frequent knowledge sharing sessions among managers of different production sections in order to find the best practice in each part of production</li> </ul>	<p>MixedApparel MixedApparel</p> <p>MixedApparel DenimPro MixedApparel</p> <p>DenimPro &amp; MixedApparel</p> <p>DenimPro DenimPro DenimPro</p> <p>DenimPro</p> <p>CarSeatcover CarSeatcover CarSeatcover</p> <p>CarSeatcover CarSeatcover</p>

#### 4.2.2 Value proposition renewal

The analysis of data on value proposition renewal activities in MixedApparel indicates that the company is able to offer a varied range of clothes, “from a basic T-shirt to an elegant dress made with highly sophisticated techniques” (MxAp-CEO2), thanks to its diverse network of subcontractors. This variety of produced clothes enables the company to penetrate a wider range of markets and switch its products over to the most profitable ones based on the market conditions:

*Recently, we discovered some less-known, emerging markets that prefer certain types of clothes made by jersey over other fabrics. They order clothes that easily stretch to fit the body perfectly (MxAp-CEO2).*

An important value proposition that makes MixedApparel more attractive to its customers is its commitment to *sustainability* in the sense that the company tends, not only to use more environmentally friendly raw materials, but also to optimise its mechanisms to produce minimum waste.

*I believe we should be using less polyester and more cotton. We should prevent using artificial fibre that result from chemical processes because it is a serious threat to the environment (MxAp-CEO2).*

Another value proposition that the company is proud of offering is good working conditions to employees. Health-care, safety, education, sports and other services the company provides for its employees free of charge have promoted a positive image of the company.

*I believe that people are the centre of our company. We want our people to feel good, happy, and comfortable. We provide employees with good conditions like access to gym, free kindergarten, health insurance, canteen, etc. (MxAp-CEO1).*

Ensuring customers of its commitment to environmental ethics and human values, MixedApparel provides them with a product information brochure that showcases the high quality of raw materials, eco-friendly production mechanisms, fair-trade, employee fair treatment, and so on. The information is used by clothing-retail companies to inform the end-users that the product they are buying is guilt-free.

*People are becoming more cautious about the clothes they buy. So, they want to know where the clothes were made, in what working conditions, were the employees treated fair?, and so on (MxAp-CEO2).*



In DenimPro, differentiation is the most emphasised feature of its offerings that makes customers prefer the company's jeans over other brands.

*Our most important success and growth factor is the ability to innovate and differentiate in terms of product. People will buy your products if only they see something new in your product that is not in the brands they used to buy (Denim-Sales).*

*The differentiation is very important for us. [...] I believe when our customers are willing to pay 100 euros for a pair of our jeans while they can buy it by 10, 20, or 30 euros from other brands, is because they feel our jeans provide something that the others do not. What is important for us is to figure out why our customers should prefer us over our competitors. What makes us different from others? (Denim-Production).*

The importance of being special is reflected in the company's efforts to be responsive to even the most complicated demands of its customers. In one of the experiments, the marketing team found out that a major body of its female customers demand a type of jeans by which they can hide their belly fat for a better appearance. The company therefore introduced a specific production plan to make these special jeans.

*Once we decided to introduce a new specific type of jeans for women who wanted to hide their belly and waist fat when wearing jeans. We made around 150 samples to find the perfect design, material, and production processes to make such clothes. Wearing these special jeans, women could hide their fat and reshape their body to feel more confident and stylish (Denim-Production).*

Based on the interviews and as mentioned in value creation renewal activities, the clothes made by DenimPro enjoy sophisticated finishing techniques to be different in terms of comfort, fitting, and feel. Emphasised by the informants, low price has never been a value proposition of the company to its customers, rather, the company tries to convey the message that the money that customers pay for its jeans brings them an added value that cannot be obtained by low-priced brands.

*As we always try to show that our company offers the best fitting jeanswear and people who wear our jeans get the most comfortable experience. Our last customer survey reveals that our customers have better self-esteem when they wear our jeans. They feel more elegant, comfortable and stylish (Denim-Marketing).*

Given the company's direct interaction with individual customers, the informants believe that the image, brand, and reputation of the company makes its customers repeat their purchases.

*We believe our customers know that our jeans are the most fitting jeans in the world (Denim-Production).*

The company also pays particular attention to other factors that maintain and improve its reputation vis-à-vis other fashion brands. Sensitivity to environment and human values – similar to MixedApparel – is one of them. Enquired about which companies they prefer to work with, one of the informants (Denim-Production) said firmly that companies who, first of all, respect human issues e.g., do not use child labour. Additionally, speaking about the company's washing facilities, the same informant stressed that up-to-date technologies are utilised to minimise water consumption.

A rather unique value proposition renewal practice that DenimPro implemented about a decade ago was a recycling plan, according to which the company called on its customers to return their used clothes to the company and receive, in turn, a discount in their future purchases. This initiative, apart from some financial profits, conveyed the company's commitment to environmental ethics to its customers. The company re-uses the used jeans to make new "recycled" clothing items.

*In 2008, we suggested our customers bring us their used jeans in our stores. We, in turn, gave them a percent discount on their new purchases. Then, we used the clothes to make accessories like a purse, etc. It gave us commercial profit, branding, image, and communication with customers (Denim-Production).*

Finally, similar to MixedApparel, the informants in DenimPro believe that they offer a value proposition that is difficult-to-imitate by their competitors.

*Our jeans are very complicated in production, that's why it is so complicated and difficult for someone to buy our jeans and try to make something like that somewhere else (Denim-Production).*

As for CarSeatcover, the transformation from mass production to a mass customisation enabled the company, first to work directly with international OEMs, and more recently to offer higher value products to premium brands such as Mercedes-Benz and BMW. Highly-personalised products to higher-end brands such as Porsche, Lamborghini, and Aston Martin are important new value propositions offered by the company. One of the interviewees in CarSeatcover, who is responsible for customer relationships,

responding to a question about the value offered by the company, highlights quality, service, and delivery time.

*We consider a triangle with three sides: quality, service, and time. By service, I do not mean only delivery, but also understanding our customers' needs and adjusting ourselves to meet them. Sometimes, the production issues produce something like a noise that distract us from our customers' wants. We try to reduce those noises (Car-Sales).*

Another interviewee believes that quality is the number one priority in finding the best production solutions.

*In some cases, we might find a better solution to produce a piece that reduces the use of resources and time. But since the solution reduces the quality too, we do not select that solution as the best practice (Car-Operation1).*

In order to provide the end users maximum satisfaction, highly personalised products are offered by CarSeatcover. These products, despite technical complexities and challenges, bring substantial profits to the company and are considered as a meaningful share of the company's future earnings.

*Unlike before, now when you go to a car shop, the company gives you a high range of interior options. This, to us, means that we have to increase diversity in our new products (Car-Sales).*

*We see that the end-users [car owner] are becoming more and more demanding. They want to have their cars more personalised. They want a specific colour, raw material, or functionality (Car-Controlling).*

Table 13 below presents the final coding tree of the value proposition renewal theme.

Table 13. Final coding tree - value proposition renewal

<i>Variables</i>	<i>Company</i>
<b>Business model innovation</b>	
<b>Value proposition renewal</b>	
<ul style="list-style-type: none"> <li>● High quality as number one priority</li> </ul>	MixedApparel & CarSeatcover
<ul style="list-style-type: none"> <li>● Increase the variety of produced clothes</li> </ul>	MixedApparel
<ul style="list-style-type: none"> <li>● Expand the production capacity (finding different subcontractors to cover a wider customer segment including both genders, different age groups, different countries, different cultures, and so on).</li> </ul>	MixedApparel
<ul style="list-style-type: none"> <li>● Add new features and benefits to clothes (for example, to change the raw materials so the retailer can sell the clothes with lower/higher prices.)</li> </ul>	MixedApparel
<ul style="list-style-type: none"> <li>● Offer difficult-to-imitate products</li> </ul>	MixedApparel & DenimPro

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• Introduce newly designed clothes ahead of competitors	MixedApparel
• Provide added-value services to retailers (like helping them develop their new products or improve the current ones)	MixedApparel
• Offer highly differentiated products	
The feel of clothes (attractiveness, confidence, self-esteem)	DenimPro
Comfortability	DenimPro
Fitting extent	DenimPro
Highly personalised products	CarSeatcover
• Image, brand, and reputation	
-Sustainable production mechanisms that make the company more attractive to its conscious customers	MixedApparel
-Commitment to environmental ethics and human values	MixedApparel & DenimPro
-Renewing the buildings and the outside area of the factory, creating green spaces, improving the image of the company	MixedApparel
-Providing retailers with a product information brochure that conveys the company's values	MixedApparel
• The recycling of used clothes	DenimPro

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#### 4.2.3 Value delivery renewal

The analysis of data related to value delivery renewal activities of MixedApparel reveals that the company is experimenting with sending the products directly to the retailer's shops instead of their warehouse, thereby shortening the time and distance of delivery. This lessens the risk of damages to the clothes kept in the warehouse or transferred from the warehouse to the shops, and reduces the lead time.

*I think we are at the end of an era where traditionally the manufacturers produce clothes, ship it to the retailers' warehouses and then they put clothes into shops. I think in near future, manufacturers will become closer to the end-user, so in future, we, after producing the clothes, will send it directly to the end-user. It's already happening in the shoemaking industry; people can go to the manufacturer's website and chose the size, colour, model, etc. and then place the order. Afterwards, the manufacturer produces and sends it to their houses. This is something that will happen in the clothing industry soon (MxAp-CEO1).*

Taking a further step towards direct delivery, MixedApparel plans to launch its direct delivery (to the end-user) system via the Internet. As such, managers intend to launch an internal department responsible for managing the company's online shopping platform, where the end-user can buy entirely-customised clothing items to be delivered afterwards directly to their desired addresses.

*I don't think having our own shops is a good idea. Rather, I think in future, we could develop our own brand and deliver our products online through the internet (MxAp-Production).*

Other value delivery initiatives MixedApparel undertakes relates to the phase after the delivery of the products, where the company invites its loyal customers' managers to come and visit the factory to observe the production facilities and warehouses. This ensures greater transparency and accountability in the relationship with retailers, building trust and reputation. In addition, a computer-based customer complaints system was created by the company, in which retailers are able to share their complaints/suggestions with the given department (e.g., design, dyeing, etc.) easily through audio/video phone calls or emails.

Value delivery in DenimPro features a more comprehensive system including the company's own retail stores, its online shopping platform, department stores, multi-brand retail stores, e-tailers (e.g., Amazon), franchising, and outlet stores. Building a broad knowledge of customers' different geographical areas, the company uses the most appropriate channel to reach customers and within each channel, certain renewal activities are undertaken to provide the customer with a unique buying experience. In its online platform, for instance, the customer is given sufficient information and guidance on the offerings, such as how to find a best-fitted clothing item or which clothing size is best for them. This reduces, in part, the need of customers to attend a physical store and try on the clothes.

Apart from the online platform, in the case of customers in particular regions, geographically and culturally more distant from Europe, the company uses a franchising channel delivering the products to individual customers. The particular nature of franchising justifies its use in those regions for European T&C companies. Similar to foreign production units, the managers pay close attention to the quality of value delivery in indirect channels to ensure that the quality differentiation of products delivered through direct and indirect channels all meet the company's high standards.

*The important thing in working with our distributors is that we have a complete control over the delivery to make sure that everything is aligned with our standards (Denim-Sales).*

Similar to MixedApparel, the after-sale stage is regarded as important for achieving customer satisfaction and loyalty in DenimPro. Undertaking a renewal practice some years ago, the company established a business intelligence system to gather detailed information about its customers' behaviours improving future business decisions.

*We have a strong business intelligence system to monitor our customers. For example, we know the exact quantity and exact time of each purchase done online. In stores, also, after buying a product from us, a message is sent to our company giving information about the purchase (Denim-Production).*

Customer data is one of the most reliable sources of information for DenimPro to better identify its customers' needs and wants. Data analysis of customer behaviours shows the company how to treat its different customers.

*We have launched a customer loyalty system with our 1.4 million customers who have bought at least once from our company. We categorise these 1.4 million customers into two groups: Active customers: those who have purchased from us within the last 18 months, and inactive customers: those who have not purchased any within the past 18 months. Then we develop different strategies for each category (Denim-Sales).*

CRM practices are given attention in DenimPro and the executives use a comprehensive interface to communicate with customers getting feedback on their purchases.

*We communicate with our customers frequently by calling them directly, using the voice of customer system, doing surveys, and market studies. Also, in future, we aim to invest more on CRM in the area of customer data analysis, segmentation, and artificial intelligence in order to better monitor and know the customers' opinions (Denim-Marketing).*

As for CarSeatcover, our data analysis shows that the company tries to be as flexible as possible to adjust to the customers' needs. It can deliver the product either to the OEMs' factories where the seats will be assembled or to their warehouses. Also, the company is open to the type of packaging that the OEM desires. Taking into account its B2B model, CarSeatcover works only for OEMs and therefore direct delivery to the end-user (people who buy the cars) via internet channels is not relevant.

*We deliver the products directly from our plant to the customer's plant or to their front warehouse, depending on the contract's conditions. Also, the packaging can be different depending on the contract. Even, sometimes, one OEM wants us to deliver the products in different delivery and packaging conditions and we do that (Car-Sales).*

Table 14 below presents the final coding tree of the value delivery renewal theme.

Table 14. Final coding tree - value delivery renewal

<i>Variables</i>	<i>Company</i>
<b>Business model innovation</b>	
<b>Value delivery renewal</b>	
Direct delivery to the retailers' shops	MixedApparel
Direct delivery to the end-users through online shopping	MixedApparel
Providing after-sale services to retailers like company visits	MixedApparel
Creating a customer complaints system	MixedApparel

Providing customers with useful information in the company's online shopping platform	DenimPro
Creating a business intelligence system to monitor customers' behaviours	DenimPro
Having complete control over the delivery in indirect channels	DenimPro
Using franchising to reach non-EU customers	DenimPro
Giving the customer the freedom to select desirable packaging and delivery modes	CarSeatcover

#### 4.2.4 Value capture renewal

We identify value capture renewal practices of our case companies into two general categories of revenue generation practices and cost reduction practices. It is however undeniable that many of the renewal practices in other dimensions have an impact in value capture, as described in the section of the interdependencies among BMI dimensions.

Value capture renewal initiatives in MixedApparel are drawn from three main sources; (I) spending on areas that will provide significant returns and (II) streamlining production processes that lead to considerable cost savings, and (III) developing the negotiation skills of purchasing executives in order to obtain better deals in supplies. In respect to the first, the most remarkable investment of the company has been in developing expert seamstresses given their crucial role in achieving functional efficiencies, waste minimisation, fit maximisation, quality enhancement, and consequently, customer satisfaction. It is therefore always crucial for the company's CEOs to spend more on seamstresses increasing their salaries and offering more financial rewards, as well as on their training or other social benefits. Local skilful seamstresses are becoming less and less available and, as a result, some Portuguese T&C producers have embarked on direct recruitment from abroad.

*Seamstresses are a special type of workers in our industry, because their precision affects the quality of clothes (MxAp-CEO2).*

*It is difficult to find expert seamstresses. They are becoming scarce. So, in order to keep them with us, we decide to pay them more [...] I know some companies that send their recruiters to labour-exporting countries and bring expert seamstresses with their families here to work in their factories (MxAp-CEO1).*

The second value capture renewal practice of MixedApparel results from effective waste management achieved from functional improvements that not only prevent production delays but also reduce waste in production systems. The creation of sewing patterns is the main stage of production in MixedApparel, where the operator employs computer-based technology to optimise the usage of fabric when making the sewing pattern.

*After the retailing company sends us a sketch of the desired clothes, we first start by creating sewing patterns. Using computer simulation software, the operator finds the pattern with minimum waste (MxAp-CEO2).*

More importantly, the executives have formulated an innovative solution to further minimise the waste in the way that the initial waste (i.e. fabric leftover from cutting the pattern) is incorporated into the design by adding it to the cut fabric. This requires effective communication with the retailer giving information about the changes in design and obtaining their approval. In most cases, however, the retailer welcomes the change in design as they can, in turn, increase the final price of the clothes due to the improvement in the design. Therefore, a win-win initiative is created, by which the manufacturer saves money through minimising its waste and the retailer earns more profit by offering a more attractive product to the end-user.

*Sometimes we communicate with the retailers and if they let us, we can make a few alterations on their desired orders in order to minimise our waste in cutting. For example, sometimes, if the retailer does not mind, we add a centre back seam to a dress using the waste fabric to improve its usage [...] and usually the retailer does not care the change as it enables it to set a better price (MxAp-CEO2).*

Another source of waste is caused by operations in the next stages of production such as sewing. The quality control team in MixedApparel gathers data from the next production stages to detect the sources of waste and then inform the production management department to take the action required.

*We keep a record of the amount of raw material and produced clothes and then we calculate the difference as waste. Usually, the waste amount is 1.5% which I think it's fine. If the waste is more than 1.5%, we take action to see what the problem is (MxAp-CEO1).*

The third factor determining MixedApparel's value capture renewal is advanced negotiating skills for achieving the optimum price, particularly with regard to suppliers. A team is built to analyse the company's purchasing records and estimate the optimum price MixedApparel can suggest to its suppliers for the raw materials.

*Negotiating skills are very important in decreasing our costs. We assign a team to regularly check the prices of raw materials we buy and to see if we can negotiate more. The team has developed a good knowledge of our suppliers and their selling records, so in some cases, we*



*can reach very good prices for the raw materials we buy without damaging our relationship with the supplier. We have managed to save a lot this way (MxAp-CEO2).*

In DenimPro, the major cost-cutting initiative has been the use of global sourcing and start producing in certain African countries to reduce operation expenses thanks to low-cost labour advantages. Currently, the company has three production units, one in Portugal and the others in two African countries. According to the informants, an important factor that the production department in Portugal always considers is the *quality control* of production in foreign units. An intensive effort has been undertaken to standardise the company's overseas production practices.

*We have our own quality control team in all the places we produce. So, we have a strict control over production quality, and also ethical and security issues (Denim-Marketing).*

*The quality of production in both Portugal and abroad is controlled by both in-house production quality control department and product engineering teams. We control the quality of our products by communicating frequently and closely with our foreign production units. They are not allowed to change a single item from our desired designs without our approval. In 99% of the cases they do not change anything [...] Quality control is all done by our own members and we do not outsource it (Denim-Production).*

As mentioned in the value proposition renewal section, another initiative that generated financial benefits to DenimPro was the recycling of raw materials from its customers' used clothes. The costs of making raw materials by recycling customers' second-hand clothes were considerably lower than buying new raw materials from suppliers. This way, the company could save money supplying the production unit with raw materials made from recycling the used clothes.

In CarSeatcover, a careful assessment of investments is undertaken to ensure the maximum return.

*Before starting an investment, we make the return of investment analysis. For example, to buy a machine, we estimate how much time we can save by new machine, how many new people we need to assign, how much electricity is consumed by the new machine, etc. We calculate all these costs and compare with financial benefits we gain by buying the new machine and then decide to buy or not (Car-Controlling).*

However, based on the informants, the company needs to invest more on automation to be able to survive in future competition.

*The future of textiles, with no doubt, is automation of production because the rate of mistakes in machines are a lot less than human. So, we need to invest more on automation now (Car-Operation1).*

Also, the company uses continual improvement processes to identify major sources of waste and reduce extras and overruns, i.e. the activities that do not add value and resources that are allocated to those activities.

*To increase our profits, it is difficult to negotiate with our customers to pay us more. Rather, based on the continuous development, we try to reduce the costs of production by identifying the causes of waste and reducing activities that do not add value to production. For example, in some cases, we put an inspection right after those stages of production that cause damage to the product. Because if the product passes several next stages and then we find a defect, the product has to be returned to the previous stages and all the stages should be repeated (Car-Controlling).*

Negotiation skills are also regarded as important in CarSeatcover to achieve cost savings.

*When I go to a supplier to buy materials, I try to show them that they are not our only supplier candidate so they are not strict on their prices. This way, I can get a lower price of materials in some cases (Car-Procurement).*

Table 15 below presents the final coding tree of the value capture renewal theme. As can be seen from the table, value capture renewal practices of our case companies can be categorised into two general groups: (I) investing more in areas that create more financial benefits to the company (labelled as revenue generation practices), and (II) reducing costs (labelled as cost reduction practices).

Table 15. Final coding tree - value capture renewal

<i>Variables</i>	<i>Company</i>
<b>Business model innovation</b>	
<b>Value capture renewal</b>	
<b>Cost reduction practices</b>	
<ul style="list-style-type: none"> <li>• Get better prices through better negotiation skills               <ul style="list-style-type: none"> <li>Develop negotiation skills in purchasing raw materials from suppliers</li> <li>Recruit people with high negotiation skills</li> </ul> </li> <li>• Reduce costs through better waste management               <ul style="list-style-type: none"> <li>Sewing patterns' optimisation</li> <li>Using waste fabric to improve the design</li> <li>Detect sources of waste in production processes</li> </ul> </li> </ul>	MixedApparel & CarSeatcover MixedApparel  MixedApparel MixedApparel MixedApparel

<ul style="list-style-type: none"> <li>• Launch production subsidiaries in low-cost labour countries</li> </ul>	DenimPro & MixedApparel
<ul style="list-style-type: none"> <li>• Save money by providing raw materials from recycling the customers' used clothes</li> </ul>	DenimPro
<ul style="list-style-type: none"> <li>• Analyse the return on the investment beforehand</li> </ul>	CarSeatcover
<ul style="list-style-type: none"> <li>• Identify and reduce extras and overruns</li> </ul>	CarSeatcover
<b>Revenue generation practices</b>	
<ul style="list-style-type: none"> <li>• Spend more on seamstresses increasing their salaries and offering more financial rewards as the quality of product/production is highly dependent on their performance</li> </ul>	MixedApparel
<ul style="list-style-type: none"> <li>• Invest on automation</li> </ul>	CarSeatcover

#### 4.2.5 Value network renewal

The results of our data analysis highlight the role of partner relationship management in the success of our case companies. Changing the type of relationship with current partners is one of the value network renewal practices our case companies undertake to make the most of environmental opportunities. With regard to MixedApparel, what makes the company's business model stand out is its capability to manage the network of subcontractors, allowing them to offer a much wider variety of products. In some cases, the company strengthens its relationship with those who have contributed to its development the most. MixedApparel capitalises on this capability to get the most from environmental changes. In the case mentioned above, MixedApparel converted its relationship with one of its best subcontractors into acquisition.

*After a coup occurred in Turkey in 2016, some fashion retailers shifted to us placing mass orders that were planned to be made in Turkey. So, we quickly bought one of our subcontractors to respond to those orders (MxAp-CEO2).*

Changes occurring in the business environment determine the type of shift the company needs to take. Another value network renewal initiative undertaken by MixedApparel is starting to provide its subcontractors with required assistance, such as technical services, training, and the like. Those subcontractors thus assisted by the company improve their production mechanisms and so also the quality of their work for MixedApparel, as well as remaining more loyal and committed to CMixedApparel.

On the retailer side, MixedApparel has embarked on providing them with consulting services. Stronger partnerships are established with some clients where MixedApparel works closely with them providing consulting services. These services strengthen the company's network relationships bringing mutual benefits to both sides. Playing a more active role, the company gives various advice on the product to the retailer. For instance, the choices of raw materials, colour, etc. which influence the purchase behaviour of the end-users remarkably. Or minor changes in the ordered design that increases the

possibility of selling the product at a higher price. This renewal practice renders the same reaction as from suppliers; the retailers are encouraged to repeat their purchases and show more loyalty to the company. Building trust is another major achievement of MixedApparel, gained through added-value services to its customers. In this way, the company is able to offer a higher price for its offerings, yet remain assured that the retailer will not cancel the purchasing agreement.

In DenimPro, given its B2C model, competitors are given special attention and their behaviour is thereby continuously monitored to accumulate knowledge about their moves and strategies. In some cases, the company interacts with its local competitors via the Association of Portuguese textile companies (ATP) in order to keep updated with the latest developments.

*Competitors are very important for us and we monitor them in two ways: first, informally through our marketing team that monitor the competitors' activities like their websites, campaigns, social media, influencers, roll-out, etc. Secondly, we use the fashion trend forecasting companies like WGSN, or MHA to find out the current trends of the clothing market (Denim-Marketing).*

*We need to see and monitor the fashion world outside [...]. If you work in Paris, you just need to cross the street to find out about fashion. Here, we don't have fashion and we need daily, current information about new global fashion trends (Denim-Production).*

An important value network renewal practice undertaken by DenimPro is building franchising relationships with some non-EU partners to reach a specific, less known, group of individual customers who have a potential willingness to buy lavish clothes. Our data analysis indicates that, according to the informants, it is more prudent to penetrate these markets through franchising due to barriers imposed by local authorities and legal regulations that are difficult to realise and control by European clothing retailers. Additionally, DenimPro has embarked upon multi- and omni-channel networking models by establishing new types of relationship. Collaboration with large department stores has enabled the company to reach to a wider variety of customers. Developing co-competition strategies, DenimPro is able to offer its products in multi-brand retail stores. Also, new selling agreements with outlet stores enable the company to better deliver its outlet products to a specific group of end-users. Another important value network renewal practice is building relationships with E-commerce giants like Amazon and eBay by which the company is able to capitalise on online resources.

In CarSeatcover, given the importance of equipment in producing high-end products, the company has built partnerships with companies that provide calibration inspection services. Also, a spinoff of the

company has been created to penetrate luxury leather clothing markets. Since the core product portfolio of the company is leather seat covers, the company's network of suppliers provides an easy-to-use source of high-quality leather for the spinoff, thereby allowing CarSeatcover to offer luxury leather fashion products.

In addition, the company tries to participate in conferences where its employees can improve their network and update their knowledge. Collaborating with universities also has brought the company similar advantages.

*Participation in conferences is undoubtedly a strong tool of contact with activities and innovations and allows us to be always up to date with new technologies [...] Universities are an essential tool that allow the company to be aware of best practices. To be competitive and innovative we must be up to date and know the best practices (Car-Operation1).*

Another important value network improvement strategy undertaken by CarSeatcover is getting closer to OEMs. Ever since coming in contact with OEMs, the company has been trying to enforce contracts that give it a direct interaction to the OEM as these contracts have lower risks of failure when the market is declining.

*We have two types of contracts in our projects. In the first one, which is our preference, the OEM makes a contract with us to produce the car seat covers and deliver them to a third party which assembles the car seat and then deliver it to the OEM. In the second one, the car seat assembling company selects us and we do not contact the OEM. We do not prefer the second type as it is riskier because when a crisis comes, the third party looks for a manufacturer that is able to make the seat covers as cheap as possible and they go for our low-cost competitors (Car-Sales).*

Table 16 below presents the final coding tree of the value network renewal theme.

Table 16. Final coding tree - value network renewal

<i>Variables</i>	<i>Company</i>
<b>Business model innovation</b>	
<b>Value network renewal</b>	
<ul style="list-style-type: none"> <li>• Reconfigure the network of relationships by strengthening the bond with those who bring more benefits and decreasing the level of interaction with the rest in order to make a better use of time and resources</li> </ul>	MixedApparel
<ul style="list-style-type: none"> <li>• Build new required relationships in the forms of outsourcing, subcontracting, clustering, acquisition, and franchising with those who share common goals and values</li> </ul>	All three companies
<ul style="list-style-type: none"> <li>• Provide suppliers with technical assistance, required machinery and helping them improve performance</li> </ul>	MixedApparel & DenimPro

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• Improve the image of the company for suppliers/customers	MixedApparel
• Build and improve loyalty with suppliers/customers	MixedApparel
• Collaborate with Portuguese and international institutes and universities	DenimPro & CarSeatcover
• Build partnerships with inspection service companies	DenimPro
• Create a spin-off company to penetrate new markets selling luxury leather fashion products	CarSeatcover
• Participate in conferences	CarSeatcover
• Achieve a closer interaction with customers by eliminating the intermediaries	CarSeatcover

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#### 4.2.6 Interdependencies among BMI dimensions

As mentioned earlier, one of the most important approaches in studying the concept of BMI is the focus on the dimensions. Much less however is known about the architectural nature of BMI (Foss and Saebi, 2017; Schneider and Spieth, 2013; Spieth et al., 2014) addressing the interdependencies and interactions among the components of BMI. In this section thereby we draw on our research findings to show how the change in one element of a firm's business model cause changes in other elements, highlighting the interdependencies among BMI dimensions.

Based on our data, MixedApparel started to subcontract the mass production of medium-quality products to certain subcontractors allowing the company's internal production department to focus on mass-customised, high-quality, premium products. This value creation BMI practice has led the company to increase the variety of produced clothes which is recognised as an important value proposition renewal outcome. The shift of mass-production to subcontractors gives the company more space to extend its supply chain planning for direct delivery of mass-customised products to end-users. As a result, the company has managed to generate new sources of income (value capture renewal) and expand its network of partners to include new foreign subcontractors (value network renewal).

Another BMI practice that we observed is the introduction of difficult-to-imitate products by DenimPro. Using special fabric, sophisticated pattern cutting and sewing mechanisms, and modern finishing processes (value creation renewal) that result from the information and expertise the company obtains by collaborating with international fashion R&D institutes e.g., WGSN and MHA (value network renewal), DenimPro is able to introduce "push-in" and "push-up" jeans that shape the body's contours and help to hide belly fat (value proposition renewal). These clothes, in combination with new promotional activities, generate new revenue streams for the company (value capture renewal).

Taking another example, CarSeatCover started giving its client the freedom to select desirable packaging and delivery modes (value delivery renewal). This not only makes the company attractive for potential clients (value proposition renewal) but also opens up new revenue sources as the client is requested to pay more in case of special packaging or transformation (value capture renewal). Similarly, MixedApparel intends to launch its online shopping platform in order to eliminate the intermediaries and deliver directly to end-users (value delivery renewal). Cutting the costs of intermediaries (value network renewal), the company will be able to earn more financial benefits (value capture renewal) and gain access to a much wider group of customers (value proposition renewal). It also gives the company a good reputation by improving the customer's shopping experience (value proposal renewal).

Our findings suggest that some of the observed BMI practices have multiple objectives. MixedApparel introduced new sewing methods to minimise the waste of fabric. Thanks to the savings the company made by decreasing waste in production, MixedApparel is able to offer more competitive prices, increasing its attractiveness to customers. Additionally, taking advantage of its production expertise, the company uses waste fabric to improve the design of clothes (value creation renewal). This way, on the one side, it builds a reputation for effective waste management and environmental protection (value proposition renewal), and on the other side, commands higher prices for clothes with improved designs (value capture renewal). Another example is the reduction of extras and overruns by CarSeatCover. The company started to eliminate all the activities that do not add value to the supply chain (value creation renewal) and use the resources that are allocated to those activities in other major areas (value capture renewal). These initiatives that are achieved by a close collaboration with the continuous development team in the production department have made employees more satisfied as they feel their efforts bring real value to the company. DenimPro, in turn, set about providing suppliers with required machinery and teach them how to use the new equipment (value network renewal). This has improved the company's reputation with its suppliers. Moreover, trust and respect in suppliers' relationships have improved ever since and therefore the potential costs of losing them and replacing them with new suppliers are avoided, with impact on value capture. Also, the company's production managers are provided with new opportunities to learn from the insights they gain by installing and applying the equipment in the suppliers' factories and passing the knowledge to the suppliers' employees and managers. They can use the insights to further improve the company's own production mechanisms, that is value creation renewal.

#### 4.2.7 Agility

##### Operational agility

The shift from former mass production to mass customised production is what stands out in the analysis of data relating to operational agility. This capability provides key advantages to the operation of Portuguese T&C companies. Valuing a shorter delivery time on more customised products in lower volumes than competitors from South Asian countries, retailers have become more oriented to agile textile producers. This arises from the fact that end-users are becoming more and more demanding in terms of fashion trends and new designs. Retailers therefore seek to introduce new collections more rapidly. Although ordering clothes from South Asian producers might bring cost advantages to retailers, long delivery times and the large volumes required however decrease their attractiveness to most fashion retailers.

With regard to MixedApparel, based on the results of our data analysis, the operations management team employ the *critical path method* to decrease the lead time and increase agility. Taking advantage of its broad network of subcontractors the company is flexible enough to choose the most fitting and profitable path.

*We calculate the lead time through a critical path that we create after receiving an order. After the retailers place an order, we start planning the production. Then we talk with our subcontractors and based on their planning schedules, we choose the one who is able to make it faster (MxAp-Production).*

MixedApparel follows a just-in-time manufacturing system allowing it to keep minimum inventory and be ready for multiple orders in consequence. Therefore, the company has the flexibility to respond to multiple orders with different due dates.

*Our stock amount is always minimum. Only after we receive an order, we put raw materials in our stock and then we start production. We always try to achieve the zero stock policy, but it is difficult to achieve it perfectly. One important thing is that we try to buy a little more amount of raw materials than the estimated amount, so in case need be, we use them. This way, we prevent production delays caused by shortage of raw materials (MxAp-Production).*

The company's managers are confident that their flexible production system allows them to incorporate new technology as needed to improve efficiency. In case of 3D printing, for instance, although the



company is not using it currently, the managers however believe the company is able to integrate 3D printing into production systems as soon as its use is justified in textiles.

*We do not use 3D printing in our processes, but once the use of this technology in textiles is justified, it won't take long for us to adopt it in our production mechanisms since we keep our production portfolio as agile as possible and open to changes (MxAp-CEO1).*

As for DenimPro, the use of cross-functional teams enables the company to carry out new projects very quickly.

*When a new project is planned, we create a team of members from IT, digital, sales, production, etc. to work on the new project. They manage their time to work partially on the project while working on their current roles in parallel (Denim-Sales).*

Similar to CarSeatcover, a zero inventory approach is adopted in DenimPro increasing its flexibility to new customers' orders.

*We try to keep our stock minimum so we won't lose any new sales orders (Denim-Production).*

In CarSeatcover, operational agility is highlighted as key to producing highly customised products and meet customers' expectations. Employing process automation, up-to-date software technologies, just-in-time manufacturing, zero inventory, cross-functional team working, and continuous improvement, the company has become more operationally agile in order to satisfy the growing expectations of its customers in a shorter period of time.

*The company has to adapt to the changes of the market. You have to adapt to new needs and increasingly customised products. We must be able to be flexible and improve our processes on a continuous improvement method (Car-Operation1).*

Table 17 below presents the final coding tree of the operational agility theme.

Table 17. Final coding tree – operational agility

<b>Agility</b>	<i>Company</i>
<b>Operational agility</b>	
Gathering and analysing data from production to find solutions to decrease the lead time or improve efficiency	MixedApparel
Using the critical path method to decrease the lead time and increase agility	MixedApparel
Using cross-functional teams	DenimPro
Using zero inventory	DenimPro

Using just-in-time manufacturing	CarSeatcover
Using process automation	CarSeatcover
Improving the operations using a continuous improvement method	CarSeatcover
Employing up-to-date versions of computer software to achieve continuous improvement	CarSeatcover

### Strategic agility

Our analysis of data on strategic agility (foresight) reveals that the case companies, despite undertaking some forecasting practices, do not have any systematic plan for predicting the future of the T&C industry. There is no group or department dedicated to this purpose, rather CEOs or senior managers engage in some activities as a matter of routine. For instance, they follow news on global affairs such as Brexit, as the UK market is one of the favoured destinations of Portuguese T&C companies. Fashion trends are deemed key to future designs and hence the CEOs or senior managers of our case companies tend to broaden their awareness of current and future trends by attending fashion exhibitions, and following the news of the sector. Another important source of information highlighted by the informants is two R&D centres that collaborate with Portuguese T&C companies, namely ATP<sup>1</sup> and CITEVE<sup>2</sup>.

Strategic foresight in DenimPro is achieved mainly by studying and understanding customers' behaviours. This, as can be detected from the quote below, needs a precise knowledge of customers' purchase history behaviour.

*We use customers to find out future trends. We try to understand what kind of products they prefer. What are their buying habits? For example, why a customer who used to buy a certain type of product, shifted to another type? (Denim-Marketing)*

Also, the company tries to forecast the future by monitoring the competitors' actions in the market and current fashion trends. This, in some cases, led the company to forecast future moves of its rivals and take action before competitors could saturate the market with new products.

In CarSeatcover, based on the quotes of one of the interviewees, the company tries to anticipate the future needs of customers by engaging in projects where it can communicate more with the end-user.

*Currently, we engage in production of highly personalised seat covers in low quantities where customers want to choose their own desired product properties. So, now it is not like before when we were producing high volumes. We have to adapt according to our customers' needs*

<sup>1</sup> Associação Têxtil e Vestuário de Portugal.

<sup>2</sup> Centro Tecnológico das Indústrias Têxtil e do Vestuário de Portugal.

*and our long-term objective is to go beyond customers' expectations. So, we have to be one step further than the needs and suggestions of our customers (Car-Controlling).*

Also, based on the informants, following the new technologies used in textiles is a way to predict the future and making the company ready for it.

*I think the future of textiles is automation. In five or ten years, we will have to have 90 per cent of our production automatic. I think we will have a crisis in future textiles because of the advent of automation (Car-Operation1).*

Table 18 below presents the final coding tree of the strategic agility theme.

Table 18. Final coding tree – strategic agility

<b>Agility</b>	<i>Company</i>
<b>Strategic agility</b>	
Follow global events	MixedApparel
Develop an awareness of fashion trends by attending fashion exhibitions, following the news of the industry's latest developments, and collaborating with universities	All three case companies
Collaborate with Portuguese and international fashion R&D institutes	MixedApparel
Build a precise knowledge of customers purchase history behaviour	DenimPro
Monitor competitors' moves	DenimPro
Engaging in projects closer to the end-user	CarSeatcover

#### Workforce agility

In our case companies, employees are encouraged and expected to improve their agility. They are provided with multi-professional training courses that enable them to move between tasks when necessary. Time management and planning skills, as well as fast thinking, are deemed crucial to be more agile at work. Employees are involved in groups of multi-disciplinary professionals developing their communication and collaboration skills needed to achieve agility. The workforce is also given more autonomy to be able to achieve quick decision-making.

Our case companies are proud of having employees that are skilled and able to accomplish different tasks. This enables companies to engage in new activities without investing in new employees. For example, in MixedApparel, the managers plan to launch the company's online shopping platform in future and they are confident that some of their current employees will be of great help in achieving that goal because they already know computer programming languages. In CarSeatcover, the production department is equipped with staff who possess important knowledge and skills in both informatics and electronics so they are able to track both the machines' performance and the flow of production lines,

improving the problem-solving ability of the company. This versatility in handling different tasks and roles is of high value in the company and therefore, employees are considered very important in achieving agility in our case companies.

*It is important for us to stay close to our employees so we can keep ourselves agile because the more distant we become with employees, the more difficult to handle the work. If you introduce a change in operations and employees resist adapting to it, you finally have to cancel the change (Car-Engineering).*

The informants in MixedApparel believe that an agile workforce that is able to handle different tasks and roles quickly is key to an agile organisation. The company thus provides all employees with training in various technical skills such as working with different automated machines. They can therefore ensure multi-skilled and cross-functional staff and, as a result, interpersonal communication, job involvement, and problem-solving are improved. Managers in MixedApparel believe that getting employees involved in decisions makes the company more agile. To this aim, managers try to treat employees as family members and care about their opinions and problems.

*It is important for me to know my people well. We are like a family here. People here feel that the management is close to them and they can approach them easily (MxAp-CEO1).*

*We treat the employees in a way they feel proud of working here (MxAp-CEO2).*

*I believe the employee-manager relationship in our company is very good. Here, employees can grow better because the managers are so receptive to their new ideas [...] we try not to work under the traditional hierarchical model where people are treated regarding their role in the hierarchy, so the higher, the more important. I believe if we get employees more involved in decisions, we will get better results. To achieve this, the employee-manager relationship should be as simple as possible (MxAp-Production).*

In DenimPro, close communication between organisational members increases the speed of decision making which in turn leads to the quick accomplishment of tasks. One of the initiatives put in place to achieve this has been to design the organisational structure and the workplace in a way that allows easy and effective communication between employees.

*We are an open and flat organisation. Our workplace is like people work in open spaces. There are no walls between people and communication is so easy. So, when someone has something to say, or an idea, he/she can do it simply and we are open to those ideas. [...] The structure*

*is very flat. Of course there are different levels of responsibilities, but not more than that (Denim-Sales).*

In CarSeatcover, one of the interviewees highlighted the importance of employees in producing personalised products.

*Highly personalised seat covers for our special customers need employees with multi-skills and backgrounds. They should be able to learn fast how to perform different tasks on the seat cover to make it special (Car-Controlling).*

Additionally, another interviewee, responding to a question on how to improve agility, highlighted the use of planning, decision-making, and strategy development techniques like the PDCA method (plan–do–check–act) to better manage emerging projects.

*I write a lot, illustrate and structure my ideas, which I am thinking. After defining the strategy, I involve the people necessary to put the idea into practice and I define a time plan with dates and responsibilities. A PDCA document is very useful (Car-Operation1).*

Also, interpersonal communication skills are regarded as necessary to reduce excessive organisation's bureaucracy and increase agility. The company promotes direct personal interaction among employees in order to improve communication and solve problems more effectively.

*I try to talk directly to people and not get lost so much in emails, for example [...] Contact and dialogue with colleagues also enable continuous training (Car-Operation1).*

*We use LCD TVs to check real-time productivity using some indicators that show the employees the information they need (Car-IT).*

Involvement of employees in decisions from the beginning is regarded as essential to the success of the new projects.

*If the management team has an idea but the shop floor employees do not show motivation in working on the idea, it won't succeed. That is why our managers try to involve them from the beginning and show them the advantages of the new idea (Car-Engineering).*

Employees with flexible working hours have enabled the company to be as flexible as possible to the OEMs' orders.

*Flexibility is very important to us. We are able to make anything that OEMs want at any time that they desire. Our employees can work extra hours, for example at the weekends, in case we receive more orders and also they would have less working hours in times that we receive fewer orders (Car-Procurement).*

Finally, CarSeatcover provides its employees with cross-functional training which improves their knowledge base and agility.

*Our company pays a lot of attention to the training of its employees. There are usually periodic training in different areas, such as Microsoft Excel and CAD (Car-Operation1).*

Table 19 below presents the final coding tree of the workforce agility theme.

Table 19. Final coding tree – workforce agility

<b>Agility</b>	<i>Company</i>
<b>Workforce agility</b>	
Provide the workforce with multi-skills and cross-functional training	MixedApparel & DenimPro
Improve interpersonal communication	DenimPro & CarSeatcover
Involve human resources in decision making	All three case companies
Treat human resources as a family member	MixedApparel
Redesign the workplace in a way that allows easy and effective communication between employees	DenimPro
Employ planning techniques such as PDCA to increase agility	CarSeatcover
Flexibility in employees' working hours	CarSeatcover

#### 4.2.8 Business model ambidexterity

As mentioned in the introduction, the termination of the 'Agreement on Textiles and Clothing' (ATC) marked a momentous milestone in the history of the Portuguese T&C industry, making it almost impossible for Portuguese companies to compete on price against producers based in low-cost labour countries ever since. Based on our data analysis, as a solution, our case T&C companies have transformed their BM from mass production of lower-class items to mass-customised manufacturing of higher-class ones.

*After the entrance of low-cost producers to European markets, we figured out that competition based on price is not possible anymore. So, we decided to make higher-quality, higher-priced clothes and go after brands that do not bargain over the price of clothes, rather emphasize the quality, time delivery, etc. (MxAp-CEO2).*

This has not translated into a complete shift from low-class to high-class clothes. In other words, some Portuguese producers still find it beneficial to continue offering medium-class clothing simultaneously. Our data analysis suggests that it is not accurate to say Portuguese T&C companies focus solely on high-end clothing.

*We try to make a balance between the two [medium- and high-class]. Premium clothes help us improve our image but we also need lower-class orders so we can keep operating with their larger quantities. We need to have both. If we work only with premium brands, we will have to stop working when there is no order. By working with medium-level brands, we always have routine orders to work for (MxAp-Production).*

Therefore, our data analysis suggests that Portuguese T&C companies need to pursue BM ambidexterity through which different goals, functions, systems, and strategies can be achieved simultaneously. With regard to the BM ambidexterity approaches used by our case companies, our data analysis reveals that the choice depends also on the *costs and benefits* associated with either integrating the new BM inside the same company with the same structures, employees, etc. (integration) or in a separate company or unit that is still owned by the company (separation).

*We first calculate the costs of doing something in-house or separately and then make the decision (MxAp-CEO2).*

For instance, MixedApparel intends to launch its own website selling clothes online. The company contemplates following an 'integration' BM ambidexterity approach given its time and cost advantages.

*I think we will make it internally so we can have more control over it and be sure that things are done as we wanted. By a third party, we would certainly need more time and money (MxAp-Production).*

This decision is based on lessons learned from past experience, when they followed a separation approach:

*Before, we used to work with retailers through some agencies. So, we were highly dependent on them. Later, we started learning from those agencies on how to work directly with retailers. This way, we can be quicker and decrease our costs by 10%, but most importantly, we can better understand what our retailers really want (MxAp-CEO2).*

The company started first by employing third-party agencies linking the company to fashion brands. Later on, however, adopting a phased integration approach, the company managed to internalise the new BM in order to reach and interact with retailers directly.

BM ambidexterity in DenimPro is used as a primary growth strategy. As mentioned earlier, capitalising on its ability to produce truly different clothes, the company has penetrated less-known overseas market niches that desire high-end, lavish clothes which feature unique characteristics. This high-end fashion market however was different from the company's dominant target market which mainly covers high-quality and best-fit jeans for people with medium – and not necessarily high level of income. Lavish denim clothes require different raw material provided by different suppliers, different production systems, and different delivery mechanisms from practical jeans. People buying lavish denim products also have special preferences which require different marketing strategies. Therefore, new teams are formed to work on the new business model in separate structures. This way, the potential conflicts between the new projects and current ones are minimised. DenimPro chose to start with a separate structure within the company to launch this new business model, in what seems to be a "phased separation" strategy. We cannot anticipate at this stage whether they will separate this business completely from the current one in the future.

BM ambidexterity in CarSeatcover is similar to the other case companies. Based on the data analysis results, the company now tries to supply higher-end car manufacturers while simultaneously serve lower-class ones. The BM of serving high-end car manufacturers is different in terms of freedom of choice. Lower-class car companies give more freedom to CarSeatcover in choosing the raw materials, designs, suppliers, and the like. The company therefore is freer in many areas such as negotiating with suppliers over the price of the raw materials. By contrast, high-end car companies give more exact specifications and allow less autonomy in issues such as selecting suppliers and changing the design as the suppliers, the price of raw materials, etc. are already determined by the car company and dictated to CarSeatcover. Thus, capitalising on the advantages of each BM, the company operates under the two BMs simultaneously. On the one hand, it serves the medium- and high-priced car seat cover market which is characterised by features such as high-volume production, standardisation of mechanisms, lean production and the like. This market enables the company to function regularly during the year. However, in times of economic crisis, this market shrinks and that is why the company has begun to produce seat covers for luxury car brands such as Aston Martin, Bugatti, or Porsche. To serve the latter group of customers, unlike the former, the company needs to follow methods such as agile production and mass customisation in low volumes. Luxury car manufacturers pay more and keep ordering even in times of



crisis, but not regularly. Given that the developers of the new business model are all members from the same company and the implementation is taking place inside the company, CarSeatcover seems to be following an integration approach to BM ambidexterity. The following quote from one of the interviewees attests to the company's desire to achieve BM ambidexterity.

*Of course, we need high-volume orders because we make money out of them, but we also need premium brands or exclusive brands even though their orders are low-volume because they also provide good profits. No one would buy a Ferrari if the company sells thousands of low-quality cars in a week. So, we need to make a balance between volume size, premium brands, and high-end, exclusive brands like Aston Martin (Car-Sales).*

Table 20 below presents the final coding tree of the workforce agility theme.

Table 20. Final coding tree – business model ambidexterity

<b>BM ambidexterity</b>	<i>Company</i>
Produce different quality products simultaneously	All three companies
Pursue different goals and strategies simultaneously	All three companies
Penetrate lavish products markets while serving the lower segments simultaneously	All three companies

### **5 Clarifying the relationships among Agility, BMI, and BM ambidexterity: a conceptual model**

Our empirical work corroborates some of the relationships anticipated in our initial research model (Figure 13) but also points to new relationships not yet covered by the extant literature. Agility (operational, strategic and workforce) is confirmed as a central enabler of BMI. The major modification we made to our initial research model is changing the relationship between 'BM ambidexterity' and BMI in the opposite direction than expected: based on insights from our data analysis, we find that companies develop BM ambidexterity as a result of BMI. We also find that BM ambidexterity does stimulate future BMI as suggested in the literature. However, this is not a direct relationship. Rather, it is mediated by agility capabilities. BM ambidexterity leads to future BMI by way of promoting improved Agility capabilities. In other words, our data analysis suggests that our case companies, responding to crises, have used their Agility capabilities to renew their business models, in some instances creating parallel business models, thus achieving BM ambidexterity. The experience and challenges that come from operating different BMs enable these companies to further develop their Agility capabilities, which in turn makes them better able to successfully tackle BM renewal activities (BMI).

To better elucidate the above relationships, we use descriptive illustrations from our case companies. In MixedApparel, by subcontracting the production of medium-quality clothing items, the company is able to offer different quality products simultaneously. This has led the company to achieve future BMI by way of improving agility. Having the mass production subcontracted to other companies, the managers find more space to apply agile methods in the company's production line such as the critical path method. Agile methods, in turn, have enabled the company to achieve BMI in its different dimensions. As for value creation renewal, for instance, employing agile methods such as the critical path method, the company has managed to decrease the lead time and in turn make better use of resources. Regarding value proposition renewal, ever since MixedApparel embarked on subcontracting, its managers have been using agile methods to introduce newly designed clothes ahead of competitors provided the decreased lead time that, as another consequence, provide the company with major cost-savings (value capture renewal). This process also applies to strategic and workforce agility. Working with foreign subcontractors makes the company more aware of global fashion trends and provides learning opportunities for the company's members that attend the subcontractors' plants to control the production quality. Finally, this iterative process is repeated as the generated BMI practices enable the company to improve its ambidexterity performance.

In the case of DenimPro, BM ambidexterity consists of offering practical and lavish clothing items simultaneously, which has led the company to engage in agile practices such as the use of cross-functional teams that include members who, apart from their former roles in producing practical denim wear, participate in additional projects on lavish clothes. The engagement of members in different roles and tasks led them to enhance their knowledge of new types of raw materials that are used in different clothes offered to different customers segments (value creation renewal). Additionally, the company is able to focus on the comfortability and performance in some clothing items and on the appearance and feel in other products at the same time (value proposition renewal). Expanding to lavish clothing markets, the company finds itself confronted by competitors from new areas. Given the complexity of new customers' behaviours, DenimPro has embarked on new BMI practices such as the use of new business intelligence systems (value delivery renewal) and collaboration with Portuguese and international R&D institutes (value network renewal) to become aware of, and monitor, their moves and strategies. These effects also take place in the case of strategic and workforce agility. Serving two different groups of customers at the same time, DenimPro develops a precise knowledge of customers' purchase history behaviour that helps its managers to forecast customers' future expectations. To accelerate the generation and sharing of such knowledge among the workforce, the working place was redesigned in a

way that allows easy and effective communication between employees, leveraging their agility in rapidly changing situations. Similar to MixedApparel, the circular process of ambidexterity-agility-BMI is repeated in DenimPro as the BMI practices enable the company to improve its performance in simultaneously offering practical and lavish clothing items to its different customers.

Finally, ever since CarSeatCover embarked on BM ambidexterity by serving the interests of different level car brands at the same time, top managers have been fostering an organisational culture based on which a balanced focus on all types of products with different quality levels is maintained. This has enabled operational managers to employ different operational agility methods such as just-in-time manufacturing, process automation, or continuous improvement processes. Also, projects that target luxury cars such as Lamborghini, Porsche, or Aston Martin, unlike working with OEMs, give the company's managers the opportunity to get closer to the final customer and thereby be able to better understand current and forecast future expectations of car seat cover end-users. This effect applies to workforce agility as well in the sense that the mentioned organisational culture allows employees to embrace flexibility in their working hours allowing them to work extra shifts in case projects on luxury cars are received. Moving on to the next phase of the ambidexterity-agility-BMI process, the generated agility enables the achievement of BMI in CarSeatCover. Improved operational agility and the acquired knowledge on latest technologies in the industry enable the managers to employ new, up-to-date value creation practices such as the use of smartphone apps to control the productivity of production processes or the implementation of the SMED technique to reduce the production time of seat covers, providing the company with cost-saving advantages. Improved strategic agility stimulates the production of highly personalised car seat covers for luxury cars in the sense that the company itself proposes new features to be added to the product (value proposition renewal). This way, the company is always one step ahead of customer needs as managers have developed an awareness of future expectations in the industry. As for value delivery renewal, given that the company has managed to decrease the lead time thanks to operational agility practices, managers are able to give the customer more freedom to select desirable packaging and delivery modes that take extra time to accomplish. Finally, concerning value network renewal, the mentioned organisational culture supports for new types of relationships such as collaboration with universities that enable the managers to broaden their understanding of latest developments in the industry. Similar to MixedApparel and DenimPro, the circular process of ambidexterity-agility-BMI is repeated in CarSeatCover as well. BMI practices that are enabled by agility improvements drive the simultaneous introduction of different level car seat covers for different level car companies.

The proposed conceptual model, informed by the literature review (Figure 13) but extended and improved by our empirical study, is shown in Figure 16 below, which depicts a self-reinforcing cyclical relationship among Agility, BMI, and BM ambidexterity: our case companies improve agility to achieve BMI, they use BMI practices to achieve BM ambidexterity, and their ambidextrous operation enables them to improve Agility. This continuous process helps our case companies to withstand the stiff competition in the textile and clothing industry, constituting a virtuous cycle. The following paragraphs highlight our three main findings about the relationships between Agility, BMI, and ambidexterity.

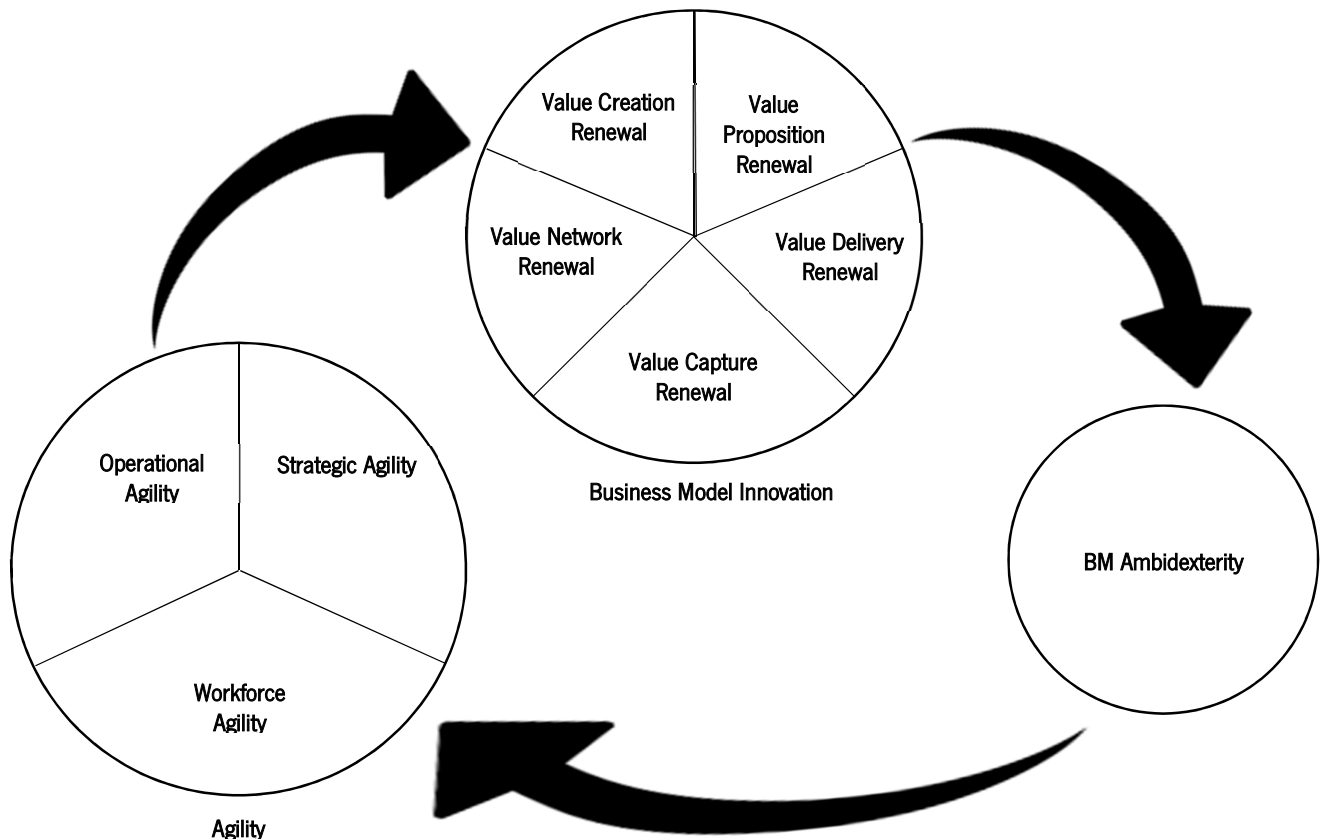


Figure 16. Proposed conceptual model (source: the author)

Our first finding puts forward that the agile practices of our case companies in terms of operational, strategic, and workforce agility enable them to effectively renew their business models. Their abilities to quickly adapt the operational systems for new situations caused by environmental fluctuations, to generate foresight about future T&C trends, and to develop agile employees capable of working in dynamic and complex systems provide strong support for the implementation of BMI. Our elaboration of the enabling effect of Agility on BMI contributes to the literature by providing specific insights on how operational, strategic, and workforce agility lead companies to renew their business models. This is

essentially important especially because empirical research on the Agility-BMI relationship is scarce, even more so regarding the 'how' issues.

In spite of the work of Doz and Kosonen (2010), which served as the starting point for our own work, there is as yet little consensus on what aspects of agility relate to BMI and how. Our research takes a step forward providing a three-dimension presentation of agility (i.e., operational, strategic, and workforce) that allows for a deeper understanding of the link between the two concepts. We believe that this dimensionalisation of agility is of substantial value not only because it identifies three important aspects of agility in organisation but also because it allows a clear and detailed explanation of how agile practices enable the firm to renew its business model. Future research on the Agility-BMI relationship can now build on these initial foundations.

In the study of Schneider and Spieth (2013), based on insights from prior research, strategic agility is suggested as a "crucial prerequisite for firms in the need to innovate their business models" (p. 22). The authors however argue for the need for a "deeper examination of how strategic agility enables a firm to conduct BMI" (p. 22). They, in particular, justify the enabling effect of strategic agility on BMI by highlighting the importance of the firm's capability of anticipating future environmental changes in renewing its business model. Ghezzi and Cavallo (2018) propose that: "business model innovation for early stage digital start-ups entails a combination of operational and strategic agility" (p. 11). We are able to confirm these hypotheses and provide further detailed explanations. Indeed, we find empirical support for the enabling effect of strategic agility on value *creation*, *proposition*, *delivery*, and *network* renewal. Foresight efforts on future applications of 3D printing technologies, for example, inspire our case companies to increase the use of automated and robotic production mechanisms. They also use foresight practices to come up with new product design ideas. Their prediction of the future of the textiles leads them to plan for direct delivery to the end-user. Further, based on their forward insights, our case companies renew their network of relationships to best benefit partnership arrangements.

We further find that operational agility has enabled our case companies to renew their value *creation*, *capture*, and *proposition* base. First, applying agile methods such as traceability, they make their production mechanisms as agile as possible. Secondly, more agile systems enable them to reduce the waste volume and decrease the lead-time which provide cost advantages. Thirdly, agile manufacturing methods such as SCRUM enable them to develop new products that are most likely to meet customer needs and preferences.

Finally, investigating the enabling effect of workforce agility on BMI, we find that our case companies' versatile workforce enables them to introduce new processes and mechanisms more easily and more regularly.

Our second main finding is about the enabling effect of BMI on ambidexterity. We recall here that the literature specifically addressing the relationship between BMI and ambidexterity suggests the latter as a potential enabler of the former (e.g., Khanagha et al., 2014; Kranz et al., 2016). We find the opposite as a primary relationship. This makes logical sense as the execution of different business models at the same time first requires the implementation of new business models. Koen et al. (2011) refer to the example of IBM, in which the company launched several start-up units to pursue a new business model. Sharing senior management while separating operational units led to a significant increase in IBM's new-business-model revenue from 2000 to 2006. The company is therefore now able to compete with different business models simultaneously. This is also addressed by Doz and Kosonen (2010), who use the example of Hewlett Packard (HP) as a successful company that effectively creates new, separate business models with different channels and logistics in order to establish the most fitted 'route to market' and switch products between different newly-created business models. This allows HP to serve different types of customers at the same time. The BMI-ambidexterity relationship is not clearly delineated in the literature and even less can be found on the relationships between BMI dimensions and ambidexterity. However, some supporting insights can be drawn from previous efforts. Malik et al. (2017) find that the firm's initiatives to get help from its network partners improves its ability to achieve ambidexterity in order to mount adaptive responses to environmental changes. In line with Rialti et al. (2018), the renewal of the production systems using the 'big data analytics-capable business process management systems' enhances the firm's exploration and exploitation capabilities, which is acknowledged as innovation ambidexterity.

Our third main finding is about the enabling effect of BM ambidexterity on Agility. This is hinted at but mostly underexplored in the literature. Doz and Kosonen (2010) highlight the firm's ability to develop different business models at the same time and assign different products to different customers in each business model. This way, "products and businesses could be 'switched' between business models" (p. 380) and the company, therefore improves the flexibility in its offerings. And Khanagha et al. (2014) stress the role of knowledge gained from the experience of renewing the firm's business model on overcoming the conflicts and uncertainties inherent in the simultaneous operation of different business models. But because BM ambidexterity is a fairly new concept, its potential effects are yet to be thoroughly considered. Our findings show that BM ambidexterity practices enable our case companies

to improve their operational, strategic, and workforce agilities. Their abilities to pursue different goals and strategies simultaneously lead them to develop various aspects of operational agility such as process automation or digitised production systems. They are also able to expand in different markets and areas as a result of their BM ambidexterity practices which, in turn, allows them to access different sources of information about possible future trends in textiles. Finally, our case companies' decision to be ambidextrous drive them to improve their employees' knowledge and experience in areas different from their current roles and tasks.

## **6 Culminating Propositions**

Drawing on a multiple case study of the Portuguese T&C Industry, this study reveals how agility enables BM ambidexterity through different dimensions of business model innovation, viz. value creation renewal, value proposition renewal, value delivery renewal, value capture renewal, and value network renewal practices. We first conducted a literature review which led us to propose a research model (see Figure 13) based on which agility and BM ambidexterity were identified as enabling the firm to renew its business model. The results of data analysis, however, led us to improve the model (see Figure 16) that proposes a circular self-reinforcing effect of Agility on BMI, of BMI on BM ambidexterity, and of BM ambidexterity on further Agility. We, therefore, arrive at three main propositions.

### **6.1 The enabling effect of Agility on BMI**

A first general proposition of our conceptual model is the enabling effect of Agility on BMI. Investigating this effect, we started by examining how operational agility enables the firm to renew its value creation mechanisms. Our data analysis shows that our case companies, by implementing agile methods, stimulate the introduction of new production processes. In MixedApparel, for instance, a team of members from different departments is formed regularly to track the production processes using different methods such as traceability in order to troubleshoot possible defects and maximise efficiency. As a result of such efforts, the team found the high rate of errors in sewing in a certain section of clothes. A decision, therefore was made to introduce new sewing machines in that section. Another example is the use of the critical path method in MixedApparel which allows the operation management department to map the production flow of a given product and detect critical stages where improvements can be introduced. For instance, they are able to speed up the production flow by concurrent execution of detected stages. The department has been able to better renew and coordinate the production processes ever since the use of this method.

In addition to operational agility, strategic agility is also found to enable value creation renewal practices. Companies with an accurate prediction of future market trends (strategic foresight) are more prepared to renew their production mechanisms. To illustrate the enabling effect of strategic foresight on value creation renewal, we use the example of CarSeatcover, where there has been a plan to increase the use of automated production systems in recent years. This plan is supported by the assumption that future production systems in the car seat cover industry will be influenced firmly by 3D printing technologies. To better adapt to such technologies, when the time comes, CarSeatcover has begun to renew its production processes.

Workforce agility is also found to enable value creation renewal practices. The employees' readiness to implement changes in production paves the way for managers to renew processes and mechanisms regularly. In DenimPro, after the introduction of a new garment washing system that is more eco-friendly than the former, it did not take long for employees to adapt to the new system. The workforce's quick adaptation encouraged the managers to introduce even more modifications in order to minimise water consumption.

Our data analysis also suggests that operational and strategic agility enable the firm to renew its value proposition mechanisms. Equipped with agile manufacturing methods, our case companies are able to introduce new products. MixedApparel uses SCRUM to develop new products based on the customers' needs. Accordingly, a team of cross-functional employees (product owner unit) is built to develop a new product by generating a list of prioritised customer needs (product backlog); then, simultaneously, the development and inspector groups develop and control the product development process. Thanks to the research efforts of the product owner unit in this company, managers have come to know that one of their customers has a special interest in shirts made of jersey material. Given that the production of jersey clothes requires specific production mechanisms, the company introduced new processes to make shirts with the desired features and designs.

Strategic foresight efforts in DenimPro enable the company to come up with a wide variety of new designs for jeans such as the "push-in" and "push-up" models that shape the body's contours. The company got this idea from predicting that in future, people will put a heavy weight on the 'fit-for-body' criteria when buying jeans. This is why the company now invests considerably on denim cloths that have the highest fitness ratios.

Investigating the enabling effect of agility on value delivery renewal practices, our data analysis highlights the role of strategic foresight efforts. In MixedApparel, monitoring the current trends in the footwear industry, the managers predict that, in future, direct delivery to end-users will become more and



more relevant in the T&C sector too. Specially, customers' willingness to order clothes with specific features such as unique designs, colours, or something printed on their clothes, reinforces the idea of direct delivery by the manufacturer. Certain mid-term and long-term plans, therefore, are developed to achieve direct delivery to end-users.

Concerning the agility and value capture renewal relationship, the enabling effect of operational agility is reflected in two interconnected aspects of cost-reduction and revenue generation. As such, agile manufacturing methods enable T&C companies to reduce the number of products returned by customers and, consequently, avoid the costs of refunding. The product owner unit in SCRUM method ensures the match between customers' wants and what the company offers them. Additionally, agile methods such as virtual manufacturing, concurrent engineering, and just-in-time enable the companies to accelerate production, inspection, and delivery of orders, hence decreasing costs and increasing revenue. As a result, the firm is able to rapidly respond to customers' orders and satisfy their demands with fast production and delivery and therefore take new orders more frequently. In this sense, our data analysis indicate that our case companies are currently looking for new production units as they have managed to increase their production capacity using agile methods. In CarSeatcover, the production management department recently introduced a digitised controlling system using computer software to achieve continuous improvement. One of the functions of this system is to regularly inform the department of the exact speed of the production line. The managers therefore are able to take immediate action when signs of speed reduction occur. By maintaining the speed of production, the company avoids potential losses caused by delays and incidents. Another example is the use of PDCA method by CarSeatcover employees to increase their agility. To achieve continuous improvement and standardisation, employees are encouraged to practice the plan-do-check-action process in order to avoid potential production bottlenecks and shutdowns that cause financial loss.

Finally, we arrive at the enabling role of agility on value network renewal. Strategic foresight practices in our case companies lead them to renew their network of relationships for the sake of added value for the company. In MixedApparel, the managers see the future of the T&C market as that of direct interaction between the producer and the retailer/end-user. Responding to this challenge, the company has cut its relationships with intermediaries or agencies that link the company to retailers. The same strategy is developed by CarSeatcover building direct relationships with OEMs rather than intermediaries. In DenimPro, the managers have come to confront the threat of fast fashion and therefore have built new relationships with global fashion R&D institutes (e.g., WGSN and MHA) in order to get to know the latest,

fast-changing fashion trends. These R&D institutes provide the company with various information such as the behaviour of competitors like Levi's.

**Proposition 1: The more agile the firm is, the more effective it will be in renewing its business model.**

## 6.2 The enabling effect of BMI on BM Ambidexterity

A careful analysis of the data gathered led us to propose that the BMI practices of our case companies enable them to simultaneously achieve different strategies in order to make the most of opportunities driven by environmental changes. While BMI introduces new practices and capabilities in the companies, they often also retain the previous practices and capabilities when they remain relevant, thereby being able to operate more than one business model at the same time. The BMI-BM ambidexterity linkage is also supported by the notion that to be able to compete with different business models simultaneously, the firm must first make changes to its current BM, thereby effectively implementing BMI. Our case companies' new value creation, proposition, delivery, capture, and network practices enable them to simultaneously achieve different strategic objectives. The following paragraphs are intended to explain how each of these BMI practices enable BM ambidexterity.

We start by examining the role of value creation renewal practices. Our data analysis suggests that the simultaneous production of different quality T&C items is achieved by initiatives that our case companies have introduced in their production mechanisms. In MixedApparel, subcontracting mass production to subcontractors enables the company to simultaneously produce high-end and medium-class clothing items. This value creation renewal practice is aligned with MixedApparel's low level of resources which would otherwise not be sufficient to implement mass production of lower-class clothes. In DenimPro, value creation renewal practices such as the use of a 'product matrix' has enabled the company to specify the production requirements of different level jeans and link them to their respective customer segment needs. As a result, the company is able to simultaneously produce different class jeans and cater for different market segments based on customers' different needs and income levels. In CarSeatcover, using new value creation activities, such as the SMED (Single-Minute Exchange of Dies) technique, the company is able to reduce the production time of seat covers for current (medium- and high-level) customers and create space for the production of car seat covers for premium brands. Ever since the use of SMED, the company has been able to optimise the simultaneous use of machines and human hands in cutting certain parts of the seat cover. Before, the changeover from manual to automatic cutting and sewing of covers took more time and energy. Now, following SMED, the improved

simultaneous use of employees and machines smooths the flow of production and allows for a dual strategy to be implemented.

Regarding the role of value proposition renewal practices on ambidexterity, our data analysis suggests that ever since MixedApparel began offering a wide variety of clothes (from a basic T-Shirt to a sophisticated dress), it has been able to reach customers from different market segments at the same time. In DenimPro, similar to CarSeatcover, the companies' willingness and readiness to offer both highly personalised products and typical products enable them to achieve ambidexterity. DenimPro is capable of offering special denim wear with sophisticated design and unique texture, yet simultaneously operate production units of typical jeans that represent its main product line. CarSeatcover is also able to offer products that are highly configured to certain needs of specific end-users buying seat covers from premium brands such as Aston Martin or Porsche, as well as products that are less differentiated targeted for lower-level income customers.

As for the enabling effect of value delivery renewal practices on firms' ambidexterity capability, our data analysis shows that the case companies, taking advantage of their new delivery initiatives, are able to offer different solutions to customers. MixedApparel is able to deliver the orders either to customers' warehouses or directly to their shops. The specifications of delivery in each case are different. For example, the clothes delivered to the shops comply with a different packaging format than those delivered to the warehouses. The same approach is applied by CarSeatcover: the company is able to deliver the seat covers directly to the OEM's factory, where the covers are attached to the seats forthwith, or to a third party, where covers will still undergo certain operations beforehand. In DenimPro, the enabling effect of value delivery renewal practices on ambidexterity is more explicit. The company uses multiple delivery methods in order to reach different groups of customers at the same time. DenimPro is capable of delivering its products directly to the end-user, to its shops, or to its warehouses. The company's ability to simultaneously deliver products to its typical retail stores in regional shopping malls, its outlet stores, various department stores, and multi-brand retail stores provides access to a wider variety of customers.

Focusing on the enabling effect of value capture renewal practices on firms' ambidexterity capability our data analysis shows that the case companies are able to introduce new value capture practices to achieve different strategic objectives. The best illustration of this effect is the new cost-saving practices that DenimPro undertook which, at the same time, resulted in improved reputation for the company. DenimPro's recycling initiative led the company to save money by sourcing raw materials at a considerably lower price. At the same time, it provided an opportunity for the company to improve its reputation among customers showing its commitment to environmental concerns. The company's use

of new washing facilities that minimises water consumption is another practice leading simultaneously to cost-savings and improved reputation. Building reputation is in its nature a costly and time-consuming practice and it usually conflicts with cost-saving strategies. DenimPro, however, simultaneously achieved these two different objectives with a value capture renewal practice. The improved reputation allows the company to practice higher prices or target a higher value-added customer segment that values eco-friendly clothes. Usual strategies used by fashion companies to show their commitment to the environment are not ambidextrous. For example, many fashion brands use celebrities to wear their clothes made of eco-friendly or recyclable materials in shows and red carpets. This strategy is not considered ambidextrous as the company still takes quite an amount of time and resources to produce clothes that are not practical. Unlike this fancy and costly practice, DenimPro undertakes new value capture practices that not only improve its reputation but also are practical at the same time.

The fifth and final part of the BMI-ambidexterity relationship is the enabling effect of value network renewal practices. The results suggest that our case companies have built different relationships with other companies/entities that enable them to achieve different business models. MixedApparel engaged in outsourcing and later in acquisition in order to achieve both cost-leadership and differentiation simultaneously. The company therefore manages to produce massive volumes of low-class clothes by subcontracting its partners allowing for a focus on high-class clothes offered to premium fashion brands. Franchising enables DenimPro to develop a different strategy from its core business model. The company is now able to offer different denim wear targeted at different customers segments that are new to its business model and are based in a new geography (the Gulf region). And CarSeatcover introduced global sourcing to penetrate foreign markets. Before, the company was only focused on domestic customers but working with suppliers from around the world enabled it to reach foreign customers at the same time.

Additionally, new relationships built by DenimPro with Portuguese and international fashion R&D institutes such as ATP, WGSN, and MHA, enable the company to pursue BM ambidexterity. While the company attracts and serves local customers using the information provided through the consulting services of Portuguese R&D institutes about domestic suppliers and how to capitalise on the T&C cluster in north of Portugal, at the same time DenimPro also acquires information on foreign markets that are new-to-the-firm yet potentially profitable. As a result, the company is able to provide more typical clothing items for local customers and simultaneously offer special denim wear for a certain group of foreign customers. The information and consulting services provided by the mentioned R&D institutes enable DenimPro to develop different business models at the same time. Taking another example, MixedApparel has expanded its relationships with suppliers by providing them with required assistance, such as

technical services and training. Although these services are beyond the company's partnership responsibilities, MixedApparel thus secures the suppliers' loyalty and cooperation to keep making different level clothes at the same time in future.

**Proposition 2: BMI practices enable the firm to achieve BM ambidexterity.**

### 6.3 The enabling effect of BM Ambidexterity on Agility

The data analysis suggests that our case companies have become more agile after engaging in ambidextrous practices. In other words, their ability to quickly adapt their operational systems, generate valuable foresight about the future, and develop agile employees are all tied up with their ambidextrous initiatives. This led us to develop our third main proposition addressing the enabling effect of BM Ambidexterity on Agility.

In this proposition we highlight the roles of BM ambidexterity on operational, strategic, and workforce agility. First, the data analysis shows that our case companies' ability to pursue different goals and strategies simultaneously (e.g., cost-leadership and differentiation) enables them to employ different agile methods such as the critical path method and just-in-time manufacturing by members of cross-functional teams. In DenimPro, the created organisational culture that supports ambidexterity allows the formation of cross-functional groups that include members who, in addition to their former responsibilities for working on ordinary jeans, now engage in new projects on lavish denim wear. In CarSeatcover, process automation and digitised systems that are identified as important operational agility practices arise from the company's ability to simultaneously utilise the machine and human craftsmanship in cutting and sewing mechanisms.

Regarding the role of BM ambidexterity on strategic agility, our data analysis suggests that engaging in ambidextrous practices, our case companies are able to expand in different markets and areas. The operation of a single business model restricts the amount of information that can be acquired by a company. BM ambidexterity, instead, allows the company to access different sources of information about possible future trends in textiles. BM ambidexterity provides our case companies with the opportunity to develop their knowledge and expertise on different aspects of the market and consequently have a better understanding of future T&C trends. DenimPro's decision to simultaneously use different selling channels (the company's online shopping platform, department stores, multi-brand retail stores, e-tailers, franchising, and outlet stores) enables it to acquire information from different sources and develop a more precise knowledge of customers' preferences. CarSeatcover's strategy to penetrate lavish products markets while still serving the lower segments enables the company to engage in projects closer

to the end-user making a better prediction of features they desire to be included in future products. MixedApparel's wide network of subcontractors, which has a central role in its achievement of ambidexterity, provides access to a large community of T&C experts whose ideas about fashion trends are of value to the prediction of the future of the industry.

Our data analysis shows us that our case companies' decision to be ambidextrous drive them to improve their workforce agility. Achieving ambidexterity in offering different-class T&C items, employees have the chance to get familiar with different equipment, different production systems, and different kinds of raw materials. MixedApparel's plan to execute both B2B and B2C models simultaneously leads the company to develop various marketing capabilities in its staff, so they will get the chance to get familiar with certain marketing aspects such as branding. DenimPro's simultaneous execution of different selling channels enable its employees to get familiar with the specific marketing strategies applied in each channel. For instance, they get to know the pricing approaches and algorithms used in outlet stores of the company. In CarSeatcover, the simultaneous use of machine and human hands in cutting and sewing the covers enable the staff to get involved with areas such as artificial intelligence, machine learning, and robotic production. Having employees with knowledge and experience in the use of automated machine tools means that the company is able to introduce new machines and computer systems with less time and effort for the adjustment and training of employees.

**Proposition 3: BM ambidexterity enables the firm to improve its agility.**

## **7 conclusions**

In this third essay, there was an effort to respond to the need for further research on the enabling capabilities of BMI. Building on the literature review and an empirical investigation in the Portuguese T&C sector, we arrived at the following conclusions. BMI practices can be captured in five dimensions, namely value creation renewal, value proposition renewal, value delivery renewal, value capture renewal, and value network renewal. The implementation of these activities results in a new business model through which the firm can gain more competitive advantages. Our review led us to identify different practices reported in previous studies through which firms can undertake BMI in every five dimensions (see Table 10). We further developed the combination of BMI practices based on the results of our data analysis from three Portuguese T&C companies (see Table 11 to 16). The identified practices therefore can be used in future BMI research as an input for measuring each dimension. In this way, we provide future research that requires BMI measures with a starting point to identify indicators that generate valid and reliable measures.

Another contribution of this essay is the illustration of how any change in one BMI dimension leads to changes in other dimensions, recognising the *architectural* nature of BMI. Our data analysis, in particular, reveals that some BMI practices of our case companies have multiple objectives that led us to highlight the interdependencies among BMI dimensions. Our findings stressing the importance of the interactions between BMI dimensions led us to encourage future research to investigate and theorise about the relationships among BMI components.

Our main contribution is a cyclical model that depicts the self-reinforcing process through which Agility enables the implementation BMI, which in turn enables BM ambidexterity, which further capacitates Agility and so on. This suggests that a firm's ambidextrous efforts make it more agile strategically, operationally, and in relation with employees. The improvements in agility, in turn, enable the firm to renew its business model and the circular process continues accordingly. The enabling effects of BM ambidexterity and agility are justified theoretically and empirically. Drawing on our findings, we conclude that the simultaneous achievement of different business models – for instance, the penetration of new, luxury car markets while serving the interests of current non-luxury brands in one of our case companies – enable the firm to decrease the resistance-to-change of its internal mechanisms, sense future unknown expectations of customers, and increase agility of its workforce. As a result, the firm is able to introduce new production mechanisms, new offerings, new delivery methods, new sources of revenue, new cost-saving solutions, and new partnership practices.

The identified practices for agility in three dimensions of operational, strategic, and workforce agility (see Table 10, 17, 18, and 19), that receive support from both literature and empirical evidence, provide a comprehensive and detailed operationalisation of the Agility construct that can be used in future research. The same applies to BM ambidexterity (see Table 10 and 20), which can be interesting for future research, especially as measurements of the construct are hard to find in the current literature.

## **V. Overall concluding remarks**

This thesis was an attempt to further explore the concept of BMI and its enabling capabilities. Three studies were conducted to achieve these purposes. First, we developed a chronology of the theoretical development of the concept of BMI and its elements by drawing insights from seminal studies in the field that have either received remarkable citations or were published recently in highly respected journals. This chronology led us to identify and adopt the value-based perspective in order to propose a new arrangement of BMI elements in terms of value creation innovation (new ways of creating value), value proposition innovation (new bundle of products/services), value delivery innovation (new ways to deliver

the offerings to the customer), value capture innovation (new ways of customising the costs-revenue balance to maximise profits), and value network innovation (new ways to partnership working). The resulting BMI framework was then illustrated with examples from pioneering companies.

In our second study, we developed from the literature a dynamic capabilities framework that identifies a set of capabilities through which a firm can renew its business model and survive crises caused by environmental disruptions. Conducting a qualitative, interview-based research with participants from 11 Portuguese T&C companies, we found empirical evidence to support seven dynamic capabilities, namely operational agility, product development, marketing, corporate foresight, organisational learning, R&D, and networking. The study details how each of these capabilities enables firms to face and overcome the challenges posed by the external environment.

Our third and final study was a qualitative, multiple case research using 22 interviews with CEOs and senior managers of three established Portuguese T&C companies as well as observation achieved by visiting the factories. The results of our theoretical and empirical investigation led us to propose a circular self-reinforcing model where Agility acts as enabler of BMI, which in turn allows companies to achieve BM Ambidexterity. Operating parallel business models further improves companies' Agility capabilities. We explain and illustrate how these relationships operate. We developed three main propositions that reflect this virtuous cycle.

This thesis project contributes to the current state of knowledge in several ways. First, the chronology of the theoretical development of both BM and BMI in our first study provides the literature with a strong theoretical basis through which the audience is able to identify major milestones and seminal studies in the development of the fields of BM and BMI and consequently prospective scholars can use this chronology to develop stronger literature reviews.

Second, our extended conceptualisation of BMI derived from our literature reviews in essays 1 and 3 provides future research on BMI with a set of constituent components of the concept of BMI as well as the sub-components that can be employed to measure BMI, paving the way for quantitative studies that reach broader samples.

Third, we identify and apply one of the, if not the most appropriate, promising, and stimulating perspectives, i.e., the value-based perspective, in order to define and clarify BMI elements. This perspective, to our view, offers scholars an avenue to build consensus on the conceptualisation and dimensionalisation of the concept of BMI, which is still considered by recent studies (e.g., DaSilva, 2018; Foss and Saebi, 2018) as a gap in the domain of BMI. We also thus respond to calls by well-reputed



scholars for research on the conceptualisation and dimensionalisation of BMI (Foss and Saebi, 2017; Spieth et al., 2014) in our first and third studies.

We further respond to calls for research on the enabling capabilities of BMI (Foss and Saebi, 2018; Ricciardi et al., 2016) in our second and third studies. We use of the dynamic capabilities view of the firm (Eisenhardt and Martin, 2000; Teece et al., 1997; Winter, 2003) in identifying the enabling capabilities of BMI, thereby providing a strong foundation for future studies that intend to investigate the capabilities/factors that enable BMI. The results from our interviews and observation in the Portuguese T&C Industry also provide fresh empirical evidence for the illustration of BMI practices as well as the roles of several enabling capabilities. We propose a specific approach whereby we decompose the concept of BMI into its dimensions and then explore the effects on each component distinctly. We study the interplay among BMI, Agility and BM ambidexterity more comprehensively, which leads us to develop novel conceptualisations of Agility and BM Ambidexterity that are derived from our literature reviews and are supported by the results of our data analysis: we conceptualise Agility in terms of Operational, Strategic, and Workforce agility. Additionally, we adopt the separation vs. differentiation approach to further clarify the concept of BM Ambidexterity.

Our main contribution to theory, however, comes in the form of a conceptual model that proposes circular self-reinforcing relationships among these three constructs where Agility is proposed as an enabler of BMI, BMI as an enabler of BM Ambidexterity, and BM Ambidexterity as an enabler of Agility.

Additionally, our three essays offer key managerial implications for practitioners. The dimensionalisation of BMI practices based on the value-based perspective, along with the examples we give in essay 1 to illustrate BMI practices of pioneering companies, provide managers with a clear and intuitive template to analyse their firms' business models and identify potential for innovating in different aspects of value creation, proposition, delivery, capture, and network. Our illustrations of BM and BMI in essays 1 and 3 (Table 1 and 10) can be used by managers to map their firms' BM and core activities, as well as to plan and organise their BMI practices.

The dynamic capabilities frameworks developed in essay 2 (see Figures 6 and 7) provide managers with insights on how to improve organisational factors with great impact on firm survival and success, namely operational agility, product development, marketing, corporate foresight, organisational learning, R&D, and networking capabilities. In particular, while illustrating the new product development capability, we provide Portuguese T&C managers and practitioners with several key areas that are less discovered in Portugal and therefore offer great opportunities to make a profit: smart textiles, athletic sportswear, industrial textiles, protective textiles, medical textiles, and highly-customised textiles. We also provide

relevant publications and information sources for those practitioners who are interested in investing in these areas.

Other publications and information sources that we supply in essay 2 provide T&C practitioners with concrete knowledge about different aspects of the industry introducing fresh ideas and insights. It is important here to touch upon some publications and information sources on textiles we found highly practicable for Portuguese T&C companies. We start first with the two publishing companies that have been prolific in the dissemination of knowledge about the T&C industry: the Woodhead Publishing and CRC Press. The Textile Institute, EURATEX, and WGSN are among the other sources we introduced.

Drawing on the contextual findings of essay 3, T&C managers are recommended to consider developing Agility and its sub-capabilities, namely operational, strategic, and workforce agility in order to facilitate the renewal of their BM. As for operational agility, managers are provided with guidelines to incorporate agile methods into their production operations. It is described, for instance, how to implement Scrum through a dynamic process that links together the production and R&D departments (see Figure 9). With regard to strategic agility, our data analysis reveals that the case companies do not follow any formal or structured process for developing predictions about future trends. Therefore, the strategic foresight process presented in Figure 10 offers a practical solution.

Our illustration of the ambidextrous organisation in essay 3 suggests several strategies (see Table 6) to managers who can benefit from simultaneously exploiting lower-income markets and premium-priced ones. Also, our third essay provides managers with a decision-making framework (Figure 12) that enables them to choose the best-fitting strategy based on the criteria identified in the framework.

As with any academic effort, our empirical studies have several limitations, mostly derived from our methodological choices and in part also to practical limitations concerning the empirical work. Our qualitative research designs employed in essays 2 and 3, although appropriate for our purpose of understanding and explaining the complex relationships among underdeveloped constructs and building theory, provide access to only a limited number of specific cases and respondents. To arrive at a wider portrayal of how companies in different sectors deal with BMI and its enabling capabilities, a quantitative design would be recommended.

In essay 3, the multiple case study design using three companies in a specific sector will always carry limitations on the generalisation of the results. The insights we gained from these cases, chosen for their exemplar nature and their capacity to elucidate the constructs and relationships under study, still allow us to propose a conceptual model with theoretical generalisability to other companies and industrial sectors. The extension in future studies to more companies and industries will certainly improve the

generalisation performance of the research. Regarding BM ambidexterity, we draw on Markides and Charitou (2004)'s framework. The use of other frameworks, such as the one by Gibson and Birkinshaw (2004) would provide additional insights.

In terms of the practical limitations we encountered, the contrast between the number of interviews carried out in DenimPro and the other two case companies is far too conspicuous to be ignored. Despite several attempts, we were unable to include more participants from this case company in a timely fashion. Nevertheless, we feel the three interviews we were able to secure were sufficiently rich and informative to justify the inclusion of DenimPro in the study.

Another practical issue arose from the language limitations of the researcher, who does not speak Portuguese. Therefore, all interviews were conducted in English, which is the native language of none of the participants, justifying some less grammatically exact quotes included in the thesis. However, this never constituted a real hindrance to communication and we believe the informants' messages carried through faithfully into the study.

Several avenues for future investigation remain open relating to Agility, BMI and BM Ambidexterity. For example, investigating the enabling effect of BMI on BM ambidexterity in essay 3, we decomposed the former concept and focused on how each BMI component enables BM ambidexterity as a whole. Future research may want also to decompose BM ambidexterity and investigate the effects on each ambidexterity aspect.

In this study we focused on the positive, enabling effects of organisational capabilities on BMI, BM ambidexterity and firm survival in the face of environmental disruptions. Another potential fruitful line of research would be to explore the negative effects of certain organisational aspects that might constitute inhibiting factors to innovation and survival which could justify a lack of resilience and to ability to survive external setbacks.

Finally, future research is recommended to investigate contingency effects on the Agility-BMI-BM Ambidexterity relationships. Environmental dynamism can play such a role, given that the contingency effect of the concept is highlighted in both the ambidexterity (e.g., Jansen et al., 2005) and BMI (e.g., Pati et al., 2018) research fields.

## VI. References

- Achtenhagen, L., Melin, L. & Naldi, L. 2013. Dynamics of business models—strategizing, critical capabilities and activities for sustained value creation. *Long range planning*, 46, 427-442.
- Ahmad, G., Soomro, T. R. & Brohi, M. N. 2014. Agile Methodologies: Comparative Study and Future Direction. *European Academic Research*, 1, 3826-3841.
- AICEP. 2013. *Investing in Portugal Textile and Clothing Industry*. Retrieved from: [https://www.een-portugal.pt/destaque/Documents/petrochemical-chemical-industry\\_en.pdf](https://www.een-portugal.pt/destaque/Documents/petrochemical-chemical-industry_en.pdf)
- Aitken, J., Christopher, M. & Towill, D. 2002. Understanding, implementing and exploiting agility and leanness. *International journal of Logistics*, 5, 59-74.
- Allee, V. 2008. Value network analysis and value conversion of tangible and intangible assets. *Journal of intellectual capital*, 9, 5-24.
- Ambrosini, V. & Bowman, C. 2009. What are dynamic capabilities and are they a useful construct in strategic management? *International journal of management reviews*, 11, 29-49.
- Ambrosini, V. Bowman, C. & Collier, N. 2009. Dynamic capabilities: An exploration of how firms renew their resource base. *British Journal of Management*, 20, S9-S24.
- Amit, R. & Zott, C. 2001. Value creation in e-business. *Strategic management journal*, 22, 493-520.
- Amit, R. & Zott, C. 2012. Creating value through business model innovation. *MIT Sloan Management Review*, 53, 41-49.
- Ammar, O. & Chereau, P. 2018. Business model innovation from the strategic posture perspective. *European Business Review*, 30, 38-65.
- Arbussa, A., Bikfalvi, A. & Marquès, P. 2017. Strategic agility-driven business model renewal: the case of an SME. *Management Decision*, 55, 271-293.
- Argote, L. 2012. *Organizational learning: Creating, retaining and transferring knowledge*. Pennsylvania, USA: Springer.
- Argote, L. & Miron-Spektor, E. 2011. Organizational learning: From experience to knowledge. *Organization science*, 22, 1123-1137.
- Armbruster, H., Bikfalvi, A., Kinkel, S. & Lay, G. 2008. Organizational innovation: The challenge of measuring non-technical innovation in large-scale surveys. *Technovation*, 28, 644-657.
- ATP. 2017. *Fashion from Portugal*. Retrieved from: <https://www.fashionfromportugal.com.pt/publications>
- ATP. 2018. *The Portuguese textile and clothing industry; facts and figures*. Retrieved from: [http://ccilc.pt/wp-content/uploads/2017/07/Portuguese-TC-Industry\\_2018.pdf](http://ccilc.pt/wp-content/uploads/2017/07/Portuguese-TC-Industry_2018.pdf)
- Augusto, M. & Coelho, F. 2009. Market orientation and new-to-the-world products: Exploring the moderating effects of innovativeness, competitive strength, and environmental forces. *Industrial marketing management*, 38, 94-108.
- Auh, S. & Menguc, B. 2005. Balancing exploration and exploitation: The moderating role of competitive intensity. *Journal of business research*, 58, 1652-1661.
- Baden-Fuller, C. & Haefliger, S. 2013. Business models and technological innovation. *Long range planning*, 46, 419-426.

- Baden-Fuller, C. & Mangematin, V. 2013. Business models: A challenging agenda. *Strategic Organization*, 11, 418-427.
- Baldassarre, B., Calabretta, G., Bocken, N. & Jaskiewicz, T. 2017. Bridging sustainable business model innovation and user-driven innovation: A process for sustainable value proposition design. *Journal of Cleaner Production*, 147, 175-186.
- Banbury, C. M. & Mitchell, W. 1995. The effect of introducing important incremental innovations on market share and business survival. *Strategic management journal*, 16, 161-182.
- Barnett, C. 2013. Top 10 Crowdfunding Sites For Fundraising. Retrieved from <https://www.forbes.com/sites/chancebarnett/2013/05/08/top-10-crowdfunding-sites-for-fundraising>
- Bartels, V. 2011. *Handbook of medical textiles*. Cambridge, UK: Woodhead Publishing.
- Baskarada, S. & Koronios, A. 2018. The 5S organizational agility framework: a dynamic capabilities perspective. *International Journal of Organizational Analysis*, 26, 331-342.
- Başog, A. N., Işkın, I., Aydinog, B. & Öztürk, M. 2012. New product development for the healthcare industry: A case study of diet software. *Health Policy and Technology*, 1, 93-104.
- Battistella, C. 2014. The organisation of Corporate Foresight: A multiple case study in the telecommunication industry. *Technological Forecasting and Social Change*, 87, 60-79.
- Battistella, C., De Toni, A. F., De Zan, G. & Pessot, E. 2017. Cultivating business model agility through focused capabilities: A multiple case study. *Journal of Business Research*, 73, 65-82.
- Baxter, P. & Jack, S. 2008. Qualitative case study methodology: Study design and implementation for novice researchers. *The qualitative report*, 13, 544-559.
- Beer, M., Eisenstat, R. & Spector, B. 1990. Why change programs don't produce change. *Harvard Business Review*, 67, 158-166
- Berends, H., Smits, A., Reymen, I. & Podoyntsyna, K. 2016. Learning while (re) configuring: Business model innovation processes in established firms. *Strategic Organization*, 14, 181-219.
- Birkinshaw, J., Hamel, G. & Mol, M. J. 2008. Management innovation. *Academy of management Review*, 334, 825-845.
- Bitektine, A. 2008. Prospective case study design: qualitative method for deductive theory testing. *Organizational Research Methods*, 11, 160-180.
- Blanchard, O. 2007. Adjustment within the euro. The difficult case of Portugal. *Portuguese Economic Journal*, 6, 1-21.
- Bock, A. J., Opsahl, T., George, G. & Gann, D. M. 2012. The effects of culture and structure on strategic flexibility during business model innovation. *Journal of Management Studies*, 49, 279-305.
- Bocken, N. M., Short, S. W., Rana, P. & Evans, S. 2014. A literature and practice review to develop sustainable business model archetypes. *Journal of cleaner production*, 65, 42-56.
- Bonaccorsi, A., Giannangeli, S. & Rossi, C. 2006. Entry strategies under competing standards: Hybrid business models in the open source software industry. *Management science*, 52, 1085-1098.
- Boons, F. & Lüdeke-Freund, F. 2013. Business models for sustainable innovation: state-of-the-art and steps towards a research agenda. *Journal of Cleaner Production*, 45, 9-19.
- Bourreau, M., Gensollen, M. & Moreau, F. 2012. The impact of a radical innovation on business models: Incremental adjustments or big bang? *Industry and Innovation*, 19, 415-435.

- Box, M. 2008. The death of firms: exploring the effects of environment and birth cohort on firm survival in Sweden. *Small Business Economics*, 31, 379-393.
- Brandenburger, A. M. & Stuart, H. W. 1996. Value-based business strategy. *Journal of Economics & Management Strategy*, 5, 5-24.
- Braun, V. & Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative research in psychology*, 3, 77-101.
- Brea-Solis, H., Casadesus-Masanell, R. & Grifell-Tatjé, E. 2015. Business Model Evaluation: Quantifying Walmart's Sources of Advantage. *Strategic Entrepreneurship Journal*, 9, 12-33.
- Breu, K., Hemingway, C. J., Strathern, M. & Bridger, D. 2002. Workforce agility: the new employee strategy for the knowledge economy. *Journal of Information Technology*, 17, 21-31.
- Bryman, A. & Bell, E. 2011. *Business research methods*. New York, USA: Oxford University Press.
- Burt, R. S. 1995. *Structural holes: The social structure of competition*. London, UK: Harvard university press.
- Campanelli, A. S. & Parreiras, F. S. 2015. Agile methods tailoring--A systematic literature review. *Journal of Systems and Software*, 110, 85-100.
- Carayannis, E. G., Sindakis, S. & Walter, C. 2015. Business model innovation as lever of organizational sustainability. *The Journal of Technology Transfer*, 40, 85-104.
- Casadesus-Masanell, R. & Ricart, J. E. 2010. From strategy to business models and onto tactics. *Long range planning*, 43, 195-215.
- Casadesus-Masanell, R. & Zhu, F. 2013. Business model innovation and competitive imitation: The case of sponsor-based business models. *Strategic management journal*, 34, 464-482.
- Cavalcante, S., Kesting, P. & Ulhøi, J. 2011. Business model dynamics and innovation: (re) establishing the missing linkages. *Management decision*, 49, 1327-1342.
- Chang, Y. Y. & Hughes, M. 2012. Drivers of innovation ambidexterity in small-to medium-sized firms. *European Management Journal*, 30, 1-17.
- Chang, Y. C., Yang, P. Y. & Chen, M. H. 2009. The determinants of academic research commercial performance: Towards an organizational ambidexterity perspective. *Research Policy*, 38, 936-946.
- Chapman, R. L., Soosay, C. & Kandampully, J. 2003. Innovation in logistic services and the new business model: a conceptual framework. *International Journal of Physical Distribution & Logistics Management*, 33, 630-650.
- Chaston, I., Badger, B. & Sadler-Smith, E. 2001. Organizational learning: an empirical assessment of process in small UK manufacturing firms. *Journal of small business Management*, 39, 139-151.
- Chatain, O. & Mindruta, D. 2017. Estimating value creation from revealed preferences: Application to value-based strategies. *Strategic management journal*, 38, 1964-1985.
- Chen, X., Zou, H. & Wang, D. T. 2009. How do new ventures grow? Firm capabilities, growth strategies and performance. *International Journal of Research in Marketing*, 26, 294-303.
- Chesbrough, H. & Rosenbloom, R. S. 2002. The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. *Industrial and corporate change*, 11, 529-555.
- Chesbrough, H. 2006. *Open business models: How to thrive in the new innovation landscape*, Boston, USA: Harvard Business School Press.

- Chesbrough, H. 2007. Business model innovation: it's not just about technology anymore. *Strategy & leadership*, 35, 12-17.
- Chesbrough, H. 2010. Business model innovation: opportunities and barriers. *Long range planning*, 43, 354-363.
- Choo, C. W. 1999. The art of scanning the environment. *Bulletin of the Association for Information Science and Technology*, 25, 21-24.
- Christopher, M. & Lee, H. 2004. Mitigating supply chain risk through improved confidence. *International Journal of Physical Distribution & Logistics Management*, 34, 388-96.
- Chung, W. W., Yam, A. Y. & Chan, M. F. 2004. Networked enterprise: A new business model for global sourcing. *International Journal of Production Economics*, 87, 267-280.
- Clauss, T. 2017. Measuring business model innovation: conceptualization, scale development, and proof of performance. *R&D Management*, 47, 385-403.
- Coombes, P. H. & Nicholson, J. D. 2013. Business models and their relationship with marketing: A systematic literature review. *Industrial Marketing Management*, 42, 656-664.
- Cooper R. G. & Kleinschmidt, E. J. 1986. An investigation into the new product process: steps, deficiencies, and impact. *Journal of product innovation management*, 3, 71-85.
- Cooper, A. C., Gimeno-Gascon, F. J. & Woo, C. Y. 1994. Initial human and financial capital as predictors of new venture performance. *Journal of business venturing*, 9, 371-395.
- Cooper, R. G. & Kleinschmidt, E. J. 1987. New products: what separates winners from losers? *Journal of Product Innovation Management*, 4, 169-184.
- Cooper. R. G. 1990. Stage-gate systems: a new tool for managing new products. *Business horizons*, 33, 44-54.
- Creswell, J. W. 2007. *Qualitative inquiry and research design: Choosing among five tradition*. California, USA: Sage.
- Dagnino, G. B. & Padula, G. 2002. Coopetition strategy: a new kind of interfirm dynamics for value creation. Paper presented at the Innovative research in management, European Academy of Management (EURAM), second annual conference, Stockholm, May.
- Daly, A. & Moloney, D. 2005. Managing corporate rebranding. *Irish Marketing Review*, 17, 30-36.
- Damanpour, F. 1987. The adoption of technological, administrative, and ancillary innovations: Impact of organizational factors. *Journal of management*, 13, 675-688.
- DaSilva, C. M. & Trkman, P. 2014. Business model: What it is and what it is not. *Long range planning*, 47, 379-389.
- DaSilva, C. M. 2018. Understanding Business Model Innovation from a Practitioner Perspective. *Journal of Business Models*, 6, 19-24.
- Dawson, B. 2007. *The Power of the R5 Business Model*. Retrieved from <https://www.ecmweb.com/content/power-r5-business-model#close-olyticsmodal>
- Day, G. S. 2011. Closing the marketing capabilities gap. *Journal of marketing*, 75, 183-195.
- De Brito, M. P., Carbone, V. & Blanquart, C. M. 2008. Towards a sustainable fashion retail supply chain in Europe: Organisation and performance. *International journal of production economics*, 114, 534-553.
- De Loecker, J. 2011. Product differentiation, multiproduct firms, and estimating the impact of trade liberalization on productivity. *Econometrica*, 79, 1407-1451.

- De Vaan, M. 2014. Interfirm networks in periods of technological turbulence and stability. *Research Policy*, 43, 1666-1680.
- De Visser, M., de Weerd-Nederhof, P., Faems, D., Song, M., Van Looy, B. & Visscher, K. 2010. Structural ambidexterity in NPD processes: A firm-level assessment of the impact of differentiated structures on innovation performance. *Technovation*, 30, 291-299.
- Deeds, D. L., DeCarolis, D. & Coombs, J. 2000. Dynamic capabilities and new product development in high technology ventures: An empirical analysis of new biotechnology firms. *Journal of business venturing*, 15, 211-229.
- Dellyana, D., Simatupang, T. M. & Dhewanto, W. 2016. Business model innovation in different strategic networks. *International Journal of Business*, 21, 191-215.
- DeMers, J. 2017. 5 Examples of Rebranding Done Right. Retrieved from: <https://www.forbes.com/sites/jaysondemers/2016/07/07/5-examples-of-rebranding-done-right/#1d8b7641385a>.
- Demil, B. & Lecocq, X. 2010. Business model evolution: in search of dynamic consistency. *Long range planning*, 43, 227-46.
- Demil, B., Lecocq, X., Ricart, J. E. & Zott, C. 2015. Introduction to the SEJ special issue on business models: business models within the domain of strategic entrepreneurship. *Strategic Entrepreneurship Journal*, 9, 1-11.
- Denning, S. 2017. The next frontier for Agile: strategic management. *Strategy & Leadership*, 45, 12-18.
- Denzin, N. K. 1989. *The research act: A theoretical introduction to sociological methods*, Englewood Cliffs, USA: Prentice Hall.
- Dervitsiotis, K. N. 2010. A framework for the assessment of an organisation's innovation excellence. *Total Quality Management*, 21, 903-918.
- Dhillon, G. & Caldeira, M. 2000. Interpreting the adoption and use of EDI in the Portuguese clothing and textile industry. *Information Management & Computer Security*, 8, 184-188.
- Dobusch, L. & Schübler, E. 2014. Copyright reform and business model innovation: Regulatory propaganda at German music industry conferences. *Technological Forecasting and Social Change*, 83, 24-39.
- Downs, J. B. & Velamuri, V. K. 2018. Business model innovation in a knowledge revolution: An evolutionary theory perspective. *Managerial and Decision Economics*, 39, 550-562.
- Doz, Y. L. & Kosonen, M. 2010. Embedding strategic agility: A leadership agenda for accelerating business model renewal. *Long range planning*, 43, 370-382.
- Dubosson-Torbay, M., Osterwalder, A. & Pigneur, Y. 2002. E-business model design, classification, and measurements. *Thunderbird International Business Review*, 44, 5-23.
- Dunn, P. & Cheatham, L. 1993. Fundamentals of small business financial management for start-up, survival, growth, and changing economic circumstances. *Managerial Finance*, 19, 1-13.
- Dyer, J. H. & Singh, H. 1998. The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of management review*, 23, 660-679.
- Dyer, L. & Shafer, R. A. 2003. Dynamic organizations: Achieving marketplace and organizational agility with people. *CAHRS Working Paper Series*, 27, 1-39.
- Eiriz, V., Gonçalves, M. & Areias, J. S. 2017. Inter-organizational learning within an institutional knowledge network: A case study in the textile and clothing industry. *European Journal of Innovation Management*, 20, 230-249.



- Eisenhardt, K. M. & Brown, S. L. 1998. Time pacing: Competing in markets that won't stand still. *Harvard business review*, 76, 59-70.
- Eisenhardt, K. M. & Martin, J. A. 2000. Dynamic capabilities: what are they? *Strategic management journal*, 21, 1105-1121.
- Eisenhardt, K. M. 1989. Building theories from case study research. *Academy of management review*, 14, 532-550.
- Eshun Jr, P. 2009. Business incubation as strategy. *Business Strategy Series*, 10, 156-66.
- Euratex 2017. Annual report - 2017. Retrieved from <http://euratex.eu/library/reports/annual-reports>
- Euratex. 2004. *European Technology Platform for the Future of Textiles and Clothing: A Vision for 2020*. Retrieved from: <https://www.certh.gr/dat/141D2148/file.pdf>
- Evrensel, A. Y. 2008. Banking crisis and financial structure: A survival-time analysis. *International Review of Economics & Finance*, 17, 589-602.
- Feng, H., Morgan, N. A. & Rego, L. L. 2017. Firm capabilities and growth: the moderating role of market conditions. *Journal of the Academy of Marketing Science*, 45, 76-92.
- Fernandes, A. R. A. 2017. *IMPETUS wearable strategy: competitive advantage in the Portuguese fashion industry*. Master Dissertation, Universidade Católica Portuguesa, Portugal.
- Fleishman, H. 2013 *Businesses with Brilliant Global Marketing Strategies*. Retrieved from: <https://blog.hubspot.com/blog/tabid/6307/bid/33857/10-Businesses-We-Admire-for-Brilliant-Global-Marketing.aspx#sm.001sz06xq14yidcus7a1o6epqyl1g>.
- Flick, U. 2009. *An introduction to qualitative research*. London, UK: Sage.
- Ford-Gilboe, M., Campbell, J. & Berman, H. 1995. Stories and numbers: Coexistence without compromise. *Advances in Nursing Science*, 18, 14-26.
- Foss, N. J. & Saebi, T. 2017. Fifteen years of research on business model innovation: How far have we come, and where should we go? *Journal of Management*, 43, 200-227.
- Foss, N. J. & Saebi, T. 2018. Business models and business model innovation: Between wicked and paradigmatic problems. *Long Range Planning*, 51, 9-21.
- Fox, N. J. 2008. *Post-positivism*. In The SAGE Encyclopaedia of Qualitative Research Methods. London, UK: Sage.
- Frankenberger, K. & Sauer, R. 2019. Cognitive antecedents of business models: Exploring the link between attention and business model design over time. *Long Range Planning*, 52, 283-304.
- Frankenberger, K., Weiblen, T., Csik, M. & Gassmann, O. 2013. The 4I-framework of business model innovation: A structured view on process phases and challenges. *International Journal of Product Development*, 18, 249-273.
- Freeman, S., Edwards, R. & Schroder, B. 2006. How smaller born-global firms use networks and alliances to overcome constraints to rapid internationalization. *Journal of international Marketing*, 14, 33-63.
- Fuld, L. M. 1985. *Competitor intelligence: how to get it, how to use it*. Toronto: John Wiley & Sons.
- Futterer, F., Schmidt, J. & Heidenreich, S. 2018. Effectuation or causation as the key to corporate venture success? Investigating effects of entrepreneurial behaviors on business model innovation and venture performance. *Long Range Planning*, 51, 64-81.

- Gambardella, A. & McGahan, A. M. 2010. Business-model innovation: General purpose technologies and their implications for industry structure. *Long range planning*, 43, 262-271.
- Gassmann, O., Frankenberger, K. & Sauer, R. 2016. *Exploring the field of business model innovation: New theoretical perspectives*, St. Gallen, Switzerland: Springer.
- Gay, B. 2014. Open innovation, networking, and business model dynamics: the two sides. *Journal of Innovation and Entrepreneurship*, 3, 1-20.
- Gebauer, H., Haldimann, M. & Saul, C. J. 2017. Business model innovations for overcoming barriers in the base-of-the-pyramid market. *Industry and Innovation*, 24, 543-568.
- Geissdoerfer, M., Vladimirova, D. & Evans, S. 2018. Sustainable business model innovation: A review. *Journal of Cleaner Production*. 198, 401-416.
- Geyskens, I., Steenkamp, J. B. E., Scheer, L. K. & Kumar, N. 1996. The effects of trust and interdependence on relationship commitment: A trans-Atlantic study. *International Journal of research in marketing*, 13, 303-317.
- Ghezzi, A. & Cavallo, A. 2018. Agile business model innovation in digital entrepreneurship: Lean Startup approaches. *Journal of Business Research*. In Press.
- Ghezzi, A., Cortimiglia, M. N. & Frank, A. G. 2015. Strategy and business model design in dynamic telecommunications industries: A study on Italian mobile network operators. *Technological Forecasting and Social Change*, 90, 346-354.
- Gibson, C. B. & Birkinshaw, J. 2004. The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of management Journal*, 47, 209-226.
- Giesen, E., Berman, S. J., Bell, R. & Blitz, A. 2007. Three ways to successfully innovate your business model. *Strategy & leadership*, 35, 27-33.
- Giesen, E., Riddleberger, E., Christner, R. & Bell, R. 2010. When and how to innovate your business model. *Strategy & Leadership*, 38, 17-26.
- Gilpin, L. 2014. 3D printing: 10 companies using it in ground-breaking ways. Retrieved from: <http://www.techrepublic.com/article/3d-printing-10-companies-using-it-in-ground-breaking-ways>.
- Goh, S. & Richards, G. 1997. Benchmarking the learning capability of organizations. *European Management Journal*, 15, 575-583.
- Granovetter, M. S. 1977. The strength of weak ties. *American Journal of psychology*, 78, 1360-1380.
- Greiner, L. E. 1998. Evolution and revolution as organizations grow. *Harvard business review*, 76, 55-64.
- Groth, P. & Nielsen, C. 2015. Constructing a Business Model Taxonomy: Using statistical tools to generate a valid and reliable business model taxonomy. *Journal of Business Models*, 3, 4-21.
- Guba, E. & Lincoln, Y. 1994. *Competing paradigms in qualitative research*. In Handbook of qualitative research. California, USA: Sage.
- Gunasekaran, A. 1999. Agile manufacturing: a framework for research and development. *International journal of production economics*, 62, 87-105.
- Gunasekaran, A. 2001. *Agile manufacturing: the 21st century competitive strategy*. Oxford, UK: Elsevier.
- Gupta, A. K. & Singhal, A. 1993. Managing human resources for innovation and creativity. *R&D Management*, 36, 41-48.
- Gupta, R. K. & Awasthy, R. 2015. *Qualitative research in management: Methods and experiences*. Delhi, India: Sage.

- Hacklin, F., Björkdahl, J. & Wallin, M. W. 2018. Strategies for business model innovation: How firms reel in migrating value. *Long range planning*, 51, 82-110.
- Hancock, D. R. & Algozzine, B. 2016. *Doing case study research: A practical guide for beginning researchers*. New York, USA: Teachers College Press.
- Hayes, S. G. & Venkatraman, P. 2015. *Materials and technology for sportswear and performance apparel*. New York, USA: CRC Press.
- He, Z. L. & Wong, P. K. 2004. Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization science*, 15, 481-494.
- Hedman, J. & Kalling, T. 2003. The business model concept: theoretical underpinnings and empirical illustrations. *European journal of information systems*, 12, 49-59.
- Heiko, A., Vennemann, C. R. & Darkow, I. L. 2010. Corporate foresight and innovation management: A portfolio approach in evaluating organizational development. *Futures*, 42, 380-393.
- Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D. & Winter, S. G. 2009. *Dynamic capabilities: Understanding strategic change in organizations*. Oxford, UK: John Wiley & Sons.
- Hopp, W. J. & Oyen, M. P. 2004. Agile workforce evaluation: a framework for cross-training and coordination. *IIE Transactions*, 36, 919-940.
- Horrocks, A. R. & Anand, S. C. 2016. *Handbook of technical textiles*. Oxford, UK: Elsevier.
- Horton, A. 1999. A simple guide to successful foresight. *Foresight*, 1, 5-9.
- Houghton, C., Murphy, K., Shaw, D. & Casey, D. 2015. Qualitative case study data analysis: An example from practice. *Nurse researcher*, 22, 8-12.
- Huang, H.C., Lai, M.C., Lin, L.H. & Chen, C.T. 2013. Overcoming organizational inertia to strengthen business model innovation: An open innovation perspective. *Journal of Organizational Change Management*, 26, 977-1002.
- IDC. 2017. Smartphone Vendor Market Share, 2017 Q1. Retrieved from: <http://www.idc.com/promo/smartphone-market-share/vendor>.
- Im, G. & Rai, A. 2008. Knowledge sharing ambidexterity in long-term interorganizational relationships. *Management science*, 54, 1281-1296.
- Inditex-Group. 2017. About us, Our brands. Retrieved from: <https://www.inditex.com/en/about-us/our-brands>
- INE. 2017. Statistical Yearbook of Portugal-2017. Retrieved from: [https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine\\_publicacoes](https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes)
- Inigo, E. A., Albareda, L. & Ritala, P. 2017. Business model innovation for sustainability: exploring evolutionary and radical approaches through dynamic capabilities. *Industry and Innovation*, 24, 515-542.
- Jansen, J. J., Van den Bosch, F. A. & Volberda, H. W. 2005. Exploratory innovation, exploitative innovation, and ambidexterity: The impact of environmental and organizational antecedents. *Schmalenbach Business Review*, 57, 351-363.
- Johnson, M. W. 2010. *Seizing the white space: Business model innovation for growth and renewal*. Boston, USA: Harvard Business Press.
- Jones, T. M. 1995. Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of management review*, 20, 404-437.

- Kastalli, I. V. & Van Looy, B. 2013. Servitization: Disentangling the impact of service business model innovation on manufacturing firm performance. *Journal of Operations Management*, 31, 169-180.
- Kastrenakes, J. 2017. From Oppo to OnePlus: a new company wants to build the next great smartphone. Retrieved from: <https://www.theverge.com/2013/12/16/5217794/oppo-ex-vice-president-pete-lau-launches-oneplus>
- Khanagha, S., Volberda, H. & Oshri, I. 2014. Business model renewal and ambidexterity: structural alteration and strategy formation process during transition to a C loud business model. *R&D Management*, 44, 322-340.
- Kianto, A. & Waajakoski, J. 2010. Linking social capital to organizational growth. *Knowledge Management Research & Practice*, 8, 4-14.
- King, N. 2004. *Using templates in the thematic analysis of text*. In: Cassell C and Symon G (eds). Essential guide to qualitative methods in organizational research. London: Sage.
- Kiva. 2017. About us (Kiva). Retrieved from: <https://www.kiva.org/about>.
- Koen, P. A., Bertels, H. M. & Elsum, I. R. 2011. The three faces of business model innovation: challenges for established firms. *Research-Technology Management*, 54, 52-59.
- Korunka, C., Kessler, A., Frank, H. & Lueger, M. 2010. Personal characteristics, resources, and environment as predictors of business survival. *Journal of Occupational and Organizational Psychology*, 83, 1025-1051.
- Kotler, P. & Pfoertsch, W. 2010. *Ingredient branding: making the invisible visible*. Leverkusen, Germany: Springer.
- Kotler, P. 1999. *Marketing Management: The millennium edition*. Boston, USA: Prentice Hall.
- Kotter, J. P. 2014. *Accelerate: Building strategic agility for a faster-moving world*. Boston, USA: Harvard Business Review Press.
- Kranich, P. & Wald, A. 2018. Does model consistency in business model innovation matter? A contingency-based approach. *Creativity and Innovation Management*, 27, 209-220.
- Kranz, J. J., Hanelt, A. & Kolbe, L. M. 2016. Understanding the influence of absorptive capacity and ambidexterity on the process of business model change—the case of on-premise and cloud-computing software. *Information systems journal*, 26, 477-517.
- Kraus, S., Ribeiro-Soriano, D. & Schüssler, M. 2018. Fuzzy-set qualitative comparative analysis (fsQCA) in entrepreneurship and innovation research—the rise of a method. *International Entrepreneurship and Management Journal*, 14, 15-33.
- Kumar, N. 1996. The power of trust in manufacturer-retailer relationships. *Harvard business review*, 74, 92-106.
- Kumar, R. S. 2014. *Textiles for industrial applications*. Boca Raton, USA: CRC Press.
- Kumar, V. 2017. Making Freemium Work. Retrieved from: <https://hbr.org/2014/05/making-freemium-work>
- Kwon, Y.H. 1990. Brand name awareness and image perception of women's daytime apparel. *Perceptual and Motor Skills*, 71, 743-752.
- Landau, C., Karna, A. & Sailer, M. 2016. Business model adaptation for emerging markets: a case study of a German automobile manufacturer in India. *R&D Management*, 46, 480-503.
- Langenhove, L. 2015. *Advances in Smart Medical Textiles*. Cambridge, UK: Woodhead Publishing.
- Lee, S. M. & Rha, J. S. 2016. Ambidextrous supply chain as a dynamic capability: building a resilient supply chain. *Management Decision*, 54, 2-23.

- Lee, J., Kim, C. & Shin, J. 2017. Technology opportunity discovery to R&D planning: Key technological performance analysis. *Technological Forecasting and Social Change*, 119, 53-63.
- Lee, K., Kim, Y. & Joshi, K. 2017. Organizational memory and new product development performance: Investigating the role of organizational ambidexterity. *Technological Forecasting and Social Change*, 120, 117-129.
- Lee, T. W., Mitchell, T. R. & Sablinski, C. J. 1999. Qualitative research in organizational and vocational psychology, 1979–1999. *Journal of vocational behavior*, 55, 161-187.
- Lester, D. L., Parnell, J. A. & Carraher, S. 2003. Organizational life cycle: A five-stage empirical scale. *The International Journal of Organizational Analysis*, 11, 339-354.
- Levinthal, D. A. & March, J. G. 1993. The myopia of learning. *Strategic management journal*, 14, 95-112.
- Lewis, V. L. & Churchill, N. C. 1983. The five stages of small business growth. *Harvard business review*, 61, 30-50.
- Li, S., Shang, J. & Slaughter, S. A. 2010. Why do software firms fail? Capabilities, competitive actions, and firm survival in the software industry from 1995 to 2007. *Information Systems Research*, 21, 631-654.
- Li, W. S. 2018. *Competitor Analysis and Accounting Model*. In Strategic Management Accounting. Singapore: Springer.
- Linder, M. & Williander, M. 2017. Circular business model innovation: inherent uncertainties. *Business Strategy and the Environment*, 26, 182-196.
- Lindgren, P., Taran, Y. & Boer, H. 2010. From single firm to network-based business model innovation. *International Journal of Entrepreneurship and Innovation Management*, 12, 122-137.
- Luo, Y. & Rui, H. 2009. An ambidexterity perspective toward multinational enterprises from emerging economies. *Academy of Management Perspectives*, 23, 49-70.
- Lukas, B. A. & Bell, S. J. 2000. Strategic market position and R&D capability in global manufacturing industries: implications for organizational learning and organizational memory. *Industrial marketing management*, 29, 565-574.
- Lusch, R. F. & Webster Jr, F. E. 2011. A stakeholder-unifying, cocreation philosophy for marketing. *Journal of Macromarketing*, 31, 129-134.
- MacIntosh, R. & Maclean, D. 2014. *Strategic management: Strategists at work*. London, UK: Macmillan International Higher Education.
- Macke, J., Vallejos, R. V. & Toss, E. D. 2010. Building inter-organizational social capital instruments to evaluate collaborative networks. *iBusiness*, 2, 67-71.
- Magretta, J. 2002. Why business models matter. *Harvard business review*. 80, 86-92.
- Mahadevan, B. 2000. Business models for Internet-based e-commerce: An anatomy. *California management review*, 42, 55-69.
- Malinowska-Olszowy, M. 2005. Brand strategy in the clothing and textile market. *Fibres & Textiles in Eastern Europe*, 13, 8-12.
- Mansfield, G. M. & Fourie, L. C. 2004. Strategy and business models-strange bedfellows? A case for convergence and its evolution into strategic architecture. *South African journal of business management*, 35, 35-44.
- Mantere, S. & Ketokivi, M. 2013. Reasoning in organization science. *Academy of management review*, 38, 70-89.

- March, J. G. 1991. Exploration and exploitation in organizational learning. *Organization science*, 2, 71-87.
- Marcus, A. 2016. *Strategic foresight: A new look at scenarios*, London, UK: Springer.
- Marinova, S., Ul-Haq, R., Portaleoni, C. G. & Marinov, M. 2013. *Corporate foresight and strategic decisions: lessons from a European bank*, London, UK: Springer.
- Markides, C. & Charitou, C. D. 2004. Competing with dual business models: A contingency approach. *Academy of Management Perspectives*, 18, 22-36.
- Markides, C. 2006. Disruptive innovation: In need of better theory. *Journal of product innovation management*, 23, 19-25.
- Markides, C. 2013. Business model innovation: what can the ambidexterity literature teach us? *Academy of Management Perspectives*, 27, 313-323.
- Martelo, S., Barroso, C. & Cepeda, G. 2013. The use of organizational capabilities to increase customer value. *Journal of Business Research*, 66, 2042-2050.
- Martins, L., Rindova, P. & Greenbaum, B. 2015. Unlocking the hidden value of concepts: a cognitive approach to business model innovation. *Strategic Entrepreneurship Journal*, 9, 99-117.
- Massa, L., Tucci, C. L. & Afuah, A. 2017. A critical assessment of business model research. *Academy of Management Annals*, 11, 73-104.
- Mattila, H. 2006. *Intelligent textiles and clothing*. Cambridge, UK: Woodhead Publishing.
- Matzler, K., Bailom, F., Friedrich Von Den Eichen, S. & Kohler, T. 2013. Business model innovation: coffee triumphs for Nespresso. *Journal of Business Strategy*, 34, 30-37.
- Maurer, I., Bartsch, V. & Ebers, M. 2011. The value of intra-organizational social capital: How it fosters knowledge transfer, innovation performance, and growth. *Organization Studies*, 32, 157-185.
- May, L. 2017. Last Woolworths stores to close. Retrieved from: <http://www.independent.co.uk/news/business/news/last-woolworths-stores-to-close-1228896.html>
- McComas, W. F. 1998. *The principal elements of the nature of science: Dispelling the myths*. In The nature of science in science education. Dordrecht, Netherlands: Springer.
- Meglio, O., King, D. R. & Risberg, A. 2015. Improving acquisition outcomes with contextual ambidexterity. *Human Resource Management*, 54, 29-43.
- Meier, R. L., Williams, M. R. & Humphreys, M. A. 2000. Refocusing our efforts: Assessing non-technical competency gaps. *Journal of Engineering Education*, 89, 377-385.
- Metallo, C., Agrifoglio, R., Schiavone, F. & Mueller, J. 2018. Understanding business model in the Internet of Things industry. *Technological Forecasting and Social Change*, 136, 298-306.
- Meyer, D., Tsui, A. S. & Hinings, C. R. 1993. Configurational approaches to organizational analysis. *Academy of Management journal*, 36, 1175-1195.
- Miles, M. B. & Huberman, A. M. 1994. *Qualitative data analysis: An expanded sourcebook*. California, USA: Sage.
- Moran, P. 2005. Structural vs. relational embeddedness: Social capital and managerial performance. *Strategic management journal*, 26, 1129-1151.
- Morbey, G. K. & Reithner, R. M. 1990. How R&D affects sales growth, productivity and profitability. *Research-Technology Management*, 33, 11-14.

- Morgan, L., Feller, J. & Finnegan, P. 2013. Exploring value networks: theorising the creation and capture of value with open source software. *European journal of information systems*, 22, 569-588.
- Morris, M., Schindehutte, M. & Allen, J. 2005. The entrepreneur's business model: toward a unified perspective. *Journal of business research*, 58, 726-735.
- Moslehpour, M., Van Kien, P. & Danyfislá, I. 2014. Differences of customer purchase behavior toward organic rice in Indonesia and Taiwan. *International Journal of Quality and Service Sciences*, 6, 348-368.
- Mu, J. 2013. Networking capability, new venture performance and entrepreneurial rent. *Journal of Research in Marketing and Entrepreneurship*, 15, 101-123.
- Muduli, A. 2016. Exploring the facilitators and mediators of workforce agility: an empirical study. *Management Research Review*, 39, 1567-1586.
- Muduli, A. 2017. Workforce agility: Examining the role of organizational practices and psychological empowerment. *Global Business and Organizational Excellence*, 36, 46-56.
- Muijs, D. 2010. *Doing quantitative research in education with SPSS*. London, UK: Sage.
- Muthu, S. S. 2014-2018. *Textile Science and Clothing Technology*, book series, Springer, Available at <http://www.springer.com/series/13111>.
- Muthu, S. S. 2015. *Handbook of sustainable apparel production*. New York, USA: CRC Press.
- Naidoo, V. 2010. Firm survival through a crisis: The influence of market orientation, marketing innovation and business strategy. *Industrial marketing management*, 39, 1311-1320.
- Namey, E., Guest, G., Thairu, L. & Johnson, L. 2008. Data reduction techniques for large qualitative data sets. *Handbook for team-based qualitative research*, 2, 137-161.
- Neumann, S. & Fink, L. 2007. Gaining agility through IT personnel capabilities: The mediating role of IT infrastructure capabilities. *Journal of the Association for Information Systems*, 8, 440-462.
- Nissen, M. E. 2014. Organization design for dynamic fit: A review and projection. *Journal of Organization Design*, 3, 30-42.
- Nordås, H. K. 2004. The global textile and clothing industry post the agreement on textiles and clothing: *WTO discussion paper*, 5, 1-37.
- Nosella, A., Cantarello, S. & Filippini, R. 2012. The intellectual structure of organizational ambidexterity: A bibliographic investigation into the state of the art. *Strategic Organization*, 10, 450-465.
- Nunes, L., Matias, J. & Catalão, J. 2015. Analysis of the use of biomass as an energy alternative for the Portuguese textile dyeing industry. *Energy*, 84, 503-508.
- OECD. 2015. *Guidelines for Collecting and Reporting Data on Research and Experimental Development*, Paris, France: OECD press.
- Ogawa, S. & Piller, F. T. 2006. Reducing the risks of new product development. *MIT Sloan management review*, 47, 65-71.
- Onwezen, M. 2018. Including Context in Consumer Segmentation: A Literature Overview Shows the What, Why, and How. *Methods in Consumer Research*, 1, 383-400.
- O'reilly, C. A. & Tushman, M. L. 2004. The ambidextrous organization. *Harvard business review*, 82, 74-83.
- O'Reilly III, C. A. & Tushman, M. L. 2008. Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in organizational behavior*, 28, 185-206.

- O'Reilly, C. A. & Tushman, M. L. 2013. Organizational ambidexterity: Past, present, and future. *Academy of management Perspectives*, 27, 324-338.
- Ortiz, B., Donate, M. J. & Guadamillas, F. 2018. Inter-organizational social capital as an antecedent of a firm's knowledge identification capability and external knowledge acquisition. *Journal of Knowledge Management*, 22, 1332-1357.
- Osterwalder, A. & Pigneur, Y. 2010. *Business model generation: a handbook for visionaries, game changers, and challengers*. New York, USA: John Wiley & Sons.
- Osterwalder, A. 2004. *The business model ontology – A proposition in a design science approach*. PhD thesis, University of Lausanne, Switzerland.
- Osterwalder, A., Pigneur, Y. & Tucci, C. L. 2005. Clarifying business models: Origins, present, and future of the concept. *Communications of the association for Information Systems*, 16, 1-40.
- Osterwalder, A., Pigneur, Y., Bernarda, G. & Smith, A. 2014. *Value proposition design: How to create products and services customers want*. New York, USA: John Wiley & Sons.
- Paliokaitè, A. & Pačèsa, N. 2015. The relationship between organisational foresight and organisational ambidexterity. *Technological Forecasting and Social Change*, 101, 165-181.
- Patel, P. C., Messersmith, J. G. & Lepak, D. P. 2013. Walking the tightrope: An assessment of the relationship between high-performance work systems and organizational ambidexterity. *Academy of Management Journal*, 56, 1420-1442.
- Pati, R. K., Nandakumar, M. K., Ghobadian, A., Ireland, R. D. & O'Regan, N. 2018. Business model design–performance relationship under external and internal contingencies: Evidence from SMEs in an emerging economy. *Long Range Planning*, 51, 750-769.
- Patton, M. Q. 2002. *Qualitative research and evaluation methods*. California, USA: Sage.
- Pérez, S. E., Llopis, A. S. & Llopis, J. A. S. 2004. The determinants of survival of Spanish manufacturing firms. *Review of Industrial Organization*, 25, 251-273.
- Porter, M. E. 1980. *Competitive strategy: Techniques for analyzing industries and competition*. New Jersey, USA: Prentice Hall.
- Porter, M. E. 1985. *Competitive advantage: creating and sustaining superior performance*. New York, USA: Free Press.
- Prahalad, C. K. & Ramaswamy, V. 2004. Co-creating unique value with customers. *Strategy & Leadership*, 32, 4-9.
- QSR-International. 2017. NVivo 11 for Windows. Burlington, MA: QSR International. <http://www.qsrinternational.com/products.aspx>.
- Raisch, S. & Birkinshaw, J. 2008. Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of management*, 34, 375-409.
- Rayna, T. & Striukova, L. 2016. 360° Business Model Innovation: Toward an Integrated View of Business Model Innovation: An integrated, value-based view of a business model can provide insight into potential areas for business model innovation. *Research-Technology Management*, 59, 21-28.
- Rialti, R., Marzi, G., Silic, M. & Ciappei, C. 2018. Ambidextrous organization and agility in big data era. *Business Process Management Journal*, 24, 1091-1109.
- Ricciardi, F., Zardini, A. & Rossignoli, C. 2016. Organizational dynamism and adaptive business model innovation: The triple paradox configuration. *Journal of Business Research*, 69, 5487-5493.



- Richter, M. 2013. Business model innovation for sustainable energy: German utilities and renewable energy. *Energy Policy*, 62, 1226-1237.
- Ritter, T. & Lettl, C. 2018. The wider implications of business-model research. *Long Range Planning*, 51, 1-8.
- Robertson, T. S. 2017. Business model innovation: a marketing ecosystem view. *AMS Review*, 7, 90-100.
- Racher, F. E. & Robinson, S. 2003. Are phenomenology and postpositivism strange bedfellows?. *Western journal of nursing research*, 25, 464-481.
- Rohrbeck, R. & Schwarz, J. O. 2013. The value contribution of strategic foresight: Insights from an empirical study of large European companies. *Technological Forecasting and Social Change*, 80, 1593-1606.
- Rohrbeck, R. 2011. *Corporate Foresight: Towards a Maturity Model for the Future Orientation of a Firm*. Berlin, Germany: Physica-Verlag.
- Rohrbeck, R. 2012. Exploring value creation from corporate-foresight activities. *Futures*, 44, 440-452.
- Saebi, T. & Foss, N. J. 2015. Business models for open innovation: Matching heterogeneous open innovation strategies with business model dimensions. *European Management Journal*, 33, 201-213.
- Saebi, T., Lien, L. & Foss, N. J. 2017. What drives business model adaptation? The impact of opportunities, threats and strategic orientation. *Long range planning*, 50, 567-581.
- Sainio, L. M., Saarenketo, S., Nummela, N. & Eriksson, T. 2011. Value creation of an internationalizing entrepreneurial firm: The business model perspective. *Journal of Small Business and Enterprise Development*, 18, 556-570.
- Saldaña, J. 2013. *The coding manual for qualitative researchers*: London, UK: Sage.
- Sambamurthy, V., Bharadwaj, A. & Grover, V. 2003. Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS quarterly*, 237-263.
- Sanchez, P. & Ricart, J. E. 2010. Business model innovation and sources of value creation in low-income markets. *European management review*, 7, 138-154.
- Santos, J., Spector, B. & Van Der Heyden, L. 2009. *Toward a theory of business model innovation within incumbent firms*. Fontainebleau, France: INSEAD.
- Schaltegger, S., Lüdeke-Freund, F. & Hansen, E. G. 2012. Business cases for sustainability: the role of business model innovation for corporate sustainability. *International Journal of Innovation and Sustainable Development*, 6, 95-119.
- Schneckenberg, D., Velamuri, V. K., Comberg, C. & Spieth, P. 2017. Business model innovation and decision making: uncovering mechanisms for coping with uncertainty. *R&D Management*, 47, 404-419.
- Schneegass, S. & Amft, O. 2017. *Smart Textiles; Fundamentals, Design, and Interaction*. St. Gallen, Switzerland: Springer.
- Schneider, S. & Spieth, P. 2013. Business model innovation: Towards an integrated future research agenda. *International Journal of Innovation Management*, 17, 1-34.
- Schoemaker, P. J., Heaton, S. & Teece, D. 2018. Innovation, dynamic capabilities, and leadership. *California Management Review*, 61, 15-42.
- Schumann Jr, P. A., Ransley, D. L. & Prestwood, D. C. 1995. Measuring R&D Performance. *Research-Technology Management*, 38, 45-54.
- Schwens, C., Eiche, J. & Kabst, R. 2011. The moderating impact of informal institutional distance and formal institutional risk on SME entry mode choice. *Journal of Management Studies*, 48, 330-351.

- Scott, R. A. 2005. *Textiles for protection*. New York, USA: Elsevier.
- Seelos, C. & Mair, J. 2005. Social entrepreneurship: Creating new business models to serve the poor. *Business horizons*, 48, 241-246.
- Serra, F., Pointon, J. & Abdou, H. 2012. Factors influencing the propensity to export: A study of UK and Portuguese textile firms. *International Business Review*, 21, 210-224.
- Shafer, S. Smith, J. & Jane, C. 2005. The power of business models. *Business horizons*, 48, 199-207.
- Shapiro, C. 1989. The theory of business strategy. *The Rand journal of economics*, 20, 125-137.
- Sherehiy, B. & Karwowski, W. 2014. The relationship between work organization and workforce agility in small manufacturing enterprises. *International Journal of Industrial Ergonomics*, 44, 466-473.
- Sherehiy, B., Karwowski, W. & Layer, J. K. 2007. A review of enterprise agility: Concepts, frameworks, and attributes. *International Journal of industrial ergonomics*, 37, 445-460.
- Shishoo, R. 2015. *Textiles in sport*. New York, USA: Elsevier.
- Simchi-Levi, D., Clayton, A. & Raven, B. 2013. When one size does not fit all. *MIT Sloan Management Review*, 54, 394-414.
- Simsek, Z. 2009. Organizational ambidexterity: Towards a multilevel understanding. *Journal of management studies*, 46, 597-624.
- Snihur, Y. & Wiklund, J. 2019. Searching for innovation: Product, process, and business model innovations and search behavior in established firms. *Long Range Planning*, 52, 305-325.
- Sorescu, A., Frambach, R. T., Singh, J., Rangaswamy, A. & Bridges, C. 2011. Innovations in retail business models. *Journal of retailing*, 87, S3-S16.
- Sosna, M., Treviño-Rodríguez, R. N. & Velamuri, S. R. 2010. Business model innovation through trial-and-error learning: The Naturhouse case. *Long range planning*, 43, 383-407.
- Spieth, P. & Meissner, S. 2018. Business Model Innovation Alliances: How to Open Business Models for Cooperation. *International Journal of Innovation Management*, 22, 1-26.
- Spieth, P. & Sabrina, S. 2016. Business model innovativeness: designing a formative measure for business model innovation. *Journal of business Economics*, 86, 671-696.
- Spieth, P., Dirk S. & Joan, E. R. 2014. Business model innovation—state of the art and future challenges for the field. *R&D Management*, 44, 237-247.
- Stake, R. E. 1995. *The art of case study research*. California, USA: Sage.
- Stamoulis, D., Kanellis, P. & Martakos, D. 2002. An approach and model for assessing the business value of e-banking distribution channels: evaluation as communication. *International Journal of Information Management*, 22, 247-261.
- Stone, B. 2013. *The everything store: Jeff Bezos and the age of Amazon*, New York, USA: Random House.
- Storberg-Walker, J. 2003. Comparison of the Dubin, Lynham, and Van de Ven theory-building research methods and implications for HRD. *Human Resource Development Review*, 2, 211-222.
- Sukamolson, S. 2007. Fundamentals of quantitative research. *Language Institute Chulalongkorn University*, 1, 1-20.
- Sumukadas, N. & Sawhney, R. 2004. Workforce agility through employee involvement. *lie Transactions*, 36, 1011-1021.

- Suri, H. 2011. Purposeful sampling in qualitative research synthesis. *Qualitative research journal*, 11, 63-75.
- Tallon, P. P. & Pinsonneault, A. 2011. Competing perspectives on the link between strategic information technology alignment and organizational agility: insights from a mediation model. *MIS Quarterly*, 35, 463-486.
- Tao, X. 2001. *Smart fibres, fabrics and clothing: fundamentals and applications*, New York, USA: Elsevier.
- Tao, Y. & Fu, X. 2007. China's textile industry international competitive advantage and policy suggestion. *Business and Public Administration Studies*, 2, 84-97.
- Taran, Y., Boer, H. & Lindgren, P. 2015. A business model innovation typology. *Decision Sciences*, 46, 301-331.
- Teece, D. J. & Pisano, G. 1994. The dynamic capabilities of firms: an introduction. *Industrial and Corporate Change*, 3, 537-556.
- Teece, D. J. 1986. Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research policy*, 15, 285-305.
- Teece, D. J. 2007. Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic management journal*, 28, 1319-1350.
- Teece, D. J. 2010. Business models, business strategy and innovation. *Long range planning*, 43, 172-194.
- Teece, D. J. 2012. Dynamic capabilities: Routines versus entrepreneurial action. *Journal of management studies*, 49, 1395-1401.
- Teece, D. J. 2018. Business models and dynamic capabilities. *Long Range Planning*, 51, 40-49.
- Teece, D. J., Peteraf, M. & Leih, S. 2016. Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review*, 58, 13-35.
- Teece, D. J., Pisano, G. & Shuen, A. 1997. Dynamic capabilities and strategic management. *Strategic management journal*, 18, 509-533.
- Tesch, J. F. 2019. *Business Model Innovation in the Era of the Internet of Things*. Cham, Switzerland: Springer.
- Thau, B. 2017. The Ugly (Retail) Truth: Which Stores Will Close Or Survive. Retrieved from: <https://www.forbes.com/sites/barbarathau/2017/03/22/the-ugly-retail-truth-a-rundown-of-store-closings-and-survival-prospects/#35e0aca25d02>
- The World Bank. 2017. Textiles and clothing (% of value added in manufacturing of Portugal). Retrieved from: <https://data.worldbank.org/indicator/NV.MNF.TXTL.ZS.UN?locations=PT&view=chart>
- Timmers, P. 1998. Business models for electronic markets. *Electronic markets*, 8, 3-8.
- Trapp, M. 2014. *Realizing business model innovation: A strategic approach for business unit managers*. London, UK: Springer.
- Trapp, M., Voigt, K. I. & Brem, A. 2018. Business models for corporate innovation management: Introduction of a business model innovation tool for established firms. *International Journal of Innovation Management*, 22, 1-24.
- Trieu, V. H. 2017. Getting value from Business Intelligence systems: A review and research agenda. *Decision Support Systems*, 93, 111-124.
- Truett, L. J. & Truett, D. B. 2019. Challenges in the Portuguese textile and clothing industry: a fight for survival. *Applied Economics*, 51, 2842-2854.
- Turner, N., Kutsch, E. & Leybourne, S. A. 2016. Rethinking project reliability using the ambidexterity and mindfulness perspectives. *International Journal of Managing Projects in Business*, 9, 845-864.

- Tushman, M. L. & O'reilly, C. A. 1996. Ambidextrous organizations: Managing evolutionary and revolutionary change. *California management review*, 38, 8-29.
- Tushman, M., Smith, W. K., Wood, R. C., Westerman, G. & O'reilly, C. 2010. Organizational designs and innovation streams. *Industrial and corporate change*, 19, 1331-1366.
- Tyler, B. B. 2001. The complementarity of cooperative and technological competencies: a resource-based perspective. *Journal of Engineering and technology management*, 18, 1-27.
- Urbinati, A., Chiaroni, D., Chiesa, V. & Frattini, F. 2019. The Role of Business Model Design in the Diffusion of Innovations: An Analysis of a Sample of Unicorn-Tech Companies. *International Journal of Innovation and Technology Management*, 16, 1-35.
- Utterback, J. M. 1971. The process of technological innovation within the firm. *Academy of management Journal*, 14, 75-88.
- Van de Ven, A. H. 2007. *Engaged scholarship: A guide for organizational and social research*. New York, USA: Oxford University Press.
- Van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P. & Verhoef, P. C. 2010. Customer engagement behavior: theoretical foundations and research directions. *Journal of service research*, 13, 253-266.
- Vecchiato, R. 2015. Creating value through foresight: First mover advantages and strategic agility. *Technological Forecasting and Social Change*, 101, 25-36.
- Vickery, S., Droge, C., Setia, P. & Sambamurthy, V. 2010. Supply chain information technologies and organisational initiatives: complementary versus independent effects on agility and firm performance. *International Journal of Production Research*, 48, 7025-7042.
- Von den Eichen, S. F., Freiling, J. & Matzler, K. 2015. Why business model innovations fail. *The Journal of Business Strategy*, 36, 29-38.
- Voss, G. B. & Voss, Z. G. 2013. Strategic ambidexterity in small and medium-sized enterprises: Implementing exploration and exploitation in product and market domains. *Organization Science*, 24, 1459-1477.
- Wang, C. L. & Ahmed, P. K. 2007. Dynamic capabilities: A review and research agenda. *International journal of management reviews*, 9, 31-51.
- Wang, C. L. & Rafiq, M. 2014. Ambidextrous Organizational Culture, Contextual Ambidexterity and New Product Innovation: A Comparative Study of UK and Chinese High-tech Firms. *British Journal of management*, 25, 58-76.
- Watson, J. 2007. Modeling the relationship between networking and firm performance. *Journal of business venturing*, 22, 852-874.
- Weber, M. 1948. *From Max Weber: Essays in Sociology*. London, UK: Routledge & Kegan Paul.
- Weber, Y. & Tarba, S. Y. 2014. Strategic Agility: A State of the Art Introduction to the Special Section on Strategic Agility. *California Management Review*, 56, 5-12.
- Webster Jr, F. E. 1994. Defining the new marketing concept. *Marketing management*, 2, 1-10.
- Wei, Z., Song, X. & Wang, D. 2017. Manufacturing flexibility, business model design, and firm performance. *International Journal of Production Economics*, 193, 87-97.
- Wilden, R., Devinney, T. M. & Dowling, G. R. 2016. The architecture of dynamic capability research identifying the building blocks of a configurational approach. *Academy of Management Annals*, 10, 997-1076.
- Winter, S. G. 2003. Understanding dynamic capabilities. *Strategic management journal*, 24, 991-995.

- Winterhalter, S., Zeschky, M. B. & Gassmann, O. 2016. Managing dual business models in emerging markets: an ambidexterity perspective. *R&D Management*, 46, 464-479.
- Wirtz, B. W., Pistoia, A., Ullrich, S. & Göttel, V. 2016. Business models: Origin, development and future research perspectives. *Long range planning*, 49, 36-54.
- Witell, L. & Löfgren, M. 2013. From service for free to service for fee: business model innovation in manufacturing firms. *Journal of Service Management*, 24, 520-533.
- Wood, L. 2000. Brands and brand equity: definition and management. *Management decision*, 38, 662-669.
- Yin, R. K. 2003. *Applications of case study research*. California, USA: Sage.
- Yin, R. K. 2014. *Case study research and applications: Design and methods*. California, USA: Sage publications.
- Yu, W., Ramanathan, R. & Nath, P. 2014. The impacts of marketing and operations capabilities on financial performance in the UK retail sector: A resource-based perspective. *Industrial marketing management*, 43, 25-31.
- Zhang, J., Li, H. & Ziegelmayer, J. L. 2009. Resource or capability? A dissection of SMEs' IT infrastructure flexibility and its relationship with IT responsiveness. *Journal of Computer Information Systems*, 50, 46-53.
- Zhong, W. 2013. *An introduction to healthcare and medical textiles*. Lancaster, UK: DEStech Publications.
- Zott, C. & Amit, R. 2007. Business model design and the performance of entrepreneurial firms. *Organization science*, 18, 81-99.
- Zott, C. & Amit, R. 2008. The fit between product market strategy and business model: implications for firm performance. *Strategic management journal*, 29, 1-26.
- Zott, C. & Amit, R. 2010. Business model design: an activity system perspective. *Long range planning*, 43, 216-226.
- Zott, C., Amit, R. & Donlevy, J. 2000. Strategies for value creation in e-commerce: best practice in Europe. *European Management Journal*, 18, 463-475.
- Zott, C., Amit, R. & Massa, L. 2011. The business model: recent developments and future research. *Journal of management*, 37, 1019-1042.