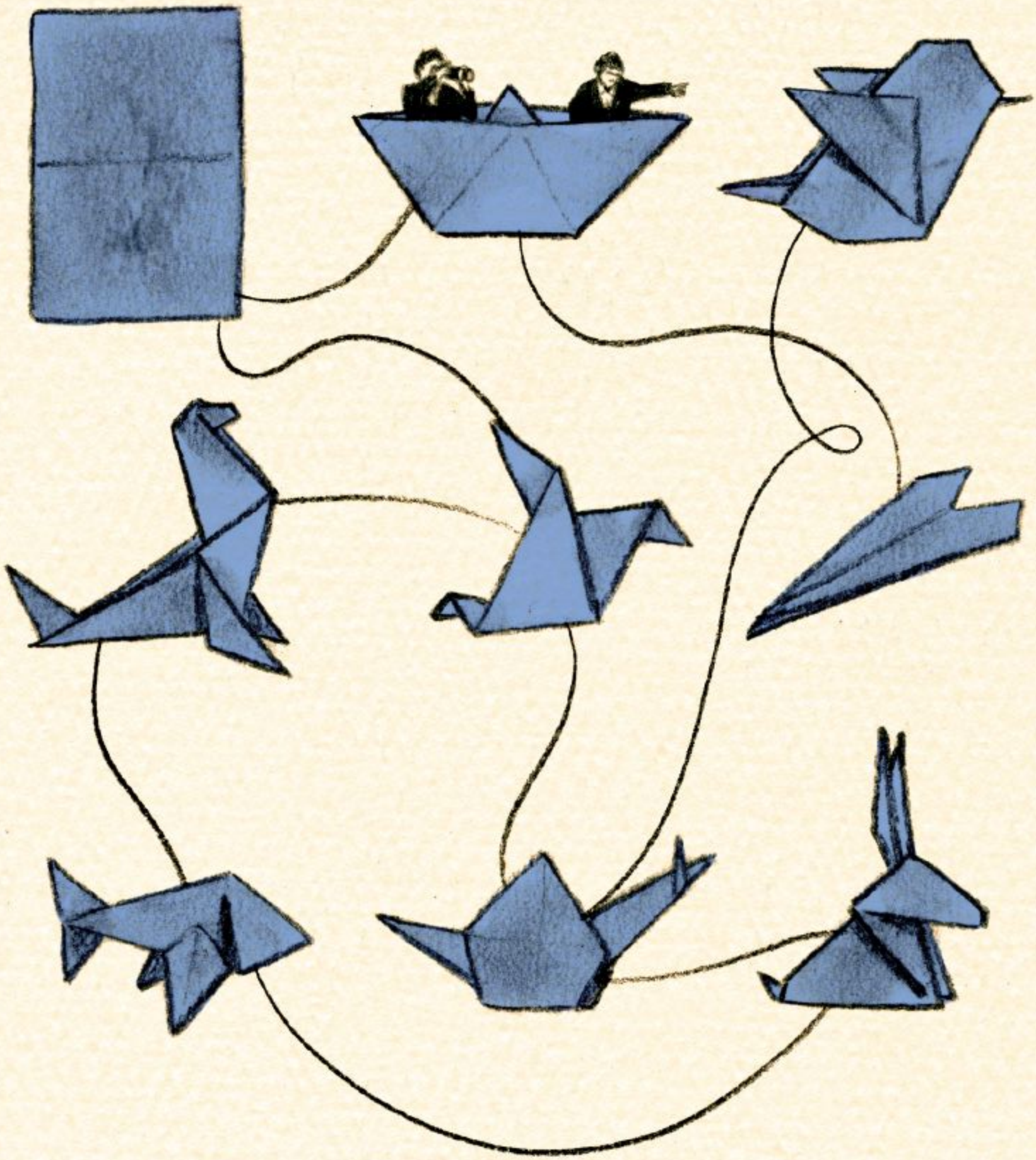
MARIA RITA MICHELI

Business Model Innovation

A Journey Across Managers' Attention and Inter – Organizational Networks



Business Model Innovation:
A Journey Across Managers' Attention and Inter – Organizational Networks

Business Model Innovation:

A journey across managers' attention and inter – organizational networks

Innovatie van het verdienmodel:
Een reis langs de aandacht van managers en hun inter-organisationele netwerken

Thesis

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Ai miei genitori, a mio fratello e ai nonni. I migliori compagni di viaggio dal 1985.

To my parents, my brother and my grandparents. The best travel companions since 1985.

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Chapter 1. General Introduction

Seize the day.
(something to keep in mind)

Leave this world a little better than you found it.
(Robert Baden- Powell)

1.1 Research topic: business model innovation

1.1.1 The relevance of BMI in a fast-changing environment

It was 2005 and The Economist Business Intelligence conducted a survey with the aim of answering this question: will business model innovation be important in 2010? The conclusion was the following: **'***worldwide, more respondents identify new business models as a greater source of competitive advantage than new products and services. Products matter, of course, but as a source of lasting competitive advantage, they are vulnerable to replication.' (Business 2010, Economist Intelligence Unit*). Overall, 55% of the surveyed executives responded that business model innovation (BMI) would have represented a higher source of competitive advantage in 2010, if compared with product and service innovation. Ten years after the research was published, it can be affirmed that the executives falling within the 55% were definitely right. Indeed, there is much evidence showing that the companies recognizing the importance of business model innovation managed to survive the drastic technological and competitive changes of the recent past.

To find some evidence, it is sufficient to perform a random search for *business model innovation* on the website of the Financial Times, which leads to the following quote: **'***Have you ever wondered why hyper-successful companies like Nokia or Kodak suddenly lose their edge? How companies such as Commodore Computers, Grundig, Nakamichi, Newsweek or Polaroid could possibly fail? They all had abundant research and development resources, top employees and a profound knowledge of their markets. But they had another thing in common: they all missed the moment when they should have left their successful*

path to rethink their business models. They missed out on radical innovation because they were too busy managing daily business and serving current clients-instead of looking for future opportunities' (Financial Times, September the 7th 2014). In this article, an ex-post analysis leads to the clear conclusion that these companies missed the opportunity to innovate their business models and, as a consequence, they failed. However, the companies listed in this article were successful multinationals with big market shares. How could they be so blind in spite of their experience? They were not able to understand that business model innovation would have represented the key to handling the changes that occurred in the technological domain, in customers' preferences and in distribution channels. We might probably infer that radically re-shaping the business model is not an easy task, especially if compared with changes in products and services. As such, also the big and experienced players had some difficulties in implementing BMI. The complexity of the BMI process is given by the fact that changes to the business model lead to a complete re-definition of the revenues system, the cost structure and the value proposition for customers (Teece, 2010), which entail high levels of risk, discouraging companies that are afraid of having negative results from the changes. As such, engaging in BMI not only requires a set of skills allowing companies to embrace such a radical change, but also a forward-looking vision that makes managers aware of the positive future implications of BMI despite the high level of risk. In this respect, what management scholars and practitioners are doing nowadays is looking back to the past and asking themselves which kinds of business model innovations determined the survival of companies during the past years. Looking back to the most recent past, the complex picture of technological and competitive changes gets even more complex if we consider the extreme revolution brought by the financial crisis, which came into the picture in 2008 and it is still affecting the business world with its long tail. As in the case of the technological and competitive changes mentioned above, the financial crisis represented an extremely critical moment for many businesses. Moreover, more than for other kinds of changes, this crisis led to the disappearance of many businesses, with a huge loss of resources. At the same time, for companies with the necessary resources, skills and vision, the crisis represented an opportunity to find new ways of monetization and therefore change the business model. Therefore, the ability to engage in BMI allowed companies to survive in the market and out-perform competitors during the crisis.

Summarizing the paragraphs above, we can infer two main characteristics of business model innovation: (1) business model innovation is a complex phenomenon, which entails a radical re-structuring of the company and high levels of risk, (2) in recent times, BMI has represented a crucial strategy to handle technological, competitive and economic changes and

to survive in the market. This Dissertation is inspired by these two characteristics of BMI and starts from the question: *how can management scholars bring clarity on such a complex phenomenon that is so relevant for companies' survival in fast-changing times?* The three studies presented in the Dissertation take shape from this initial question, and try to clarify business model innovation by providing the reader with more details about the antecedents of BMI, the steps of the process and the effective characteristics of leadership for accomplishing the process. In order to set the stage for understanding how academics have dealt with such a relevant phenomenon for the business world, the next section presents the state of the art of literature on the construct of business model and on the analysis of business model innovation.

1.1.2 The scholarly perspective on business model innovation

The endeavour of scholars from different management fields is gradually leading to an agreement on the definition of the business model (BM) as a concept (Baden-Fuller & Mangematin, 2013). Specifically, despite the existence of different and sometimes contrasting views, the business model represents the way in which companies create value by linking the internal firm's dynamics to the market (Amit & Zott, 2001) and how they monetise that value (Teece, 2010). As a logical progression of this definitional issue, scholars have recently been involved in analysing how business models change over time. These studies showed that business model innovation (BMI) entails a higher level of complexity if compared with other innovation processes (*e.g. product and service innovation*) usually explored in different management fields (Rosenkopf & McGrath, 2011). This complexity is generated by the fact that, more than product or service innovation, BMI involves the transformation of many company elements that requires managers and stakeholders to achieve alignment and coordination among different organizational levels. This complexity has emerged in numerous studies, which explained the different factors that can help companies to mitigate complexity when BMI is implemented.

On the one side, scholars looked at internal antecedents of business model innovation and highlighted the relevance of managers as BMI initiators, trying to explain how their actions help companies in handling the complexity and effectively introducing new business models (Tucci & Massa, 2013). In this respect, it has been explained that the orientation to experiment facilitates the enhancement of business model innovation (Chesbrough & Rosenbloom, 2002; Sosna, Trevinyo-Rodriguez, Velamuri, 2010). Indeed the willingness to explore new avenues is crucial in order to increase the chances of successfully

implementing such a complex and radical process as business model innovation (Chesbrough, 2007). Managers are therefore key actors that can stimulate risk taking within companies (Doz & Kosonen, 2010) and therefore pave the way for the innovation of the business model through new organizational dynamics (Santos, Spector, van Der Heyden, 2009).

On the other side, going beyond the boundaries of the firm, scholars highlighted that the reliance on the external environment can be crucial to manage the radical and complex changes that BMI entails. Indeed managers rely on the external environment in order to obtain new knowledge, which is combined with internal knowledge, for handling the complexity of BMI. In this respect, scholars explained that links with partner firms, clients, and suppliers represent essential knowledge sources for effectively implementing BMI (Bock, Opsahl, George, Gann, 2012; Gordijn & Akkermans, 2001), because companies can leverage on their network links to learn from partners (Bonaccorsi, Giannangeli, Rossi, 2006; Calia, Guerrini, Moura, 2007) and become more aware of BMI mechanisms. As such, they manage to lower the unpredictability and the radical nature of business model innovation.

Overall, scholars have been involved in describing both internal and external factors that might facilitate the implementation of new business models. However, despite the fact that a great number of BMI antecedents are described, our understanding of BM evolution is still scarce, given the lack of clarity about the specific phases of the alteration of business model elements (Gordijn & Akkermans, 2001). This limitation is negatively influencing scholars' ability to highlight which strategies are most effective for successfully implementing BMI (Baden-Fuller & Morgan, 2010). Some scholars have recently tried to overcome this limit by adopting a process view, which led them to observe companies over time and to explore the strategic actions implemented during BMI processes (Casadesus-Masanell & Ricart, 2010). Their work has advanced our existing understanding of the concrete steps that managers go through when deciding to implement business model innovation. But, despite recent advances, the overall exploration of BMI remains static, with a major focus on definitional aspects and offers only a limited description of the dynamics for implementing new business models (Tucci & Massa, 2013). Addressing this gap can be challenging, but can also contribute to significant advances in management literature.

This PhD Dissertation contributes to address this gap. I build on extant studies and take one main proposition from them: *combining internal and external knowledge is crucial for the implementation of BMI*. In the Dissertation, I start from this proposition to describe the under-explored process of business model innovation, showing how internal and external knowledge and skills are combined through the process of BMI. In order to address this issue, I will use the empirical context of the Dutch creative industry. The creative industry can be considered

as an exceptional context to study this topic. This industry is often considered as a crucial sector for the economic development of advanced countries, given its constant pursuit of innovation and creative ideas, which might contribute to the enhancement of countrywide competitive advantage. At the same time, the potential of creative companies for economic development can be challenged by the turbulence that is inherent in creative sectors. In this respect, three main trends have recently reshaped the majority of creative sectors: the competitive boundaries are being re-defined (Hirsch, 2000), the introduction of new technologies occurs at increasingly faster rates and the financial crisis obliges companies to adopt and implement new courses of action. As a consequence, creative companies are re-orienting themselves towards the implementation of new business models, in order to face the revolutionary changes that are taking place in the industry. At the same time, they are also re-considering the existing organizational elements, in order to understand which mechanisms might be more effective for handling the turbulent conditions. As such, the creative industry represents an interesting context for exploring how BMI is implemented through the combination of different external and internal elements.

By using the Dutch creative industry, I will be able to describe the BMI process by (1) showing how external knowledge contributes to the engagement of companies in business model innovation, (2) explaining how managers engage company members in BMI after the acquisition of external knowledge and (3) describing the steps from the start of business model innovation to the final implementation. By addressing these issues, I will make three important contributions to literature.

First, I am able to provide a complete overview on the relevance of inter-organizational networks for BMI. I start from previous studies on the topic (Calia et al., 2007; Chesbrough & Schwarz, 2007) and extend them by empirically showing how different types of external knowledge are combined for the enhancement of BMI. This contribution emerges from the first study presented in this Disseration (*Chapter 2*), where I adopt a network lens in order to explain the external antecedents of BMI. In particular, I highlight the importance of (1) having a diverse network of partners and (2) being able to combine knowledge from partners with more general knowledge of the market. The adoption of the network lens also allows me to provide new insights for network literature, suggesting that extant theories on the relevance of networks for innovative outcomes might be re-considered if the outcome at stake is business model innovation (Centola & Macy, 2007). More specifically, I argue that the effects of inter-organizational networks might be different in respect to product and service innovation, given the complex and radical nature of business model innovation as innovative process.

Second, this Dissertation brings a dynamic perspective to literature on business model innovation (Casadesus-Masanell & Ricart, 2010), which represents a crucial step for understanding of how BMI is implemented. This contribution is achieved in the second study introduced in the Dissertation (*Chapter 3*). In this longitudinal study, I adopt an attention-based view (Ocasio, 1997) to show how BMI starts and develops through time. I build on the above-mentioned studies highlighting the relevance of managers as BMI initiators (e.g. Doz & Kosonen, 2010; Santos et al., 2009) and I follow the unfolding of their decision-making process, with the aim of understanding how they distribute attention towards BMI within their companies. By doing so, I identify the different phases of business model innovation, complementing extant studies with a deeper understanding of how managers leverage on their current business models in order to enhance innovation (Baden-Fuller & Mangematin, 2013). In addition to that, the focus on business model innovation is also crucial to bring new insights to attention literature, overcoming the individual focus of attention studies and showing how attention is distributed within the company to implement change.

Third, I am able to highlight which factors might impede the introduction of new business models (Chesbrough, 2001). This contribution is shown in the third study of the Dissertation (*Chapter 4*) where I focus on the importance of two internal antecedents of BMI- *learning orientation* and *performance orientation*- and I look at their interaction with turbulent environments and the level of shared knowledge within the company. Moreover, by linking performance and learning orientation to business model innovation, I am able to contribute to the recent discussion on the relevance of the innovative outcome for considering the effects of goal orientation. Indeed, as suggested by the recent study by Alexander and Van Knippenberg (2014), the effects of goal orientation might be different if we consider radical innovation outcomes. In this respect, I bring a better understanding to this issue, considering business model innovation as radical innovation outcome and also introducing the external environment and shared knowledge as contingencies affecting BMI.

The contributions will become increasingly clear through the development of the different chapters. Before presenting the three core studies, I will also extensively introduce the topic of business model innovation and present a literature review. These steps will add more details to the initial overview on business model innovation, introduced in the previous paragraphs. In addition to that, I will explain the relevance of the theoretical perspectives adopted in the three studies of the Dissertation. Moreover, in the final chapter, I will provide conclusive remarks on the three studies, showing how they advance literature on business model innovation, social network and attention. The three studies presented in this

Dissertation consist of self-contained empirical studies currently being prepared for submission to top journals in the management and business fields.

1.2 Theoretical Overview

1.2.1 Setting the stage: defining the business model

Starting from the Nineties, scholars have been increasingly interested in the theme of business model (Tucci & Massa, 2013). This increasing interest through time has been ascribed to several reasons, such as the advent of the Internet in the Nineties, which has reshaped the business model of many established companies (Amit & Zott, 2001) and the rapid growth of emerging markets (Seelos & Mair, 2007), leading scholars to explore how business models of developed markets could be effectively adapted to emerging countries. The exploration of the business model as a new level of analysis has been complemented with the effort of scholars to define BM as a concept. Surprisingly enough, despite the high number of studies developed in the last twenty years, there is no complete agreement on the definition of the business model and the question *What is a business model?* has not been fully answered. Scholars have been developing *ad hoc* definitions for single studies, hampering the cumulative progress of the field, describing the business model with several terms, ranging from set to architecture, pattern, method, and others (Zott, Amit, Massa, 2011). As explained in the recent literature review by Zott, Amit and Massa (2011), some concepts are nevertheless recurring in many definitions. In particular, the concept of value creation is present in most of these definitions and shows a general agreement of scholars on the connection between the elements of the business model and the ability of companies to generate value. A recent effort to lower the level of ambiguity in the definition of business models and achieve a more general definition can be found in the article by Teece (2010), which defines the business model as what '*articulates the logic, the data, an other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value*' (Teece: 179). With the goal of avoiding confusion about the concept of business model, this Dissertation uses the general definition by Teece and tries to operationalise it in the empirical studies presented in the following chapters, both qualitatively and quantitatively. As such, the value

proposition for customers, the structure of revenues and the costs are considered as the elements of the business model in this Dissertation. As a consequence, an innovation of one or more of these elements is considered as an innovation of the business model. This definition is the result of a thorough literature review of extant studies on the topic and a systematic interaction with the actors constituting the empirical context used of this Dissertation (e.g. *interviews with managers, field work, interviews with industry experts, review of sectorial journals*).

1.2.2 Setting the stage: the process of business model innovation

What do we know about business model innovation? The topic has been widely explored by management scholars from different fields and the importance of BMI for enhancing performance (Johnson, Christensen, Kagermann, 2008) and managing environmental changes (Baden-Fuller & Haefliger, 2013; Chesbrough & Rosenbloom, 2002) has been largely researched. Given the positive effects of BMI, scholars have also been interested in understanding the circumstances that trigger the engagement of companies in BMI. In this respect, it has been explained that the emergence of technological breakthroughs (Amit & Zott, 2001), customers' needs (Johnson et al., 2008) and changes in the external environment (Calia et al., 2007; Tankhiwale, 2009) can be considered as triggering factors. The importance of managers' actions for leveraging on these triggers has also been highlighted (Tucci & Massa, 2013). A clear understanding of which mechanisms intervene in the completion of BMI is currently missing within this ensemble of efforts to describe business model innovation (Casadesus-Masanel & Ricart, 2010). More specifically, it is necessary to understand which mechanisms activate business model innovation and which managers' actions block or favour the process, after its initiation. As such, scholars are called to adopt a dynamic view on business model, shedding light on the phases of business model innovation from the initial steps to the final implementation. This Dissertation will address the issue[1] and will combine the analysis of BMI antecedents with the exploration of the different phases of the process.

[1] The dynamic perspective on business model innovation is specifically introduced in Chapter Three, which consists of a longitudinal study and is therefore suitable to show BMI changes over time.

1.2.3 The state of the art

At this stage, the definition of business model used in this Dissertation and the overview on business model innovation should be clear to the reader. As a following step, I will explain the theoretical perspectives adopted in the three studies of this Dissertation to address the topic of business model innovation.

1.2.4 The relevance of a networks lens

As explained in the previous paragraphs, in the second chapter of the Dissertation, I adopt a network lens in order to bring light on how companies leverage on external knowledge in order to innovate their business model. *Why is the adoption of a network lens relevant to address the issue?* Numerous innovation studies have confirmed the relevance of inter-organizational networks for acquiring new ideas and insights and increase the possibilities to develop innovative initiatives (Kogut & Zander, 1992; Rigby & Zook, 2002). More recent studies have focused on the crucial role of networks for the implementation of complex types of innovation, such as business model innovation (BMI) (Calia et al., 2007). Indeed, when companies want to implement such a radical and complex innovation process, they may not base their decisions exclusively on internal sources, but will seek to benchmark themselves with similar actors, in order to understand the possible results (Zott et al., 2011). As a consequence, knowledge exchanged within a firm's networks becomes crucial and relevant for acquiring relevant information. Overall, scholars have confirmed the relevance of inter-organizational networks for BMI; however, despite existing studies on the topic (e.g. Bonaccorsi et al., 2006; Calia et al., 2007), only a few empirical studies inform literature on the effective network composition for enhancing BMI. In addition to that, there is no clarity on how companies can combine knowledge acquired in the network of belonging with the wider knowledge about the market for the development of new business models. As such, a complete overview of external antecedents for BMI has not be developed in extant literature. Chapter Two of this Dissertation builds on the network lens adopted in previous studies in order to address the issue.

1.2.5 The relevance of the attention based view

How can the attention-based view be helpful for bringing light on the process of business model innovation? Attention literature has studied managers' cognitive models widely, and so represents a valid starting point from which to explore the relation between managers' initial ideas and the final implementation of BMI in their companies. Specifically, attention scholars have explained that managers pay attention to different stimuli (Ocasio, 2011) and reflect on them in order to implement decisions within their companies (Posner & Rothbarth, 2007). As such, managers' logics determine organisational outcomes (Kaplan, 2008), such as engagement in innovative processes (Dougherty, 1992) or, more generally, the implementation of strategic change (Garud & Rappa, 1994). In order to do so, they use the existing conditions in order to understand how to change them. The final implementation of innovation and change processes derives from the interaction between individual logics and organisational structures that leads to the realisation of managers' decisions and the implementation of changes. By using attention as a theoretical lens to explore business model, it is possible to understand how managers look at existing business models as starting conditions for innovation and how they implement their decision through the interaction between their individual logics and the organizational logics. Chapter Three of this Dissertation deepens the understanding of this issue.

1.2.6 The relevance of goal orientation, environmental dynamism and internal knowledge

Research has shown that when managers promote learning in daily activities, companies are triggered to experiment and innovate (Bunderson & Sutcliffe, 2002), seeing the acquisition of new insights as a priority. On the opposite, when performance is considered as the main goal, innovation is not pursued, in order to avoid failure and escape risk (Dweck & Leggett, 1988). *Will the theory hold when the innovative outcome at stake is BMI?* Because of its radical nature and unpredictability, the strategies that are normally used to implement less radical innovation outcomes might be less effective (Stringer, 2000; Teece, 2010). This topic has been recently addressed by Alexander and Van Knippenberg (2014), who showed the differences between radical and less radical innovation processes, for what concerns the effectiveness of different goal orientations. The picture might become more complex when the environment is turbulent and entails fast changes. Indeed, as a consequence of turbulent environments, managers' efforts to create a fertile ground for innovation might be weakened (Posen & Levinthal, 2011) and the strategies that worked in stable conditions might not work in

turbulent ones. Overall, we know that the effectiveness of learning and performance orientation might have different effects when the innovation outcome at stake is radical and the environment is turbulent, but we do not have a clear answer on how these effects will change. Moreover, we know that the informational context within the company is a crucial factor for the enhancement of BMI. Specifically, the availability of information inside the company and the ability to easily locate this information can facilitate the use of knowledge insights acquired from different sources for innovating the business model. However, we do not have a clear perspective on how the availability of knowledge inside the company interacts with different goal orientation and the environment. Chapter Four is aimed to provide a preliminary answer on the topic, showing the effect of learning orientation and performance orientation on BMI, considering the dynamism of the environment and the company informational context.

1.3. Dissertation overview

With the aim of understanding how internal and external knowledge and skills influence business model innovation and bringing light of the steps leading to BMI, I will present three different empirical studies on business model innovation in the Dutch creative industry. The relevance of the theoretical lenses used in the studies is explained in the previous paragraphs. In the figures below, I will instead summarize each study in terms of main topic, predictors, methods and data sources. In addition to that, Table 1 provides an overview of the specific gaps addressed in different studies, the main findings of the Dissertation and the intended contributions.

1.3.1 Study one

This chapter is based on: Micheli, M.R., Berchicci, L., Jansen, J. **Tie diversity, network flexibility, and business model innovation: the contingency role of proactiveness**.

Topic:	The relevance of inter-organizational networks for business model innovation
Aim of the study:	Understanding how companies can combine different sources of external knowledge for enhancing BMI

Predictor:	• Network diversity • Network flexibility • Proactiveness
Theoretical lens:	Social network
Method:	• Survey based • Hierarchical linear regression model
Data source:	• Design companies-members of the Dutch branch design organization • Surveys, company reports, publically available information

1.3.2 Study two

The chapter is based on: Micheli, M.R., Berchicci, L., Ocasio, W., Jansen, J. **How managerial attention shapes business model innovation: Evidence from the design industry**.

Topic:	The process of business model innovation
Aim of the study:	Identification of BMI phases
Predictor:	• Awareness of existing business models • Use of attention through the process of BMI
Theoretical lens:	Attention-based view
Method:	• Multiple case studies • Semi-structured interviews • Content analysis
Data source:	• Interviews with 7 design companies over three years • Company reports • Publically available information

1.3.3 Study three

This chapter is based on: Micheli, M.R. **Goal orientation and business model innovation: the relevance of environmental dynamism and the informational context.**

Topic:	Goal orientation and business model innovation
Aim of the study:	Understanding the relevance of learning and

	performance orientation for BMI, looking at the moderating effect of *environmental dynamism* and *shared knowledge of who knows what*
Predictor:	• Learning orientation • Performance orientation • Environmental dynamism • Knowledge of who knows what
Theoretical lens:	Goal orientation
Method:	• Survey based • Hierarchical linear regression model
Data source:	• Creative companies in The Netherlands: *design, architecture, gaming* • Surveys, company reports, publically available information

Table 1: Overview of findings and contributions of the Dissertation

Study	Gaps	Findings	Intended contributions
1. Tie diversity, network flexibility, and business model innovation: the contingency role of proactiveness.	-It is not clear how knowledge obtained through network and from the market can be effectively combined to enhance BMI - BMI research showed that leveraging on networks is important for enhancing BMI, but did not explain which networks characteristics are essential. - Network research has focused on networks' configurations, disregarding the content of ties when exploring ties' diversity -Network research has only marginally considered nodes' agency in shaping networks	-Diversity of partners' (*measured looking at the composition of partners' portfolio and not at structural aspects*) positively influences BMI -Proactiveness positively influences BMI -There is a positive interaction between proactiveness and diversity on BMI.	- Disentangling the content of ties from structural aspects when exploring the consequences of ties' diversity - Looking at ties' evolution by considering nodes as architects of their networks and understanding the impact for innovation -Providing BMI research with a clear overview of network's characteristics that positively influence the implementation of new business models.
2. How managerial attention shapes business model innovation: Evidence from the design industry.	- Research on BMI is static and focuses on antecedents without analyzing the process - Research on attention does not analyze how attention is distributed within the company.	- BMI consists of a non-standardized process. - Prioritizing plans over clients' preferences and building new capabilities allows enhancing BMI -Attention is distributed through the creation of new capabilities.	- Highlighting the process of BMI adopting an attention based view, which focuses on managers' logics from the initial decision to innovate to the final implementation - Showing how managers can effectively distribute attention within their companies.
3. Goal orientation and business model innovation: the relevance of environmental dynamism and the informational context.	- It is unclear if goal orientation theories developed in the context of incremental innovation also hold for radical innovations.	- Learning orientation positively influences the engagement in BMI -Performance orientation is not correlated with BMI - Environmental dynamism positively influences BMI - There is a positive interaction between learning orientation and environmental dynamism on BMI. -There is a positive interaction between performance orientation and shared knowledge of who knows what on BMI.	-Providing a better understanding of the interaction among different companies' goals for enhancing competitive advantage through BMI - Contributing to the environmental contingency perspective, revealing how different goal orientations might influence innovative behaviour, depending on the innovation outcome at stake and environmental conditions.

Chapter 2. Tie diversity, network flexibility, and business model innovation: the contingency role of proactiveness

Abstract

The relevance of Business Model Innovation (BMI) has been increasingly recognized by both strategy scholars and managers since it promises to facilitate strategic renewal and strengthen competitive advantage. The understanding of its antecedents within and across firms, however, remains rather limited. In this paper we begin to address this issue by considering how inter-organizational networks and a firm's proactiveness influence BMI. By examining Dutch design companies, we show that partners' diversity has a positive effect on BMI. We also observe a positive effect for partners' change (network flexibility). Finally, we show that proactiveness positively moderates the effect of diversity and does not interact with network flexibility. Our research has significant implications for both BMI and social network literature.

Introduction

In recent years, innovation research has emphasized the role of inter-organizational networks for the development and implementation of innovative outcomes (Kogut & Zander, 1992; Rigby & Zook, 2002). External networks are considered especially crucial for the implementation of complex types of innovation, such as business model innovation (BMI) (Calia, Guerrini, Moura, 2007) defined as the set of changes to a company's cost structure, revenue system, and value proposition (Teece, 2010). The outcomes of this set of changes are difficult to forecast and lead to radical re-structuring of the company (Gambardella & McGahan, 2010). Companies may not base their decisions exclusively on internal sources, but will seek to benchmark themselves with similar actors, in order to understand the possible results (Zott, Amit, Massa, 2011). As a consequence, knowledge exchanged within a firm's networks becomes crucial and relevant for acquiring relevant information. Extant business model research has started to examine the role of external relationships for BMI (Bonaccorsi, Giannangeli, Rossi, 2006; Calia et al., 2007). However, our overall understanding remains rather limited for at least two reasons. First, we know little about how external knowledge sources influence BMI, and second, there is no clarity on how companies combine knowledge acquired in the network of belonging with the wider knowledge about the market for the development of new business models.

In this paper, we address the first issue by showing the impact of diverse knowledge sources on BMI. Based on the network diversity literature (Phelps, 2010; Rodan & Galunic, 2004), we go beyond the dominant perspective on configurations used in extant studies to measure the diversity of knowledge sources. First, rather than using the structural characteristics of ties, we use the content of ties (Zaheer & Soda, 2009), which allows to better capture the nature of knowledge sources and their effects on innovative outcomes (Phelps, 2010). We specifically consider the extent to which focal firms are connected to firms of different sizes, which are affected by BMI changes in different ways and can represent valuable benchmarking sources for firms aimed at understanding the consequences of business model innovation. We argue that greater network diversity allows focal firms to gain a rich knowledge base to trigger business model innovation. Second, building on recent studies on the role of companies in network evolution (e.g. Hallen & Eisendhardt, 2012), we examine a focal firm's inclination to adapt the diversity of its knowledge sources. Rather than considering the evolution of ties as a consequence of the structural characteristics of the network, we consider network nodes as architects of their own networks. In order to do so,

we introduce the construct of *network flexibility* and argue that companies with high *network flexibility* (*i.e., with a high rate of tie change*) will be negatively affected for their involvement in BMI. Since BMI is a complex and uncertain innovative process, a tendency to frequently change and adapt to new partners will prevent firms from acquiring deep knowledge from them and will lower the learning potential (Uzzi & Lancaster, 2003).

To address the second issue, we consider market proactiveness (Covin & Slevin, 1989). Proactiveness measures the ability of companies to act rather than react to changes in the external environment (Miller, 1987; Miller & Friesen, 1978). As such, proactive firms gain awareness of new trends and market dynamics before their competitors (Smith & Cao, 2007). Market proactiveness allows us to examine how market knowledge interacts with knowledge acquired in the network of belonging when firms innovate their business model. We suggest that proactiveness strengthens the positive effect of diverse knowledge sources and that knowledge transfer within the network is facilitated by a higher awareness of proactive companies that can learn faster from diverse partners (Ben-Menahem, 2013). At the same time, we argue that proactiveness decreases the negative effect of network flexibility since companies can counter-balance the lack of deep knowledge of partners within their network with their awareness of the broader competitive environment (Adner & Kapoor, 2010).

With this study, we make two important contributions. First, we contribute to the BMI literature, by showing the relevance of specific network elements for the enhancement of BMI (Bonaccorsi et al., 2006). Extant studies suggest the relevance of networks for business model innovation (Calia et al., 2007) but do not identify or explain how specific network characteristics may contribute to BMI. We introduce network diversity and network flexibility as two main determinants of BMI. In addition, we describe how proactiveness interacts with network elements, providing a preliminary overview of how knowledge acquired in the network and in the market jointly affect BMI.

Secondly, we contribute to research on social networks by not only considering network nodes as receivers of knowledge, but also treating them as knowledge seekers (Hallen & Eisendhardt, 2012) that purposively form their ties by changing networks over time. We also provide a methodological contribution. Specifically, we focus on the content of ties rather than on their structure to measure diversity. In this way, we respond to the recent call of research to disentangle the concept of diversity from the structural aspects of the network (Burt, Kilduff, Tasselli 2013; Phelps, 2010; Zaheer & Soda, 2009), providing a more direct measure of the diversity of knowledge sources.

By analyzing Dutch design firms and their ties within the design sector, we find that firms engaged in BMI have a diverse portfolio of partners. Counter to our hypothesis, we also

observe a positive rather than a negative relationship between network flexibility and BMI. In the discussion section, we conjecture and test an alternative explanation suggesting that firms purposely change their existing networks and select new partners based on their potential contribution to BMI processes. Finally, we find that proactiveness positively moderates the positive effect of diversity. The implications of these findings are widely analyzed in the discussion section.

The paper proceeds as follows. We first review extant literature that constitutes the theoretical background of our study, and then describe how our findings build on existing research and how the adopted perspective extends current theory. We conclude by discussing the implications of our study for research and practice.

Theoretical overview and hypotheses

Research has widely explained the relevance of inter-organizational networks for obtaining novel insights and recombining them for product and service innovation enhancement. This research has recently been nourished by studies looking at the importance of networks for BMI, which represents a more complex typology of innovation (Rosenkopf & McGrath, 2011) compared to those traditionally analyzed in network research, such as product and service innovation. Indeed BMI involves a compound set of activities that entails radical changes with which companies have no past experience. As such, the reliance on the external network to acquire knowledge becomes crucial. Network mechanisms triggering BMI have been explored in past studies (e.g. Gordijn & Akkermans, 2001), where links with partner firms, clients, and suppliers represent essential knowledge sources for effectively implementing BMI. Scholars have shown that companies can learn from partners (Bonaccorsi et al., 2006; Calia et al., 2007) and acquire awareness about the implementation mechanisms of BMI, lowering the unpredictability of outcomes and helping companies to deal with such a radical innovation process.

Overall, it can be inferred from extant literature, that networks are influential for the enhancement of BMI (Bock, Opsahl, George, Gann, 2012), given the knowledge that can be gained from partners. Specifically, BMI scholars have focused on the diversity of knowledge sources that allows firms to gain non-redundant information for learning and implementing innovative solutions (e.g. Burt, 2004; Morgan & Sørensen, 1999; Perry-Smith, 2006). The analysis of knowledge sources diversity on business model innovation can be sharpened through the adoption of the approach recently suggested in the network literature. Network

scholars have commented that the diversity of ties has been mainly analyzed from a structural perspective, without considering the content of ties (Zaheer & Soda, 2009). Focusing on the content of ties would allow us to better understand how diverse knowledge sources could be mixed to enhance innovative outcomes (Borgatti, Brass, Halgin, 2014). This approach entails a deeper focus on network nodes, going beyond the perspective of merely considering them as part of the structural configuration of a network.

A more fine-grained consideration of nodes beyond their structural properties has also been suggested by scholars focusing on network change (Phelps, Heidi, Wadhwa, 2012). Extant studies on network change have considered the adaptation of ties as the result of specific structural characteristics. More recently, scholars suggested going beyond these structural elements by embracing a company's agency perspective in which firms, as *architects* of their networks, shape and alter ties (e.g. Hallen & Eisendhardt, 2012) to better understand the conditions under which learning and knowledge exchange take place to enhance innovative outcomes (Zaheer & Soda, 2009).

This understanding can also be further improved by considering how knowledge acquired in the network and the wider knowledge of the market interact, in order to have a wider perspective on the impact of knowledge sources on innovative outcomes. From extant studies, it can be argued that companies with a proactive attitude to acquire knowledge in the market will be facilitated in leveraging tie diversity within their network of belonging and will accelerate the learning process from newly established relationships (Parkhe, 1991). Indeed, proactive firms have a temporal advantage that allows them to anticipate their competitors in learning and absorbing inputs from external networks more quickly (Covin & Slevin, 1989).

Partners' portfolio and adaptation strategies

Several studies have showed a positive effect of diverse knowledge sources on innovation. This effect can be explained by the fact that having ties with actors with different characteristics increases the portfolio of knowledge insights that can contribute to the enhancement of creative problem solving (Kavadias & Sommer, 2009; Reagans & Zuckerman, 2001). These studies have mainly focused on diversity from a structural perspective (Phelps et al., 2012), considering the position of nodes as a proxy of the number of diverse information sources they could access. More recently, research has considered the content of ties to explore the relevance of network diversity for learning opportunities to enhance innovation (e.g. Zaheer & Soda, 2009). Adopting this approach means looking at partners' diversity in

terms of skills, experiences, and backgrounds, giving a more direct measure of diversity and highlighting several effects that might be lost when considering only the structural properties of networks (Reagans & Zuckerman, 2001). Specifically, depending on the innovative goals that firms wish to achieve, the relevance of specific dimensions of diversity will change. Our approach allows us to capture these differences.

In the case of BMI, we argue that partners' diversity in terms of company size has to be considered. Indeed, the process of business model innovation entails a higher level of complexity compared to other kinds of innovation (Rosenkopf & McGrath, 2011). The complexity resides in the difficulty of forecasting the outcomes of such a radical process and understanding how to match BMI choices with organizational dynamics. Having ties with firms of different sizes is beneficial to gain access to the whole spectrum of dynamics in place at firms of different sizes and to gain the influence of these dynamics on the organization (Chesbrough, 2006; Osterwalder, 2004). The BMI mechanisms for small and big firms differ considerably. CEOs of small firms have the authority to change the business model and to experiment with changes, especially if they are also owners of the company, although they might lack the specific background to implement change. In contrast, in bigger firms, managers responsible for business model innovation might have a deep expertise, but the initiation of change will require a significant consensus-seeking process throughout the organization (Chesbrough, 2010). These differences in the implementation process lead to different kinds of criticalities and different outcomes at the organizational level. A network of both small and large firms allows focal organizations to be exposed to this variety of dynamics, providing them with the necessary knowledge to assess various outcomes and obtain sufficient information to implement *breakthrough moves* towards BMI (Mitchell & Coles, 2003). Thus we expect:

Hypothesis 1: There is a positive relationship between the diversity of partners in terms of company size and the involvement of focal firms in business model innovation.

Recent studies have focused on the mechanisms leading managers to propagate the benefits of inter-organizational networks over time in order to enhance adaptation and change. In these studies, network evolution is considered as a *mindful act* of firms, instead of a process resulting from given structural characteristics of ties (Hallen & Eisenhardt, 2012). By considering company agency in the evolution of ties, scholars have showed that the extension of networks outcomes for innovation depends on the ability of managers to maintain learning opportunities over time and therefore to gain new insights that can be re-combined in novel

solutions (Katila, 2002). Managers can alter the content of ties pursuing fast renovation of knowledge and learning opportunities (Jap & Anderson, 2007), or they can decide to implement actions to maintain the *status quo*, leveraging on already developed network dynamics of knowledge exchange (Rosenkopf, Metiu, George, 2001). It has been showed that a stable network can be a source of constraint overtime and can lead to inertia and rigidity (Venkatram & Lee, 2004). Indeed firms might base their decisions on previous success and enter the logic of *'never change a winning team'* (Grabher, 2004), losing their ability to search for new insights (Gawer & Cusumano, 2002; Garud and Karnoe, 2001).

Although researchers have shown the positive outcomes of flexibility, frequent interaction and trust are critical to enhance learning and information exchange of multifaceted dynamics (Davis & Eisenhardt, 2011). The presence of previous interaction makes the exchange of fine-grained information more likely among nodes in networks (Uzzi, 1997). Moreover, long-standing relationships lead firms to facilitate the emergence of organizational structures that influence the enhancement of mutual exchange of knowledge for developing innovative solutions (Gulati, 1995). Overall, leveraging on existing network ties is beneficial when the knowledge transfer entails complex knowledge (Centola & Macy, 2007) that firms need to familiarize with and use for developing innovative solutions. The learning process for absorbing complex information is slower, and the benefits of adding new partners bringing novel insights to the network would be counter-balanced by the difficulty of benefitting from these insights in a short time.

The interaction of firms involved in BMI entails the exchange of complex and fine-grained information. Insights received from the external environment need to be absorbed and readjusted, in order to understand how they can fit into a firm's knowledge stock (Casadesus-Masanell & Ricart, 2010). Business model innovation requires firms to drastically alter their usual strategies and to organize the whole spectrum of business activities in different ways (Chesbrough, 2006). As a consequence, in order to exploit networks externalities for BMI, firms need to develop long-lasting relationships that allow an extended period of time to learn from nodes in the network, internalize knowledge inputs, and employ them for business model innovation (Bonaccorsi et al., 2006). Business model innovation entails a high level of uncertainty, since the outcome of such a complex process is often unpredictable (Rosenkopf & McGrath, 2011). Firms may be reluctant to take action due to the uncertainty arising from relying on partners that are completely new and whose opportunistic behavior can cause serious damage in the implementation of complex innovative processes (Sabel, 1993). Given the above-mentioned aspects, we expect:

Hypothesis 2: There is a negative relationship between a focal firm's network flexibility and its involvement in business model innovation.

Social networks and BMI: the contingency role of proactiveness

Proactive firms are defined as first movers that anticipate competitors in the adoption of new practices and lead the way for their diffusion. This is the result of their ability to recognize opportunities and to exploit them before other firms operating in their competitive environment (Smith & Cao, 2007). This temporal advantage allows proactive firms to experience the evolution of new practices at initial stages and assess them (Baum & Wally, 2003), and helps them to exploit insights from the competitive environment (Ben-Menahem, 2013), relying on accumulated knowledge. Therefore, once competitors adopt certain practices, proactive firms can assess them and forecast the potential of success quickly and with higher awareness (Adner & Kapoor, 2010). The proactive attitude of firms in the market can influence learning mechanisms in networks of belonging, facilitating companies to exploit available knowledge sources. Specifically, if proactive firms rely on a heterogeneous network, they can rapidly assess the practices of their network partners and promptly benefit from diverse knowledge sources, increasing opportunities for innovation. They will be able to better understand the potentialities of diverse knowledge insights in the network, taking advantage of their faster learning ability and relying on a wider knowledge of market trends. This advantage of proactive companies is specifically relevant for the implementation of complex innovation processes (Larsen, Manning, Pedersen, 2013), like business model innovation, where awareness and promptness are crucial for effectively handling the process. Given the above mentioned aspects, we expect:

Hypothesis 3: The positive relationship between tie diversity and the involvement in business model innovation is strengthened if firms adopt a proactive behavior.

Similarly, we expect a positive moderation of proactiveness on the relation between network flexibility and business model innovation. The uncertainty caused by continuously changing ties can be counter-balanced by the faster learning ability of proactive firms. These firms have a temporal advantage compared to their competitors; indeed they become aware of market trends earlier than non-proactive companies. Overall, the wide ranging and anticipated

exposure to market trends allows proactive companies to develop a rich knowledge base that they can use to decode insights from new partners and acquaintances (Miller & Friesen, 1978; Pfeffer & Salanick, 1978). Overall, they will be able to learn from partners in a faster way (Adner & Kapoor, 2010; Ben-Menahem, 2013), needing less time to internalize newly acquired knowledge insights, given the opportunity to leverage on previous knowledge. As such, the negative consequences of changing partners are mitigated and companies can better exploit the intrinsic novelty compared to non-proactive firms. Given the above mentioned conditions, we expect:

Hypothesis 4: The negative effect of network flexibility on the involvement in business model innovation is reduced when firms adopt proactive behavior.

Methods

Setting and data collection

The Dutch creative industry is a relevant context to study inter-organizational networks and business model innovation, given the relevance of three main trends that are reshaping various creative sectors: 1) competitive boundaries are being redefined, 2) new technologies are being introduced at increasingly faster rates and 3) the financial crisis is forcing firms to adopt and implement new actions (Hartley, 2005). Creative firms are re-orienting themselves by implementing new business models, to face the revolutionary changes that are taking place with the emergence of these trends.

The implementation of new business models is a phenomenon that takes place through learning mechanisms and contact with various actors in the industry. The need to exploit external information to implement changes derives from two main reasons. First, the majority of creative firms in the Netherlands have fewer than five employees. Such small firms have to look for external knowledge on subjects that are not covered by their limited internal expertise. Secondly, most Dutch creative firms are mainly oriented to creative goals while financial goals are merely complementary. For the majority, a business orientation is a recent phenomenon, originating from the need to deal with the fast changing pace in the creative sector and the consequences of the financial crisis. Firms have started to focus on the managerial and organizational aspects, in order to survive the crisis and remain competitive.

As a consequence, less experienced actors search for best practices in the external environment to take advantage of the expertise of the most competent firms.

To analyze the above-mentioned issues, we sent a web survey to 121 design firms in the Netherlands. These firms represent the full list of members of the Dutch trade association of designers. Web design, industrial design, spatial design, and brand design firms were included. Information obtained from previous interviews with 15 members of the association and with the chair of the association was used as input to create the survey questions. To maximize the response rate, we followed several procedures suggested by Dillman (2000) and Dillman and Bowker (2001) and adjusted them to the specific needs of our respondents. In the first place, firms received an email from the chair of the association, presenting the research and providing all the relevant information about our research process. In the second place, an article presenting the research was published in the association's bimonthly journal. A second email was sent by the authors to describe the research and present the survey. Phone calls were used to stimulate participation in the research. Where possible, personal appointments were arranged with firms. Overall, we arranged personal appointments with 21 firms. By visiting firms in person, we could collect a substantial amount of field notes and could deepen our knowledge of the main topics presented in the survey. In total, we received 75 surveys from 121 members (62%), of which 42 had two respondents. Data from the survey were combined with publically available information (i.e., national databases, company websites, newspapers, and company reports). Our final sample consists of 58 observations, after deleting some observations due to missingness of complete responses.

Measurements

Business model innovation. We based the scale on our definition of business model innovation on Teece (2010). Following Teece, we considered three elements of the business model: *cost structure*, *revenue structure,* and *value proposition for customers*. Therefore, we asked the extent to which the company had been involved in the change of these elements in the past three years. Respondents used a scale from 1 'Not changed at all' to 7 'Completely changed' (*Cronbach's alpha = 0.81*). The scores on single items were summed to create a single variable (M = 13.45, SD = 3.9, $S.E.$ = 0.5). Moreover, we adapted the *business model novelty* scale developed by Zott and Amit (2007) to obtain a measure of the orientation of the company towards novelty in the implementation of the business model. Sample items of the scale were: *Our business model is highly innovative; Our business model incorporates radically new*

knowledge. Respondents rated the items on a scale from 1 'Strongly disagree' to 7 'Strongly agree' (*Cronbach's alpha = 0.85*). The items were averaged to create a single variable (*mean* = 4.07, *standard deviation* = 1.1, *S.E.* = 0.14). We used this measure to verify if firms involved in business model innovation used novelty as a main driver to design their business model. A significant correlation between the two measures ($r=0.417$; $p< 0.01$) supported our hypothesis.

Network diversity. In order to map the network, we provided our respondents with a roster (Carrington, Scott, Wasserman, 2005) with all the names of the members of the branch association. We asked firms to indicate which firms they knew. Knowing a company was defined as *"being able to identify the specialization of the company and the main activities"*. We used this definition to map relationships that entailed a deep knowledge that might be functional to obtain information from other firms. We obtained a 75 x 75 matrix. The network deriving from this question was a directed network, i.e., it did not entail a symmetrized matrix (if company *i* declared to know company *j*, it did not mean that company *j* knew company *i*).

The variation in firm size (i.e., firms the focal node is connected to) was considered as a measure of diversity. We asked respondents to state the number of employees (FTE) working in the company and these numbers were used to code the cells in the 75 x 75 matrix (i.e., if company *i* had a link with company *j*, the cell was coded with the number of FTEs working in company *j*). Diversity was calculated by row (M = 4.51, SD = 9.7, SE = 0.19), using the standard deviation of size among nodes. We also calculated diversity as *coefficient of variation* and the results did not change. Further details about the measure are provided in Appendix 1.

Network flexibility. To assess if firms change their ties over time, or constantly rely on a stable number of organizations, we developed a new scale specifically for this study. The scale is composed of ten items (see Appendix 1, with the explanation of further details). Sample items are: *Our company created new connections; Our company relied more and more on connections developed in the past*. We asked respondents to think about the past three years and to rate their agreement on these statements. Since the ten items entailed the two different dimensions of change and stability in managing ties, we factor analyzed them to assess their dimensionality (Covin and Slevin, 1989). High loadings on a factor suggest that the items constitute a single dimension of strategies to manage network ties. The ten items loaded on two distinct factors (*loading* > 0.4; *average loading factor 1*= 0.7; *average loading factor 2* = 0.6) that were labeled as *Network flexibility* and *Network stability*. Two items were discarded because they loaded on both factors. Scores on different items were averaged to create a single variable for flexibility (M = 5.4, SD = 1.13, SE = 0.14) and Stability (M = 3.8, SD = 0.85, SE = 0.11).

Proactiveness. Proactiveness was measured with the scale composed of three items and developed by Covin and Slevin (1989). Respondents were asked to indicate to what extent the company was ahead of competitors, how often it was the first to introduce new products or services in the industry, and how it dealt with competitive dynamics. Respondents rated these statements on a scale from 1 to 7 (*Cronbach's alpha = 0.6*). The items were averaged to create a single variable (M= 4.3, *SD* = 1.12, *SE* = 0.14).

Assessment of common method bias

We adopted the following procedures to assess common method bias in our data. First, we assessed inter-rater reliability for the 42 firms for which we collected data from multiple respondents. We obtained measurements from multiple respondents for our dependent variable. The Intraclass Correlation Coefficient showed high reliability among raters (Shrout & Fleiss, 1979): *business model innovation* (ICC=0.73); we also checked intra class correlation coefficient for *business model novelty* (ICC=0.6). Having high ICC for the dependent variable led us to exclude the presence of major issues for common method bias. As explained earlier, we also checked the validity of our scale of *business model innovation* through the assessment of its correlation with *business model novelty* (*r=0.417; p< 0.01*). Secondly, we had access to objective measures to measure the number of award won. The self- reported and the objective measures were perfectly correlated (*r=1.0, p value < 0.001*). Thirdly, we conducted an exploratory factor analysis for items of *business model innovation*, *proactiveness,* and *business model novelty*. The items loaded on three factors, explaining 64% of the variance, with the first factor explaining 38% of the variance. Fourth, to confirm the validity of our constructs, we performed a confirmatory factor analysis on the three variables. The analysis replicated the three factors structure, showing acceptable indices for the goodness of fit: *Chi-square/df* = 1.79 (*p< 0.001*), comparative fit index *CFI* = 0.88, goodness of fit (*GFI*) = 0.81, root mean square error of approximation (*RMSEA*) = 0.1.

Control variables.[2] We included four control variables in our model. First, we considered *network position*. Using R, we calculated centrality measures: in-degree centrality, out-degree centrality, and betweenness centrality (Freeman, 1979). In our model, we used out-degree centrality as a control variable for the structural characteristics of the network. With this measure we could take into account the number of knowledge sources focal firms were

[2] Mean, S.D. and S.E. refer to original values, before standardizing or log-transforming variables. In Table 1, values for standardized and log-transformed variables are reported.

connected to. The natural log of number of knowledge sources was used in the model (Gargiulo, Ertug, Galunic, 2009). In addition, we tested our model with other centrality measures to assess if the results were given by the use of a specific measure, and we did not find any significant correlation.

Our second control variable is *firm size*. Big firms might experience more favorable conditions for the innovation of the business model since they have access to a higher number of resources. We calculated firm size by taking the log of the number of employees (M = 9.9, SD = 8.7, SE = 1.00). We asked respondents to self-report the number of employees and we also used publically available information to find the number of employees for firms that did not fill out the question. We used firm *age*, by taking the log of the number of years since the company was founded (M = *19.95*, SD = 11.4, SE = 1.3). We included age as control variable since firms with more experience might have developed a higher level of skills that would allow them to easily engage in business model innovation. Our final control variable is *environmental dynamism*[3] (M = *3.87*, *Mode* = *3.87,* SD= 0.86, SE = 0.1) that measures the volatility of the business environment. With this variable, we control whether higher levels of business model innovation could be attributed to a higher degree of dynamism, which makes the involvement in radical innovation necessary and valuable for dealing with competitors (Eisenhardt, 1989).

Analytical approach

We used hierarchical multiple regression analysis to test our hypotheses. This approach compares different alternative models. Before running our models, we standardized *business model innovation*, *proactiveness*, *network diversity,* and *network flexibility* (Aiken & West, 1991). We performed several regression diagnostics to test the validity of our modeling assumptions. We assessed the variance inflation factor (VIF) and did not detect multicollinearity problems (VIF < 1.15).

[3] Missing values were replaced with average values.

Results

Descriptive statistics

Table 2.1 shows descriptive statistics of the variables used in the analyses. Means, standard deviations and correlations (*zero-order correlations*) among variables are shown. On average, firms have been operating for 20 years (*SD* = 11.4, *SE* = 1.3) and the average number of employees is 9.9 (*SD* = 8.7, *SE* = 1.00). Significant and positive correlation exists between business model innovation and proactiveness (*r=0.30; p< 0.05*), and between business model innovation and network flexibility (*r=0.35; p< 0.05*).

Table 2.1: Descriptive statistics[a]

	Variable[b]	Mean	Std. Dev.	Min	Max	1	2	3	4	5	6	7
1	BMI	13.4	3.09	-2.63	1.90	1						
2	Firm age	2.80	0.68	1.10	4.04	-0.07	1					
3	Firm size	1.97	0.82	0.00	3.53	-0.04	0.25*	1				
4	Dynamism	3.87	0.86	2.00	6.25	0.24*	0.01	0.08	1			
5	Network position	2.56	0.59	0.00	33	-0.07	0.18	0.08	-0.20	1		
6	Network diversity	4.51	9.7	4.51	14.5	0.17	0.23	0.05	-0.07	-0.27*	1	
7	Network flexibility	5.4	1.13	2.75	7.00	0.35*	-0.22	0.05	0.16	-0.01	-0.22	1
8	Proactiveness	4.3	1.12	1.67	7.00	0.30*	0.05	0.12	-0.16	-0.17	-0.04	0.21

a= correlation are based on a two-tailed test; b=for firm age, size, and network position, descriptive statistics of natural log variables are reported. For BMI, Network diversity, network flexibility and proactiveness, descriptive statistics of standardized variables are reported.

Hypotheses testing

Table 2.2 shows the models used to test our hypotheses. Model 1 includes the control variables. Only environmental dynamism is significantly correlated with our dependent variable (*ß =0.24, p =0.55*). We were specifically interested in isolating the effect of

structural characteristics of the network from the content of ties. As expected, we confirm that the structural aspects of the network do not affect the involvement of firms in business model innovation. As can be noticed in Model 1, network position is not significant (*ß =0.04, n.s*) and remains not significant in all the models tested. In this model, we used out-degree centrality to control for network position. This measure of centrality reflects the number of actors each node can access and, as such, was useful to fulfill our goal of showing separate effects of the number and content of ties. However, we also used in-degree (*number of actors that declare to have access to a specific node*) and betweenness centrality (*the ability of connecting otherwise disconnected actors*) and they were not significant.

In Model 2, we tested the main effect of network diversity and flexibility. Consistent with Hypothesis 1, we find a positive effect of network diversity on business model innovation (Diversity: *ß =0.28, p < 0.05*). This suggests that firms that have contacts with more diverse partners are more involved in business model innovation. Surprisingly, and in conflict with Hypothesis 2, we find a positive effect of network flexibility on BMI (*ß =0.38, p < 0.01*). Firms that change partners over time innovate their business model more than firms that rely on the same ties over time. The implications of this finding are discussed in the following sections.

Hypothesis 3 postulates a moderation effect of proactiveness on the relationship between the diversity of the network and the involvement in business model innovation. As an intermediate step, we added the main effect of proactiveness in Model 3, and we find that proactiveness has a positive effect on business model innovation (*ß = 0.33, p < 0.01*). In Model 4, we added the moderation effect of *proactiveness x network diversity*. We can see that the positive effect of diversity increases (*ß = 0.41, p < 0.01*) and the interaction term has a positive and significant effect on business model innovation (*ß = 0.31, p < 0.05*). These findings confirm our expectations explained in Hypothesis 3. At the same time, we added the moderation effect *proactiveness x network flexibility*. Contrarily to our expectations, the interaction term has a negative but not significant effect on business model innovation (*ß = -.07, n.s.*). In addition, with the introduction of the interaction terms, the effect of network flexibility decreases and becomes marginally significant (*ß = 0.22, p = 0.10*). The implications of these findings are widely discussed in the discussion Section.

With respect to the full model, the explained variance increases significantly from Model 1 to Model 4 and the final adjusted R^2 is 0.29 (*p < 0.05*). Overall, the explanatory power of our model increases consistently with the interaction terms but, surprisingly, we find the opposite effect to what we postulated in Hypothesis 2, and we do not find support for Hypothesis 4. Hypothesis 1 and 3 are confirmed.

Table 2.2: Results of regression analysis

	BMI			
	Model 1	Model 2	Model 3	Model 4
Dynamism	0.238+	0.180	0.242*	0.192
	(0.122)	(0.119)	(0.115)	(0.118)
Firm age	-0.115	-0.0236	-0.0507	0.0253
	(0.208)	(0.215)	(0.203)	(0.199)
Firm size	-0.0594	-0.0702	-0.110	-0.118
	(0.168)	(0.159)	(0.151)	(0.148)
Network position	0.0445	-0.171	-0.256	-0.341
	(0.207)	(0.240)	(0.229)	(0.230)
Network diversity		0.285*	0.303*	0.414**
		(0.129)	(0.122)	(0.127)
Network flexibility		0.378**	0.295*	0.223+
		(0.134)	(0.130)	(0.132)
Proactiveness			0.331**	0.289*
			(0.123)	(0.121)
Proactiveness* diversity				0.310*
				(0.152)
Proactiveness*flexibility				-0.0675
				(0.141)
Constant	0.321	0.641	1.013	1.060
	(0.639)	(0.710)	(0.684)	(0.668)
Observations[a]	58	58	58	58
R-squared	0.072	0.234	0.331	0.401
Adjusted R-squared	0.004	0.144	0.237	0.289
Standard errors in parentheses	+ p<0.10	* p<0.05	** p<0.01	*** p<0.001

a = 17 observations deleted due to missing information

We added two controls to our model to assess the robustness of our findings. We added the tenure of the respondent in the company and the number of clients per year. The

goal of this step was to test whether involvement in business model innovation was merely caused by the higher experience of entrepreneurs in the sector or by the experience gained through contact with diverse clients, and therefore by a learning process developed over time where the management of the network had no role. The inclusion of the two variables did not change our results.

Discussion and conclusion

In this paper, we show how the diversity of knowledge sources positively influences the enhancement of business model innovation. In addition, we examine the extent to which firms are inclined to change ties over time and we explore how this affects business model innovation. Finally, we look at the interaction between proactiveness in the market and these two network elements. Focusing on *business model innovation* as innovative outcome facilitates the exploration of the multiple links among these variables. The process of BMI entails radical changes for firms and internal skills are often not sufficient to initiate the process (Rosenkopf & McGrath, 2011). As a consequence, firms have to rely on external knowledge sources from the network of belonging and from the market in general (Zott et al., 2011).

We look at the influence of tie diversity on innovative outcomes and we broaden extant studies by providing a fine-grained perspective on how content attributes of ties influence the engagement in business model innovation. We find that the diversity of nodes in the network is positively correlated with the involvement in business model innovation. This is consistent with studies that highlight the importance of tie diversity for innovative outcomes (Reagans & Zuckerman, 2001), suggesting that the presence of nodes characterized by different attributes increases the opportunity to develop innovative ideas. We specifically show that diversity of size is influential for stimulating involvement in BMI. This finding highlights that firms need inputs from firms operating under different structural conditions to implement new business models. They can look at the steps implemented in small firms, where even small changes might be disruptive, and in large firms, where various elements need to be aligned to make the final changes operational.

We disentangled the structure and the content of ties when measuring diversity, and contrary to our hypothesis, we find no relation between the structure of the network and involvement in innovative processes. This finding might seem to be in contrast with research on innovation networks that relate access to a high amount of information to the involvement in innovative processes. Indeed, extant research has associated the fact of receiving numerous

insights with the possibility of developing innovative ideas (Burt, 2004). In our study, we find that the structure is not relevant (i.e., none of the centrality measures is significant) and, instead, our results show that tie diversity and network flexibility are influential for enhancing business model innovation. This finding is interesting because it leads us to reflect on the importance of context when studying the influence of networks on innovation. We speculate that the lack of influence between network structure and involvement in business model innovation is related to the complexity entailed in BMI in terms of mutual influence between different choices and unpredictable consequences (Gambardella & McGahan, 2010). This explanation reckon on literature explaining how the complexity of the innovative process requires firms to access specific sources of knowledge. The mere fact of receiving information in a network is not sufficient to start the innovative process (Centola & Macy, 2007). Given the above mentioned aspects, our analysis helps us to understand the factors that influence firms to engage in complex innovative processes, and opens new perspectives for corroborating or adapting theories developed in the innovation field.

Beyond looking at tie diversity, we considered the extent to which firms tend to rearrange ties, in order to highlight the influence of network flexibility on business model innovation. In our research, rearranging ties is considered as a *mindful act* of a firm. Our framework extends the scope of extant studies by taking into account the role of firms as *architects* of their own network. By considering agency, we are able to isolate the intentional change of ties. We observe network flexibility as a purposeful strategy, which influences the choice of partners when firms need inputs for business model innovation. This perspective might bring new insights to the recent stream of literature that underlines the importance of a firm's agency (Hallen & Eisendhardt, 2012) to understand network dynamics.

Considering network flexibility brings an additional discussion point to our research. Indeed, contrary to our expectations, we find a positive effect of orientation to rearrange ties (*network flexibility*) on business model innovation. Building on previous literature on network learning (Davis & Eisenhardt, 2011; Uzzi, 1997; Uzzi & Lancaster, 2003), we argue that a deep knowledge of the practices implemented by partners is necessary to start a complex innovative process. Rearranging partners with high frequency and therefore acquiring only limited knowledge about them leads to lower levels of business model innovation. Unexpectedly finding a positive relationship leads us to speculate on the factors that might have generated it. Previous research suggests two rationales for changing ties. As suggested by Koka, Madhavan and Prescott (2006), rearranging ties can be the consequence of an increased level of uncertainty and change munificence in the environment. Indeed firms might decide to diversify their portfolio of partners with the goal of increasing possibilities of success in a

highly turbulent environment. An alternative explanation can be the presence of instrumental change (Umphress, Labianca, Brass, Kass, Scholten, 2003), which leads firms to select new partners based on their potential contribution to processes to be implemented. To understand which rationale has more explanatory power, we run an additional test that also takes into account a possible endogenous choice in the willingness to rearrange their network. Taking such approach is worthwhile since, as explained previously, we consider network flexibility as a mindful act of firms. To do so, we run a treatment-effects model by using a two-step consistent estimator (Hamilton & Nickerson, 2003). First, we transform network flexibility in a dummy variable and we use it in the first step logistic regression. Second, to test the two rationales, we use environmental dynamism (as a proxy of the first rationale) and the actual contribution of partners to the innovative process (as a proxy of the second one) as our independent variables of interest for the first step, together with firm age and size as control. Environmental dynamism is widely considered as a representation of turbulence in the competitive environment (Jansen, Vera, Crossan, 2009). We operationalize the contribution of current partners by measuring the number of prizes won. Prizes in the design sector are assigned on the basis of innovativeness and originality of creative output. Winning a prize requires numerous efforts and investments to craft the artistic product according to the standards required. Especially in the case of small firms, this high commitment in the creative output might lead to a lower level of commitment in managerial aspects. As a consequence, many prize -winners in the network might reflect a high level of creative power, but a low level of contribution to business model innovation, which belongs to the managerial aspects of firms. In this way, the treatment-effects model considers the effect of the endogenously chosen binary treatment (*inclination to change the network or not*) on the continuous business model innovation variable. As show in the first step in Table 2.3, we find that the effect of environmental dynamism is positive but not significant, while the number of prizes won by partners is positive and significant. Such findings suggest that the second rationale has a stronger explanatory power and implies that current partners may not give additional information needed to innovate business models of focal firms, calling for a change in the network configuration. The results from the second step are consistent with Model 2 in Table 2.3. These results show the importance of unpacking the concept of tie change, in order to explore the consequences on innovative outcomes. More specifically, our study shows the importance of complementing extant studies on network change with a deeper analysis of the reasons leading firms to rearrange ties. Indeed our results corroborate the perspective of instrumental change (Umphress et al., 2003), by showing that firms might prefer to end long-lasting relationships in order to increase the potential contribution of partners to the

innovative process they wish to accomplish. When change is driven by these reasons, it is positively correlated with the innovative outcome.

Table 2.3: Treatment effect model

	Treatment effect model	
Second step	Business model innovation	
Network diversity	0.304**	(0.108)
Proactiveness	0.349**	(0.111)
Dynamism	0.256+	(0.136)
Firm age	0.124	(0.245)
Firm size	-0.0589	(0.183)
Network position	-0.410	(0.255)
Network flexibility (dummy)	1.840**	(0.579)
Constant	-0.253	(0.976)
First step	Network flexibility (dummy)	
Firm age	-0.594*	(0.285)
Firm size	0.0113	(0.218)
Tie status	0.538+	(0.306)
Dynamism	0.105	(0.171)
Constant	-1.157*	(0.524)
Observations	58	
Wald chi2	34.6	

Standard errors in parentheses + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

With the introduction of proactiveness in our model, we contribute by to research by providing a comprehensive perspective on the influence between network elements and a firm's market strategies. In the first place, we find that proactiveness positively moderates the relationship between diversity and business model innovation. This finding highlights that firms that can combine a diverse portfolio of partners with a proactive strategy in the competitive environment have higher possibilities to innovate their business models. We also find that the effect of diversity increases consistently with the introduction of proactivenness.

With this finding, we show that adopting proactive behavior in the competitive environment can help firms to capitalize on their partners' portfolio and benefit from diversity to innovate their business model. This extends extant research that consider networks as potential tools for enhancing innovation (Stam & Elfring, 2008), by showing the specific effect of proactiveness to gain knowledge from ties and use it for implementing new business models.

Unexpectedly, we do not find a moderation effect of proactiveness on the relationship between network flexibility and business model innovation. Moreover, the effect of flexibility is reduced and becomes marginally significant when the interaction effect is added. We speculate that both the process of adapting ties over time and adopting proactive behavior requires firms to mobilize a high amount of resources. As a consequence, the likelihood that firms have enough resources to capitalize on both strategies to innovate the business model is low. As such, one of the strategies prevails the other as a catalyzer of BMI. Overall, our findings suggest that proactiveness might be more relevant to tie change for the engagement in business model innovation. Therefore, our study highlights how market strategies might be more relevant than network strategies under certain conditions, and calls for further research on the factors that lead firms to favor one strategy over another.

Overall, building on *(1)* network research, *(2)* research on proactiveness and *(3)* business model innovation studies, we are able to provide a complete overview of the antecedents of BMI. Our study shows the relevance of inter-organizational networks for the enhancement of BMI (Calia et al., 2007; Chesbrough & Schwarz, 2007) and it is one of the first to empirically show how knowledge of the market and knowledge acquired in the network interact. We are able to show both positive and negative effects of combining proactiveness and network elements, and we provide literature with a fertile context for testing empowerment and neutralization effects of diverse triggers for BMI.

Implications for practice

Our study might inform managers on several dimensions. It might specifically inform firms willing to initiate BMI processes on how to use their knowledge of the market to exploit diverse knowledge sources within their network of reference. We show that a proactive strategy in the market is relevant for benefitting from a diverse network. We underline that business model innovation is a complex process that needs numerous elements in order to be activated. Firms should be aware that the commitment required is extremely high and a great deal of information is needed from the external environment to enhance

activation. Our research might also be seen as a warning for firms not to engage in many simultaneous changing processes at the same time, because this can have a negative effect on business model innovation processes.

We also give specific indications on how to manage external networks. Our findings suggest that if firms wish to innovate their business model, they should focus on diversifying their ties more than focusing on acquiring a central position that might lead to access to a great deal of information, but with no value for BMI. The diversity of ties can result in a richer learning environment. However, we should take into account how firms with different characteristics are affected by business model choices.

Limitations and further research

Our paper brings important contributions to literature, but it has its limitations. In the first place, the cross-sectional content of the study does not allow us to capture the change of the detected effects over time. A longitudinal study would be able to capture the evolution of the external environment and of the company's conditions and could increase our understanding of the conditions under which the effect of ties diversity is beneficial for the enhancement of business model innovation. The same rationale can be applied to the effect of network flexibility. More specifically, a negative effect can be found in relation with time. The causal mechanisms of the relationship between network diversity, network flexibility, and proactiveness could also be further explored. Future study might be based longitudinal processes of data collection and can test the persistence of the effects over time. The study could be repeated in contexts with different evolutionary dynamics, in order to highlight the empowering conditions allowing firms to capitalize on the network's diversity and flexibility. Finally, the use of longitudinal data might also lead to the direct measurement of network flexibility rather than on self-assessment by firms. We strongly believe that our scale captures the construct of change, but a direct observation of flexibility over time can definitely bring additional support to our results.

Our study is also characterized by a selection bias that might hamper the generalizability of the findings. The creative industry may entail different dynamics compared to more traditional industries. Repeating the study in another empirical context might lead to different results. More specifically, we might expect that more stable and static networks could be more beneficial for the enhancement of business model innovation. Said differently, our results might be context-specific, where firms operate in a creative environment and need

constant change and variety to develop innovative ideas, including the development of new business models. More traditional and standardized sectors might be facilitated in business model innovation by developing long-lasting relationships with a stable group of partners. We encourage researchers to include different sectors in their analyses, and to control for the presence of industry effects.

Finally, we based our analysis on the knowledge network among firms. We did not consider the existence of multiplex ties among actors. Despite the rigorous process used to develop and test our network measures, we recognize that the focus on specific kind of ties might have caused a myopic detection of the network's effect. We were not able to compare and combine the effects of diversity and flexibility for different kinds of relationships. Future studies can extend our study by looking at multiplex ties among firms and by showing how the effects of change and diversity affect business model innovation in different kinds of networks.

Appendix 1: Additional explanation of measures

1. Network flexibility

Items

Our company created new connections

Our company stopped connections developed in the past

The number of our connections increased

Our company enlarged the network through different sectors

Our company relied more and more on the connections developed in the past

Our company reduced the number of connections

We focused on specific kinds of clients and partner organizations

We tried to develop different kinds of connections with our partners

Items in bold loaded on the factor ***Network flexibility***; the other items loaded on ***Stability***. For each item there was an example in brackets to guide respondents. Excluded items: *Our company continued working with the same clients and partner organizations including new ones at the same time* and *The number of connections remained stable.*

As it can be seen in the scale, items refer to simple connections, which reflect the behavior of firms in the knowledge network, and to partner agreements, which reflect the behavior in the cooperation network. We purposely decided to include both kinds of items so we could depict the general network strategies of firms, without being related to a specific network.

2. Measurement of diversity

For the measurement of diversity, we used the 75x75 matrix of the knowledge network. Again, this was in line with our theoretical framework. In Hypothesis 1, we wanted to test if firms with more diverse contacts in the network (in terms of company size) were more involved in business model innovation. In order to test if the effect we found was the result of a specific measurement of diversity, we calculated an alternative measure. By using the same 75 x 75 matrix, we calculated diversity by using the coefficient of variation (Cho & Hambrick, 2006). We found the same effect of proactiveness, diversity and network flexibility on business model innovation. (*Final model* $R^2 = 0.38$*; Adjusted* $R^2 = 0.25$).

Appendix 2: survey questions[4]

1. Who do you know in this list? (*a roster with the names of all the companies belonging to the branch organization was provided)*

Disclaimer: Probably you have heard the names of all the companies because they are all part of [*name of the branch organization*]. With 'knowing' we mean that you would be able to say in which branch of design they work and which are their main activities.

2. In the following list you find the companies you know. With whom is your company cooperating/has cooperated at least once in the past three years?

Disclaimer: With 'cooperating' we mean developing projects together or interacting for the realization of an initiative (e.g. organizing an event, exchanging information on relevant issues for the company).

3. Please think about the past 3 years and express your agreement with the following statements (newly developed scale):

Our company created new connections
Our company stopped connections developed in the past
The number of our connections increased
Our company enlarged the network through different sectors
Our company relied more and more on the connections developed in the past
Our company reduced the number of connections
We focused on specific kinds of clients and partner organizations
We tried to develop different kinds of connections with our partners

[scale 1 (*strongly disagree*) to 7 (*strongly agree*)]

4. Think about your business model. Assess the extent to which the following elements have changed in the past 3 years (*newly developed scale based on Teece,*

[4] Only questions used in the paper are reported. Questions presented here were preceded by questions concerning demographic details of companies and managers.

***2010*).**

The structure of revenues
The value proposition for customers
The cost structure

[scale 1 (*not changed at all*) to 7 (*completely changed*)]

5. Proactiveness: In dealing with its competitors, my firm (Covin & Slevin, 1989):

typically responds to actions which competitors initiate	***1 2 3 4 5 6 7***	*typically initiates actions which competitors respond to*
is very seldom the first business to introduce new products/services, administrative techniques, etc.	***1 2 3 4 5 6 7***	*is very often the first business to introduce new products/services, administrative, techniques, operating technologies, etc.*
typycally seeks to avoid competitive clashes, preferring a 'live - and - let- live' posture	***1 2 3 4 5 6 7***	*typically adopts a very competitive, 'undo - the - competitors' posture*

Chapter 3. How managerial attention shapes business model innovation: Evidence from the design industry

Abstract

How does business model innovation (BMI) start and develop through time? Despite scholarly efforts to better understand how BMI originates, we know little about the mechanisms for BMI implementation. We address this question in a longitudinal case study of seven design companies in The Netherlands. We explore how company managers attended to the challenges of their existing business models and initiated a process of change. We find that managerial attention on existing business models lead to different initiation processes of BMI set-up Moreover, managerial attention also explained differences in the following phases of the process, which we call *development,* and *implementation.* In the *development* phase, managers distribute attention to the business model to others within the company. In the *implementation* phase, they sequentially attend to changes to the business model, iteratively shifting attention from organizational changes to BMI changes.

Introduction

In the last decade, a firm's business model has become a relevant and novel unit of analysis for studying and evaluating a firm's strategy of innovation and renewal. Scholars have explored what constitutes a firm's business model (Tucci & Massa, 2013) and how it relates to other activities inside the firm (Teece, 2010) and outside the boundaries of the firm (Zott & Amit, 2010). More recently, scholars advocate a dynamic perspective on business model, going beyond the description of its elements and focusing on how business models are changed through time (Casadesus-Masanell & Ricart, 2010). From this vantage point, scholars suggest to consider the inception of a business model innovation (BMI) as the development of a recipe (Baden-Fuller & Morgan, 2010) where the elements of the existing business model constitute the ingredients that are mixed and manipulated in order to create new business models. Others have focused on the implementation process of BMI, highlighting that the recombination of business model's elements might lead to the restructuring of extant organizational mechanisms (Svejenova, Planellas, & Vives 2010). As such, changing existing business models entails the implementation of multiple changes, which might present several complexities (Rosenkopf & McGrath, 2011). Given the multiplicity and complexity of change mechanisms entailed in the process of BMI, scholars have not been able to fully describe the process, and our understanding of how the implementation of new business models starts and develops through time remains rather limited (Svejenova et al., 2010).

In this paper, we begin to address this gap. Building on the above-mentioned studies highlighting the importance of existing business models for BMI, we use an attention-based view (Ocasio, 1997; 2011; Ocasio & Joseph, 2005), in order to understand the extent to which managers pay attention to existing business models before innovating them. This theoretical lens, which has not been used in previous studies on the topic, allows us to examine managers' awareness of a firm's existing business model and whether their focus of attention affects the final outcome of BMI. As such, we are able to shed light on the initial stage of BMI, which we consider as the development of the idea in managers' mind. We use this theoretical lens to analyze BMI initiation in seven design companies in The Netherlands. We monitored them along a period of two years by complementing semi-structured interviews with publically available information from national databases, journals and online channels.

As expected, the analysis of these data reveals that managerial attention on existing business models is crucial for understanding differences in the initial stage of BMI (which we call *set-up* in this study), but also for explaining the mechanisms of the following phases, which

we call *development* and *implementation*. Indeed, despite the managers having the same stimulus (the financial crisis), we observed differences in the extent to which BMI was implemented. We found that variations in managerial attention in the three phases to differentiate companies in the implementation of new business models. Specifically, our data revealed that the use of the three varieties of organizational attention-*attentional perspective, engagement* and *selection* (Ocasio, 2011)-represents a clarifying lens for explaining the differences, as specified in the following paragraphs.

Attentional perspectives are the top–down cognitive structures that focus managerial attention on certain stimuli in the external environment and inside their company, relative to other stimuli, as well as focusing on which particular solutions and initiatives will be attended to, relative to others (Ocasio, 2011). In our study, attentional perspective provides the explanatory mechanism for differences found in the *set-up* stage, the initial stage of BMI. Indeed, in this phase, we find that all managers attended to similar problems -*the need to find innovative strategies of monetization for handling the turbulent economic conditions* (Greve, 2003) - leading to decisions to change their business model. But managers' attentional perspectives provided different solutions to focus on. Managers whose attention focused on both organizational and environmental aspects were able to develop a complete overview of the existing business model and set–up multi-focused plans for innovation; managers whose attention focused on sales developed set-up plans mainly focused on clients' requests. More generally, their plans for BMI focused on different aspects and this variation led to differences in their capacity to handle the wide- ranging set of complexities that might emerge in the introduction of new business models.

In the *development* phase, attentional engagement is most critical. This attentional mechanism entails the intentional allocation of cognitive resources for planning, decision-making and sensemaking (Ocasio, 2011). Through attentional engagement, the iteration from *top-down* to *bottom-up* mechanisms leads to the distribution of attention within the company. We find that managers who endow employees with specific capabilities to implement the new BM and use both formal and informal mechanisms for discussion—*brainstorming, discussion session, etc.*, –are more successful in distributing attention on BMI within the company. These attentional mechanisms represent a tool for engaging employees in the BMI process and create shared frameworks both with the employees and the clients.

Finally, in the *implementation* phase, we explain differences among companies through an emphasis on attentional selection, which is the outcome of the attentional process (Ocasio, 2011). BMI implementation occurs through managers' attention. Managers that balance the focus on business model innovation with the focus on organizational re – structuring enhance

more durable changes to the business model. Other managers adopt the new business model only for some projects, mainly relating to the former business model.

With this paper, we bring three main contributions. In the first place, we contribute to research on BMI, highlighting the mechanisms that lead to the initiation and implementation of new business models, from the initial stage to the final one (Baden – Fuller & Morgan, 2010; Casadesus Masanell & Ricart, 2010). We ground the process of BMI within the attention – based view (Ocasio, 1997) and we show the relevance of this theoretical lens for better understanding its initiation and unfolding. We specifically show the importance of managers' initial focus of attention to existing business models for the enhancement of BMI. Moreover, we are also able to differentiate the different phases according to the extent to which managers are able to combine different varieties of organizational attention (*perspective, engagement* and *selection*) (Ocasio, 2011). In explaining the phases of *set–up, development* and *implementation*, we also show how managers' individual attention interacts with company level processes. These findings contribute to extant research stating that managers' logics interacts with organizational strategies during the implementation of BMI (Markides, 2013) and extend it by specifically highlighting how top – down and bottom – up mechanisms interact during the development of new business models.

In the second place, we contribute to research exploring how managers' attention can be used as theoretical lens for explaining strategic change (Joseph & Ocasio, 2012; Ocasio, & Joseph, 2005). We specifically clarify the influence of attention on the adaptation of firm's level processes (Gavetti, 2005). In this way, we respond to the recent call of research to consider the interaction between the managerial and the organizational level when focusing on attention as explanatory mechanism for change (Kaplan, 2008). Explicitly, we move beyond the direct effect of managerial cognition on strategic outcomes by giving a complete overview of how individual and organizational attention influence change processes (Ocasio, 2011), using the three varieties of attention perspective, engagement and selection. The focus on BMI is suitable to address this issue. Indeed, differently from product and service innovation, BMI cuts across the company in a transversal way and the final implementation of the process requires the alignment of different company's levels, including top – managers and organizational departments at the same time. The adoption of this framework brings us closer to the understanding how attention is distributed within the organization and influences organizational change.

In the third place, through the use of the attention-based view, we extend our understanding of capabilities evolution. Research on deliberate managerial action in relation to capability development and organizational routines is still in an inchoate state (Eggers &

Kaplan, 2011) and we partially contribute to fill this gap. In this respect, we find that the creation of new capabilities represents a key mechanism for creating the necessary shared frameworks and mechanisms for enhancing attentional engagement to business model innovation. The development of new capabilities' enables the creation of intra – organizational confidence, which facilitates the implementation of change strategies envisioned by managers (Barreto & Patient, 2013). At the same time, new capabilities are important for obtaining trust from clients, signaling that the company possesses the necessary skills to work with the new business model. We also show that, in order to be effective for the enhancement of change processes, new capabilities have to be complemented with additional formal and informal mechanisms for creating shared frameworks within the company and therefore facilitating the collective implementation of change. As such, we confirm the importance of distributed channels of communication for distributing attention when implementing change (Ocasio & Joseph, 2005).

In the remaining of the paper, we provide an overview of the theoretical framework, we present our findings and we explain the implication of our study for theory and practice.

Theoretical overview

How does business model innovation start and develop through time? This question is still a topic of debate among scholars, who have not been able to find a suitable theoretical lens to capture the process. The discussion on the topic has been increasing through time and scholars have recently suggested the adoption of a wide-ranging perspective that allows to capture the mechanisms leading managers to change existing business models and introduce new ones (Baden-Fuller & Morgan, 2010). Specifically, scholars would need to understand how and why managerial awareness of existing business models triggers or hampers innovation. The awareness of existing business models can indeed explain how managers identify the paths for innovating them and how they interpret the outcomes of new business models (Chesbrough, 2007). By capturing these mechanisms, scholars would be able to deepen the understanding of how the experimentation of new business models is related to managers' awareness on the existence of new ways of monetizing and creating value (Sosna et al., 2010).

This perspective assumes the influence of managerial actions on the implementation of BMI, already shown in several studies. In this respect, extant studies highlighted that individual choices of managers might constitute the main triggering factor for BMI (Tucci & Massa, 2013), underlining the importance of their perception of the environment, their ability

to ensure the unity within the managerial team and their skills to re-allocate resources when new business models are implemented (Doz & Kosonen, 2010). Nevertheless, scholars have also highlighted that the individual characteristics of leaders have to be balanced with the organizational factors and the interaction between the two might lead to unexpected problems for the implementation of BMI. As such, managerial actions can have both positive and negative effects for companies aiming at innovating their business model. In this respect, on the one side, the positive effects of individual actions have been explored and managers have been described as key actors for stimulating risk taking within companies (Doz & Kosonen, 2010) and therefore paving the way for innovating the business model through new organizational dynamics (Santos, Spector, van Der Heyden, 2009). Specifically, managers' orientation to experiment facilitates the enhancement of business model innovation (Chesbrough & Rosenbloom, 2002; Sosna, Trevinyo-Rodriguez, Velamuri, 2010), which is a complex process with unpredictable results and the willingness to explore new avenues is crucial in order to be successfully implemented (Chesbrough, 2007). We also know that managers' efforts aimed at promoting change and adaptation within the company encourage the implementation of new business models (Sosna et al., 2010). Openness for change contributes indeed to the willingness of acquiring new insights for handling the complexity entailed by BMI and effectively implementing it (Chesbrough, 2010). In this way, company members are encouraged to share ideas and will contribute to innovation (Leifer, McDermott, O'Connor, Peters, Rice, Veryzer, 2000) and, as such, individual managerial actions are perfectly supported by the organizational climate.

On the other side, the negative consequences of managerial actions on business model innovation have been identified. It has been acknowledged that managers' actions might represent hampering elements for the implementation of new business models (Tucci & Massa, 2013); indeed managers might make mistakes on evaluating the consequences and predicting the outcomes during the process of BMI. Specifically, managers might fail because of the difficulty to consider multiple organizational consequences arising from the radical changes entailed in BMI (Afuah & Tucci, 2001; Tucci & Massa, 2013). At the same time, the need of combining activities from different domains might represent an element of difficulty in effectively implementing new business models (Zott & Amit, 2010). Moreover, it has also been highlighted that managers might miss the opportunities to innovate their business models because they are over-focused on the dominant logics of their companies (Chesbrough, 2003; 2010; Johnson, 2010; Pisano, 2006). In addition to that, managers might be prevented from implementing new business models by the difficulty of managing new BMs in combination with the existent ones (Markides & Oyon, 2010).

Overall, the influence of positive and negative individual characteristics is sufficiently clear at the current stage, however there is no clarity on how business model innovation takes place as a consequence of managerial actions and no clear theoretical lenses have emerged to explain how managers leverage on existing business models for initiating and implementing BMI through time. We suggest that the adoption of the attention based view (Ocasio, 1997), and in particular managers' level of attention to existing business models, could represent the starting point to understand how BMI is initiated and then implemented.

The attention-based view (Ocasio, 1997) has not been used as a theoretical lens to explore BMI, but it has been largely employed to explain strategic decision-making for implementing innovation and different forms of organizational change. This theoretical perspective implies that managers pay attention to different existent conditions (Ocasio, 2011) and, through their decision-making process, they decide which conditions have to be changed and through which modalities (Posner & Rothbart, 2007). Managers address these change processes relying on skills and experiences that they developed in the past and use them as a tool to address incoming situations (Gavetti, 2005). Given the limited capacity of individuals to process information, they select only a limited number of existing conditions and stimuli, focusing on them for implementing future actions for change (Lavie, 1995). The selection process is driven by the existence of specific existing conditions (Treisman & Gelade, 1982) and by other contextual elements, such as the external environment (Corbetta & Shulman, 2002), the aspiration goals of managers (Kanfer & Ackerman, 1989) and their level of vigilance (Swets & Kristofferson, 1970). These elements lead to the final decision of managers and therefore influence the final implementation of change. Overall, the final decision is based on the perspective that managers use to interpret the exiting conditions to be changed, in interaction with contextual factors such as the external environment and other organizational elements.

Through the use of the attention based view, existing business models would be considered as the initial conditions for change and it would be possible to relate managers' attention to their business models to the future implementation of BMI. This would lead to the understanding of how the process starts and to clarify the extent to which managers' awareness determines the effective introduction of new business models. As already shown by previous literature (e.g. Chesbrough, 2007), understanding the existent business model is indeed a crucial condition to innovate it and the attention-based view would allow to relate the level of managers' understanding to their ability to initiate business model innovation. As such, literature on the influence of managerial characteristics for BMI would be nourished with a wide-ranging perspective on the relationship between managers' awareness of their

business model and the extent to which they are able to trigger BMI.

However, it has to be acknowledged that, beyond individual attention, it is through the interaction between individual choices and organizational structures that individual decisions are operationalised and firms implement change. Indeed managers use the broader social context of their companies or institutions to prove and realize their ideas (Gioia & Chittipedi, 1991; Markoczy, 2001). As such, the final implementation of change is the result of the interaction between individual and collective frames. In this respect, it has been shown that this interaction between the individual and the organizational level entails several complexities (Gupta, Smith, Shalley, 2006), given the difficulty to enhance balance between the two when implementing change (Benner & Tushman, 2003). The complexity of enhancing the balance is given by the interaction among structural, cultural and managerial elements (Ocasio & Joseph, 2008), which can give rise to conflicts between individual decision makers and the organization as a whole. If companies want to achieve change, the resolution of conflicts between the individual decision makers and the organizational mechanisms has to be achieved (Kaplan, 2008b). Indeed, despite the initial acknowledgement of the innovation stimulus from managers, the organizational response might be operationalised through inconsistent actions that prevent companies from finalizing the innovative process and leveraging on it (Lewis, 2000). More specifically, managers might be able to absorb the innovation stimulus and make sense of it, but they might fail in coherently re-shaping existing organizational structures (Lee, Lee, Pennings, 2001). As such, managers fail in transferring their ideas to the different organizational levels, generating unsuccessful implementation processes (Michel, 2007). When these complexities arise, companies experience a negative performance, both in terms of innovative outcomes and of financial performance (Smith & Thusman, 2005).

These obstacles arising form the contrast between the individual and organizational mechanisms are more likely to arise in highly complex innovative processes, which entail decisions from different organizational domains (Rosenkopf & McGrath, 2011). Developing effective mechanisms to transfer decisions from the individual to the organizational level might therefore present several difficulties. At the same time, an effective transfer process would be crucial for the creation of new knowledge inside the organization (Miller, Fern, Cardinal, 2007) for the implementation of complex processes. Effective transfer would also lead to the alignment among different units (Levitt & March, 1988), which is crucial when compound innovation processes are at stake.

In order to identify the complexities - from individuals to their organization - that might occur in the transfer process, it has been suggested to take into consideration the main

varieties of attention that intervene during organizational processes of different kinds. The varieties have been named as attentional perspective, attentional engagement and attentional selection (Ocasio, 2011). The first one is defined as the top-down process where managers take actions after the reception of different stimuli. The second one consists in the allocation of cognitive resources for decision making, iterating between top-down and bottom-up processes for engaging the whole organization in managerial decisions. Finally, the third one represents the outcome of the attentional process. By unpacking the concepts in this way, a better explanation of how cognitive, intra-organizational and environmental factors shape change can be achieved (Gavetti et al., 2007), overcoming the current separation between individual and organizational attention (Ocasio, 2011), explaining its complex mechanisms.

Considering the different varieties of attention allows us to capture the mechanisms intervening in the complete process of business model innovation, including the interaction between individual and organizational mechanisms. In addition to that, it also constitutes an extension of current studies in attention literature, which are generally focused on the individual level of attention. With the consideration of the three varieties would indeed be possible to highlight the mechanisms that lead to attention distribution from individuals to the organization as a whole (Ocasio, 2011). Business model innovation represents a suitable process to capture these mechanisms. Indeed, differently from product and service innovation, BMI cuts across the company in a transversal way and the final implementation of the process requires the alignment of different company's levels, including top-managers and organizational departments at the same time. As such, it gives the opportunity of looking at processes followed by managers to integrate initial stimuli in the organization and solve the eventual complexities arising while aiming at balance among different organizational and individual levels.

Methods

Empirical setting: the design industry in the Netherlands

The Dutch creative industry has been growing steadily in the past. In 2011 it was included among the nine top sectors in the Netherlands for economic and social impact, including over 40.000 companies. The main strength of the industry is the ability to innovate and create value, through the development of new ideas, products, services and business strategies. Design is considered as one of the most relevant sectors within the creative industry in The Netherlands in terms of economic and artistic aspects. It has affirmed its

reputation over the years, through the career of Dutch designers, who realized international projects all over the world. The sector, as the creative industry overall, is currently characterized by a fast evolution of the competitive boundaries that leads companies to re-invent themselves and find new operating ways. At the same time, the financial crisis has undermined its stability and has required companies to review their monetization strategies from creative ideas. These conditions have led to a clear orientation of companies to renew and re-design several elements of their companies in radical ways. For this reasons, we chose Dutch design as our research context.

Data

In order to define our sample of companies, we adopted a rigorous process, aimed at selecting companies that were implementing new business models and were therefore suitable to observe the unfolding of the BMI process. In the first place, we interviewed experts with managerial roles in a branch organization of design in The Netherlands and also other experts involved in institutional support programs for creative companies. Additionally, desk research was used to gain further insights into potential sample firms and to corroborate experts' views with secondary data. For each potential sample firm, we collected articles from specialized newspapers, online portals and specialized webzines in order to get general descriptions of firms, press releases, information about prizes and awards received and insights into firms' strategies and approaches to the market. In total we collected 133 articles (online and on paper) and used 5 videos available on the Internet where some firms were generally presented or where specific aspects about change processes were addressed. We finally selected seven companies that showed evidence of being involved in business model innovation. We included companies from different areas of design in order to guarantee variety but we also kept control over the comparability of companies in terms of size, age and artistic reputation. A complete description of the companies is available in Table 3.1.

Table 3.1: Description of companies

Company	Specialization	Interview at time 1	Interview at time 2	Company documents	External sources
Lota	Product and service design	July 2011	March 2013	Examples of projects.	7 articles online.
Omega	Industrial and product design	September 2011	February 2013	Brochures, list of clients and partners since foundation and future plans.	5 articles from specialized portals, 3 articles online, 1 video.
Alpha	Brand design	November 2011	March 2013	Preliminary financial report 2010, list of projects with name of the clients.	6 articles from specialized portals, 4 articles online.
Theta	Web design	November 2011	March 2013	Examples of projects, record of hours spent on different projects.	5 articles online, 3 articles from specialized portals, 1 video
Yipsilon	Design and consultancy	October 2011	March 2013	Brochures, Book describing the evolution of the company since foundation.	60 articles from specialized portals, 3 videos.
Phi	Medical design	October 2011	February 2013	Brochures, list of projects.	32 newspaper articles, 1 article from specialized portals
Gamma	Brand design	November 2011	March 2013	Brochures, examples of projects.	7 articles from specialized portals.

Once the companies were selected, we decided to conduct semi-structured interviews with key informants in different companies. We considered interviews as a suitable methodology for our study, since we needed to obtain rich empirical evidence on the phenomenon we were interested in (Eisenhardt & Graebener, 2007). As highlighted by previous research, data collected through interviews might be biased by the ability of the informants to re-construct the events they are questioned about and their objectiveness in reporting facts (Leonard-Barton, 1990). We wanted to avoid these biases and obtain a clear picture from our data. In order to achieve this goal, we decided to involve multiple informants in our interviews (Graebner & Eisenhardt, 2004). This strategy was not applicable to all the cases, since we had to deal with the typical small size of Dutch creative companies (85% of Dutch creative companies have 5 employees or less), where only one informant has expertise on management aspects and the other employees are only focused on the artistic side. Therefore, where possible, we involved two informants in the interviews; in other cases we adopted a different strategy. In the first place, even though the involvement of more than one informant was not possible for the whole duration of the interview, we solicited our informants to involve other actors in the company to provide specific kinds of information. An illustrative example is represented by the occasions when we asked for information about the balance sheet and informants asked the accountant (or the person entitled to manage the financial aspects of the company) to provide the relative information. An adaptation of this technique had to be performed for those companies where only one informant was on site during the interview. In those cases, after the first interview on site, we continued the contact with the informants by email or phone and we asked to fill additional questions, suggesting to involve other informants if needed. In addition to that, we relied on internal company reports and available public information in order to validate the direct information we got from informants. We conducted interviews over a period of two years and each informant was interviewed at least two times during this period. Our pool of informants was constituted of founders and/or CEOs of the companies and, where present, by business partners.

Interviews at time 1: The first round of interviews was realized in 2011 and the main goal of this phase was to collect a general overview of different companies and to understand how managers perceived the changes in the environment and to highlight how these changes affected the re-design of their business models. Already at this stage, we wanted to understand how managers were planning to innovate the business model and to highlight the actions that had already been implemented for accomplishing the goal by changing the existing business model. With the aim of highlighting innovation plan, we also tested managers' awareness of

existing business models, using this awareness as a starting point for the innovation plans. Indeed, as explained, managers who are aware of their business models are expected to have a clearer idea on how to modifying the current conditions in order to introduce new business models. In order to develop a shared definition of business model and of business model innovation, we performed several steps. Before starting the interview process, we reviewed extant literature on business model and we developed a unique definition of BM and BMI to be used with informants. Starting from the definition by Teece (2010), we defined the business model as the combination of *cost structure*, *revenues system* and *value proposition for customers*. As such, a change to one of these elements was considered as an action of business model innovation. To clarify, both companies innovating only one element of the business model and companies innovating all the three elements are involved in BMI; the first company is innovating more and the second company is innovating less. Moreover, a company that use the new business model for all the projects started with clients is innovating more with respect to a company that is testing the new business model only for specific projects. Finally, we also considered the extent to which BMI actions were aimed at enhancing short-term changes or long-term changes, in order to understand the extent to which companies had been able to innovate their business model. We discussed this definition with our informants and we built our questions in order to collect information on these elements. We collected six interviews from the founders of the companies and, in two cases, it was possible to speak to their business partners as well. The interviews were complemented by the exchange of emails after the meeting in order to clarify or deepen certain topics.

Interviews at time 2: During 2012 and 2013, we completed the second round of interviews. The interview structure was slightly different from the one of the first round. Indeed we asked informants to go back to the events we discussed in the first interview and to describe what changes to the business model had been implemented and what had been revised with respect to original plans. Specifically, we asked how the initial ideas from managers were implemented and distributed within the company and how it affected the existing organizational mechanisms. In addition to that, we also asked what mistakes had been done and how they were planning to solve them. In this way, we could also have a general outline of the future steps currently under discussion. This overview of the past and future actions was also obtained for more general topics beyond BMI, such as company restructuring, mission and strategic moves. We obtained five interviews from companies' founders and two interviews from business partners. After the interviews in person, several emails were exchanged in order to clarify or confirm details and to ask for additional documents. A

scheme of the interviews realized at time 1 and 2 is provided in Table 3.1.

Analytic Process

As highlighted in previous sections, theory on the process of business model innovation is emerging, but the theoretical framework is still incomplete. Therefore we adopted an inductive case study approach to develop theory from our data and fill the existing gaps (Barrat, Choi, Li, 2011). In order to produce a stronger base for theory building, we adopted a multiple-case study approach (Yin, 2003), which allows iterative comparisons to clarify the generalizability of emerging constructs (Eisenhardt, 1989). Our final aim was highlighting the elements that constitute the process of business model innovation. Following the guidance for process research (Langley, 1999), we combined different procedures to conduct our study, going through four main stages.

In *Stage 1*, we constructed a list of the main events managers described us during interviews at *Time 1* and *Time 2*. We also looked for connection between the events described by managers and secondary data collected through desk research, combining journal articles, videos and links to Internet websites. For example, if a manager told us that one of the products recently launched had been extremely successful, we looked for evidence of this success in publically available information. We also tried to group events into meaningful categories, in order to link events in the industry with managers' reactions, changes inside the company and subsequent BMI outcomes. Overall, we constructed narratives for each company, aimed at describing the story of the company in terms of business model innovation, seen through managers' logics. These narratives were complemented with secondary data. At the end of this stage, we were able to distinguish companies on the base of their attention focus with respect to existing business models. Specifically, we looked at managers' attention focus with respect to the original business model, highlighting if they paid attention to multiple elements or only to specific ones.

In *Stage 2*, we used the narratives to distinguish between different processes of business model innovation and also understand the different phases managers went through in the implementation of BMI. We specifically compared the initial plan described by managers to innovate the existing business model with the implemented actions. As such, we were able to highlight the facilitating factors for proceeding through the different steps of BMI and to explore the extent to which the original business model has changed. This step was possible thanks to the direct comparisons of interviews at different points in time and

also through direct questions to managers. Specifically, a part of the interviews at *Time 2* was meant to directly ask about plans described at *Time 1*, in order to see which points had been implemented and which changes had been done. At the end of this stage, we were able to distinguish between companies that radically innovating their business model and companies that had to step back and scale down their innovation plans.

Overall, at the end of this stage, we 'mapped' companies, depending on (1) managers' focus of attention with respect to the initial business model and (2) the extent to which they managed to fully implement their initial plans for BMI within their companies, collectively enhancing change. As explained, business model innovation was considered as the combination of actions concerning the cost structure, the revenues system and the value proposition for customers. At the same time, we used collected data to enhance completeness to the description of business model innovation by adding actions illustrated by our informants.

In *Stage 3*, we went through the narratives in order to deepen our understanding on the specific elements of managerial attention that shaped the business model process in different companies through the different phases of BMI. We based our search on extant literature on attention (e.g. Gavetti, 2005; Nadkarni & Barr, 2008; Ocasio, 1997; 2011) and BMI process (e.g. Casadesus-Masanel & Ricart, 2010; Tucci & Massa, 2013); at the same time, we were open to emergent elements. We constantly compared companies in order to highlight the presence of similar mechanisms (Glaser & Strauss, 1967). We linked similar kinds of actions to identify first-order concepts, reflecting managers' logics, such as "need to diversify", "handling relationships with clients", "investing in capabilities".

In *Stage 4*, we grouped the first-order concepts into second-order themes (Corley & Gioia, 2004), trying to abstract from single elements. In the first place, we identified all the triggers leading to the initiation of the BMI process, and we were able to link the *financial crisis* as main external triggering factor. We then completed the identification of BMI phases, which we called *set-up*, *development* and *implementation*. We constructed raw data tables for each phase, in order to iterate between this level of abstraction and data in the initial form.

As a final result of our analytical process, we were able to identify how the attention to the existing business model distinguished companies in the set-up phase, despite the exposure to similar external trigger. As planned in the construction of our theoretical model, we used the attentional perspective (top-down variety of attention, leading managers to make decisions) to differentiate managers in this phase. We then observed that differences also occur in the following phases of business model innovation and we were able to explain these differences through the use of attentional engagement and attentional selection. Before

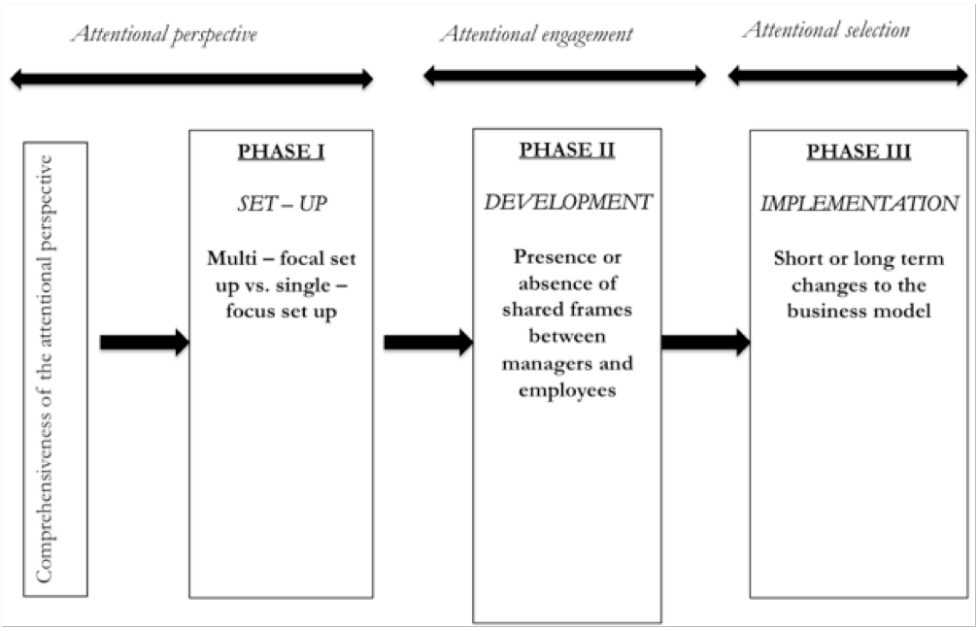
definitely confirming our findings, we looked for confirmation into the collected secondary data and we exchanged emails with our informants, in order to test our preliminary findings.

Findings

The main goal of our research was highlighting how the process of business model innovation takes shape within companies, using managers' attention to existing business models as starting point. We highlight three main phases: (1) set-up (*Phase One*), involving the initiation of action plans for giving shapes to ideas on BMI, (2) development (*Phase Two*), involving the advancement of plans for BMI, (3) implementation (*Phase Three*), which involves the realization of concrete actions to change the business model, such as the alteration of the cost structure, revenues system and value proposition. These phases do not happen with the same sequence in different companies; in addition to that, they might overlap, shift through time and be subject to backward actions driven by managers' attention. Managers are mainly triggered by the financial crisis for initiating the BMI process. After the acknowledgement of the need of changing the business model to survive the financial crisis, in Phase One, managers look at the existing business model, focusing on different aspects of it (*attentional perspective*); depending on their *attentional perspective*, they set-up BMI plans with different kinds of focus. In Phase Two, they share their plans with the organization, in order to collectively develop change plans. Managers use different mechanisms to create shared frames for change, including the creation of new capabilities and several formal and informal communication mechanisms to involve company members in the BMI steps. The presence of shared frames within the company leads to *attentional engagement* to BMI. In Phase Three, managers go through an iterative process shifting attention from the organizational changes to the business model changes to finally implement the new business model (*attentional selection*). Depending on the *attentional selection*, companies enhance long-term or short-term BMI changes. *What does it mean innovating the business model in the context of design companies?* As described by our informants, companies want to change their business model by becoming strategic advisors for clients, changing the revenues system, revising costs and modifying their value proposition from being *'final makers'* of the final product or service to being *'strategic advisors'*, cooperating with clients in several steps of the process before the final delivery of the outcome. Further details on the business model innovation outcome and on the relationship linking attentional perspective, attentional engagement and selection to the three phases of BMI are given in the following paragraphs. Table 3.2 provides qualitative evidence of the three phases, the actions implemented in the three phases and the explanatory mechanisms for the explanation of the

differences among companies. In the Table, we list all the quotes used in the paper and we also add additional ones. In Figure 1, the phases are graphically represented and explained. The shift from one phase to the other is determined by the execution of specific logics, which are further explained in the paper.

Figure 3.1: BMI phases



Initial stimuli for business model innovation

From the interviews realized at the beginning of the study, we had the chance to talk with informants about the current situation in the design sector and the creative industry more in general. Firstly, informants described the process that led them to start their company and they all reported a smooth process, given the vitality of the creative sector when they initiated their business and the willingness of clients of investing money to receive high quality creative

products. Interviewed managers founded their companies in the Eighties and the Nineties or, for the newest ones, before 2002, the year that represents the beginning of the first recent crisis of the industry, lasting until 2004 (Stam, de Jong, Marlet, 2008). As such, they could experience extremely favorable conditions if compared with other sectors and this fact allowed them to grow at fast pace.

Talking about the current situation, our informants generally agreed that the financial crisis between 2009 and 2011 had undermined the positive conditions that creative companies were experiencing. For example, the situation was clearly described in sample quote A: *"I think the main trigger [for innovating the business model] was like 2 or 3 years ago when the economic situation was not that good. And that we really started thinking like ok what can we do to assure that we're not that dependent on the economic situation."* Quote F (see Table 3.2) describes the relationship between the financial crisis and the way in which the way of working has changed: "*You see, it still is crisis all over the world and clients they don't have a lot of big budgets to spend on products but they all want to innovate and make something new. But you see all the big companies they ask like 100000 Euros for a new product and we find it very hard to find someone who wants to pay that. So what we now offer is a monthly small fee and then we work for a client for 6 months and then we develop new concepts and new ideas, and then after those 6 months it should be in production or should be finished, or they can add 3 months or 6 months."* As shown in the previous quote, and in our data more in general, the negative conditions of the economy had an influence on clients' willingness to pay as well. Indeed they started to rely to a minor extent on design companies, commissioning their projects to free lancers who required lower fees. This was mainly experienced by web design or brand design companies; indeed these firms realize and deliver their services through the use of computer applications that can be accessible also to free lancers and single creative artist with a low investment in terms of money and of time to learn the basic functions. The problem was not central for product design and industrial design companies, the equipments of which were less accessible without high initial investments. However, they also experienced negative inflections in their business activities. On the other side, with respect to the past, it became more difficult to affirm the uniqueness of the companies in the market, constituted by an extremely high number of companies. As such, competition increased immensely, undermining performance.

The influence of the financial crisis for business model innovation emerged clearly. The possibility of experiencing serious performance shortfalls triggered managers to look for new ways of doing business. More generally, in line with the behavioral perspective (Cyert & March, 1963; Greve, 2003), managers decided to try a new range of innovative activities in order to solve low performance problems. Overall managers were convinced about the fact that bringing a new product to the market would have not been sufficient for surviving the

ongoing financial crisis. On the opposite, a new business model for monetizing the creativity of their companies was needed, diversifying their business activities in more radical ways. Quote G shows the radical change experienced by company Omega: "*Well, ok, we started in 2010 and I think one of the main changes is that now with my company I am part of a partnership of 4 service designers, so that's called [name of the company]. That's why we are here, so that's a big change. [..]. I think also what is [...] changed is, when I started in 2010, the company I had before was a product design agency, industrial design agency and when I started [...], I didn't have a really fixed strategy on what type of business the new company was going to become, and now it's much more clear that my business is service design, so it's really a service design agency".*

The fact that all our informants paid attention to the financial crisis as main trigger to innovate their business model but then implemented different innovation processes was a first confirmation that the difference in the implementation of BMI process had to be ascribed to other factors. Aimed at discovering these differences, we looked at the extent to which managers paid attention to the elements of existing business models in order to understand why, despite the similarity in the external stimuli received, we observed differences in the extent to which BMI was implemented. These initial differences are explained in Phase One.

Phase One: *Set-up*

The influence of attentional perspective to shape the set-up phase

In the set-up phase, managers decide how to operationalize BMI by developing action plans. Triggered by the pressure of the financial crisis, managers look at existing business models, with the aim of understanding how to change them. The relevance of customers for the effective implementation of BMI is generally acknowledged. Overall, customers' acceptance of company's innovation plans is seen as essential to legitimate the process of business model innovation, as exemplified in Sample quote 1.10, where company Alpha was explaining possible resistance that the client might have in respect to the new business model: "*The biggest bottleneck I still see is that you, to work in that way [disclaimer: the new business model], you already have to have that certificate of trust from the client, because otherwise, yeah, if you're new to the client and you sort of propose this intense way of working where the budget has a flux or a possible flux, I think that's [too much]".* Given the importance of customers, managers pay

attention to this element for the initial development of BMI plans. In addition to the attention to clients, some managers are also able to focus on other elements of the existing business models, such as the revenues system and the cost structure, as shown in 1.8: "*And I think that also, something we had a lot of discussions when we were an industrial design company, on revenue systems, on changing our business model. And that's also something that, you see a lot of industrial design companies are struggling with that and you see a lot of hybrid business models."* We define this attitude of managers to focus on different aspects of the business model as a *'comprehensive attentional perspective'*, given the breadth of attention focus compared with managers who only focused on one aspect of the business model. On the opposite, managers who are mainly focused on customers do not look at other elements of the business model and do not implement specific plans for a complete innovation of the BM. Concretely, they do not have structured strategies to address the innovation of the different elements of the business model beyond the consideration of customers. Quote 1.4 is explanatory in this respect: "*The funny thing is for us that we are not saying let's innovate this, it's just well lets figure out how to do it and of course you make an excel sheet to put in the amount of subscriptions and the yearly fees and then see what happens whether you get a profit or not"*. Overall, the comprehensiveness of the attentional perspective reflects the ability of managers to pay attention to different elements of the business model, understanding the connection and the causal relationship among them. This perspective on the initial stage of BMI is consistent with the idea of looking at business models as configurations (Soda & Furnari, 2012) of elements connected by cause effect relationships, which managers should be able to acknowledge in order to implement BMI.

The extent to which managers are able to pay attention to different elements of the existing business models is crucial for determining the set-up phase. Indeed, managers who are able to focus on different elements of the business model, opt for multi-focused set-up plans that take into account the several aspects, including the time-frame of the innovation, the internal and external support needed and so on. Quote 1.11 reflects the aspects that company Phi takes into account before initiating a new business model: "*[...] do we have suppliers that already deliver the parts, the type of technology that we would need for this new product. Do we already have suppliers for that? Do we have the knowledge in house. Do we have specifically for type 3 and 4 projects, can we build up our own IP or patent portfolio with it. Do we have enough management attention, because it, especially type 3 and 4, if you're going to build up a new company or make a joint venture that takes a lot of management attention, but not, basically only [name of the partner] and I and maybe our controller can do, but not other people of the company"*. Other managers initiate plans that are mainly focused on satisfying customers' requests and, for them, is more difficult to develop specific plans for the innovation of the different elements of the business model. These findings led us to develop

the following proposition:

Proposition 1: *High comprehensiveness of the attentional perspective leads to multifocal set-up phase of BMI.*

Transition from Phase One to Phase Two

Several problems often occur when plans for changing the business models are developed. In the first place, clients might be reluctant to accept the changes and this might hamper the innovation process, as widely shown in our data. *(e.g. Quote 1.0: "if the client is very aiming for innovation or is ready for innovation, then it helps a lot in the output of the what you make. If not, if they are very conservative it's often then you have to take a step back and ok we cannot we're focusing on innovation but on just making a very good job").* This reluctance can be explained by two main factors. On the one side, it is generally difficult to convince clients to adopt something that is radically new in respect to the past (Weigelt & Sarkar, 2009), especially when the change is complex and multifaceted (Zollo & Singh, 2004) as in the case of business model innovation. On the other side, clients were experiencing financial crisis as design companies and, as a consequence, the difficulty of convincing them to invest money in risky and uncertain projects was even higher in respect to the past. Through the analysis of our data, we also highlighted the presence of different kinds of barriers to development, such as the lack of coordination within the company, external contingencies and a lack of willingness from the management team. One example is given by Quote 1.12: *"And now actually we've built a second group of people who are running production. [...] In the beginning [we were] also asking people from the design area of business to take on parts which were more production related, etc., which they didn't feel comfortable with or they didn't think was as challenging as doing the design contracts. So it was actually pushing a little bit internally against what the culture of the company was, we had to change some of the culture and also get new people in who supported the choice"*. However, negative reactions from clients represent the main complexity to overcome and enhance the following phases of BMI.

What facilitates the overcoming of these barriers? Overall, our findings show that the adoption of a multi-focal set up plan enables managers to overcome opposition and shift to the following phases of the BMI process. Thanks to the multi-focal plans, managers are more likely to take the risk of realizing changes that are not aligned with customers' needs or are characterized by other difficulties. On the contrary, managers with a single-focus set up plan often take a step back fearing negative consequences and decide to *surrender* to less radical

innovation processes, introducing minor changes to their business activities. The reason for the effectiveness of multi-focal set-up plan might reside in the higher ability to counterbalance opposition with modified backup plans when the original ideas are blocked by different kinds of problematic issues. For example, if clients do not agree with the novelty suggested by the company, managers are able to make effective decisions on how to proceed based on the plans they have on the other elements of the business model and therefore understand if it is worth to proceed despite the negative reaction of clients. They have higher confidence in their plans and are willing to implement them despite the initial reactions of clients, as shown in Quote 1.13 "*I use the 'F' word again but I hope now for the last time, f*** the clients [...]. If you're really talented and strong, like [us], you can make it successful* and Quote I: "*And we're not that dependent on a customer that comes in and asks: ok I want to have this or, and that is what's always so nice here, that we have so many developers here. They always have bright ideas about products or markets or whatever we can go into. So then that really made a change"*. These managers believe that clients are reluctant in the short term but might be convinced in the long term by the development of a flawless plan. Overall, these findings led us to develop the following proposition:

***Proposition 1a**: Managers who develop multifocal set-up phases are better able to shift from the set-up phase to the development phase.*

Phase Two: *Development*

In this phase, managers develop and finalize plans for business model innovation, distributing tasks and activities among company members. The development of BMI plans does not occur in the same way in all the companies. Specifically, in some companies, company members participate to the development with managers; in other companies, company members are asked by managers to execute new tasks without being involved in the logics of the innovation process. In the companies where company members participate in the development of the plans, we saw that managers are aimed at building shared frames of reference with the different actors of the organization. Having shared frames means having a common understanding of the business model process and developing a shared sense making on the steps to implement. This aspect is extremely important for managers who decide to trigger the participation of other company members. In other companies, we did not observe these shared frames. More specifically, managers develop new plans for business model innovation through their individual frames, without aiming at building a collective shared

frame with other company members.

With the aim of understanding the antecedents of shared frames, we looked into the mechanisms that led to their creation. In the first place, we noticed that, in the companies where shared frames are considered important, managers invest time and resources to create new capabilities. These managers see the creation of new capabilities inside the firm as a key factor for making the switch to the new business model, as showed in quote 2.9: "*We had a strategic choice to make the switch in about 2000, but the actual change has been quite gradual. In 2000, we decided to make the switch and actually we had to build a competence because the competence of developing is one but you also need to build the competence of manufacturing and managing the supply chain, and so we've been developing that competence and taking more and more business cases where we earn money by sales of the product instead of selling the development."* In some cases, managers even decide to create a dedicated sub-unit for business model innovation inside the company, considered as a breeding ground for the creation of new competences and capabilities. The creation of new expertise inside the company allows both company members and managers to understand the phases of business model innovation and participate to the development of the plan; indeed, leveraging on the same set of new capabilities on BMI, both company members and managers feel entitled to contribute with their ideas to the development of new plans for implementing the new business model. As such, the creation of new capabilities represents a first step for the enhancement of a collective frame for the development of new business models.

However, there are also other mechanisms that contribute to the creation of shared frames. Indeed, as explained, leveraging on new capabilities entitle managers and company members to contribute to the development; however the contribution might still be guided by individual frames to make sense of the new set of activities and suggest actions. Specifically, the difference between managers' frames and other company members' frames might still be considerable. In this respect, some managers make substantial efforts in enhancing a shared frame between themselves and the employees, in order to develop a collective orientation toward the new business model. To do so, managers use both formal and informal mechanisms for discussion, in order to compare their ideas with those of the employees and enhance a common understanding. To make an example of the formal mechanisms used, some managers believe that the introduction of monitoring systems available to all the employees is necessary to keep track of the activities and create a shared work attitude (*as in the case of company Theta*). Moreover, for what concerns informal mechanisms, we observed that discussion sessions on BMI are often organized, as shown in Quote 2.11: *"So we have discussions in our management team all these different models and also looked at what can we do to get more turnover, but also to get more margin, maybe even more important"*.

In some companies, also partner organizations are included in the creation of shared frames. The relevance of partners in the process can be explained by the recent developments of the design industry. Especially in recent years, design companies have developed the majority of their projects collaborating with other agencies, combining internal skills with new ones. Given the high level of external collaborations, partner companies have to be necessarily aligned with new plans, in order to change the business model. In our case studies, some managers decide to maintain control and leadership in the relationship, bearing the major part of the risk to innovate the business model and only marginally involving partners in the change. Other managers decide to involve partners in the innovation process to a wider extent and share the risk with them. As a consequence, leadership and control responsibilities are shared.

Overall, the creation of new capabilities, combined with diverse mechanisms for discussion facilitate the enhancement of shared frames between the managers and the employees, leading to a common understanding of the development phase of BMI. Given the above-mentioned aspects, we developed the following proposition for explaining the creation of shared frames for business model innovation.

Proposition 2: *Combining new capabilities with formal and informal mechanisms for discussion enhances the creation of shared frames within the company.*

Transition from Phase Two to Phase Three

As explained above, leveraging on new capabilities, employees acquire the necessary confidence to develop the new activities required by BMI and feel more involved in the plan. This commitment is also sustained by the involvement in discussion and brainstorming sessions. Deepening the analysis of our data, we observed that the presence of shared frames allows managers and company members to easily allocate their cognitive resources both for the development of the BMI plan-suggesting and discussing ideas-and the transformation of ideas into concrete actions. As such, the BMI *'journey'* proceeds and companies are able to implement their plans. Specifically, leveraging on shared frames, the introduction of new business models occurs smoothly. In fact, managers trust the contributions of their employees and, as a consequence, they feel free to delegate tasks and leverage on a collective process of innovation, as shown in Sample quote 2.12: *"What has changed is that we hired more people including an office manager, that really helps a lot in smaller assistant tasks and what we are looking for more now it*

has changed are senior people that means that senior people are more independent which means that my role as creative lead and I would say operations lead, or managing the company, can be more high level, because I can let go easier. So that has changed for us." This collective understanding is also useful to show coherence and unity to clients and, as a consequence, increase the probability to obtain their acceptance of new business models, as shown in quote 2.10: *"And in our business model we are also willing to guarantee that we will be successful, so they [the clients] can understand that we promise to make that happen and that we also take the business risk for them. I think that helps companies to choose us".*

Overall, shared frames create attentional engagement within the company, meaning that cognitive resources are easily allocated to develop the new business model, collectively making sense of the new activities. Through the iteration between top-down and bottom-up processes, attention to BMI is distributed among different company actors (both managers and employees) and ideas are transformed into concrete actions, allowing companies to move to the final stage of the process (i.e. implementation phase). In order to reach the implementation phase, also clients' support is needed, given the fact that they have to be *engaged* in the process in order to accept and adopt the new business model. As such:

Proposition 2a: *Attentional engagement, which requires shared frames, facilitates the transition from Phase Two to Phase Three.*

Phase Three: *Implementation*

In this phase, the different plans to change the current business models are implemented. The main change to the business model is the switch from simply realizing the final product or service to a higher involvement in the strategic process of their clients. This means becoming strategic advisors for them and contribute to highlight the main strategic needs, as shown in sample quote 3.13: *"It's very important to organize the process, the project management very well. [...] clients are messy, understaffed, and in these days more than ever and they need to feel the trust that whatever messy way of working they have that we will solve it for them, so it's a process, it's the strategic analytical part [that they want] and then in the end it's the creative answer of course. It's that kind, that's the blend [between the strategic and the creative answer] basically."* By being so involved in the process, design companies can better customize their products and services to solve specific needs of their clients. This solution is seen as a radical change with high potential to increase revenues and profits. Indeed, with the adoption of this strategy, clients clearly disclose their requests and become loyal to the companies that deeply understand their needs.

The implementation of the new business model entails extensive change to the relationship with clients, the revenues system and the costs structure. In the first place, the exchange of ideas with clients starts in an earlier phase of the project in respect to the past; in fact clients discuss the strategic needs to be filled with the desired design products or services with the company that will realize it. Moreover, clients are often involved in the initial investment for the new projects and share risks and costs with the company. In addition to that, revenues are based on multiple mechanisms, like royalties, shares, or distributed ways, depending on the specific project, as shown in Sample quote 3.2: ***"****So now I can have this development fee and we can just do it ourselves. And I don't need to ask for additional hours because also for me, I know when it's finished I get my royalty, which should be enough to cover the additional time."*

These changes also entail changes to the organizational structure and other company elements, but not all the companies pay attention to this connection. Indeed some companies focus solely on the BMI plan, disregarding the influence that BMI has on the organizational structure and the company as a whole. Quote 3.14 is extracted from an interview with a manager paying attention to the changes in the organization while innovating the business model: *"It's almost like upgrading our team rather than totally switching structure. So we are of course always restructuring things, like how to work more efficiently, or how you can say better no to clients, or do reports and all that stuff so I don't see that as that we are becoming more like the big agency. We were already very much focusing on structure, but we are imposing the structure more on clients I think"*. These managers are aware of the consequences of BMI and adopt *learning-by-doing* strategies tweaking changes in the BMI with other change processes in the company, as shown in Sample quote 3.8: *"I'll give you an example, it's also learning by doing, huh, you change the business model but you see also when you're doing it-to give you an example you also get kind of strange crossed opportunities"*, or 3.11: *"It's more that It's more an iteration process where you make some change, you look what the result is, but also you have constant changes in the external situation of course. So, well then you change a little bit again and look how that works out and what we try to do more nowadays is that we make a strategic plan, we try to stick to that so that we have for ourselves, but mainly also for the rest of the employees more a clear vision of where we are going."*

Overall, there is a difference in the selection of factors to consider during the actual implementation of change. As such, in this phase, we observe a difference in the selectivity of attention of our informants. *How can these differences be explained?* Through the analysis of our data we found that companies characterized by higher attentional engagement in the development phase are facilitated in the joint consideration of business model changes and changes of other nature, iterating attention between the two. This finding is consistent with the perspective developed by Ocasio (2011), who highlight the influence of attentional

engagement on attentional selection. In our study, this influence can be explained by the fact that a higher engagement to BMI from different company members leads to a wide-ranging perspective on the change process, which positively influence the consideration of BMI consequences in the implementation phase. Given the above-mentioned aspects, we developed the following proposition:

Proposition 3: *High attentional engagement facilitates iterative attention between organizational change and BMI changes.*

Managers who balance attention between organizational changes and BMI changes are able to implement long-term changes in their business models. These managers are more aware of the radical nature of BMI and do not abandon the project if they do not see short term returns, because they are confident that results will become clear in the long run. This long term perspective is shown in Quote 3.15: "*For new business modeling you always start like in negative, because you need to do a lot of investment and then after some time you will start to earn. But you can grow very high."* On the opposite, managers who are not fully aware of the consequences that BMI brings to the organization enhance short-term changes, working with the new business model only for some projects and with specific clients. In many cases, after the use of the new business model for a limited number of projects, these companies go back to the original model, disappointed by the performance results. For companies implementing long-term, we observed a complete switch to the new business model. Alternatively, we observed a separation between a sub-unit of the company operating with the new business model and one sub-unit operating with the traditional one. The latter can be defined as a *wait-and-see* perspective, developed with the aim of protecting companies from future risk deriving from uncertain reactions of clients. The perception of the risk is shown in Quote 3.16 where our informant is describing the relationship between one sub-unit operating with the new business model and the one operating with the old one: "*The risk is if you mess it up in [name of the unit operating with the new business model], then the priority can still be [unit operating with the old business model], but if you deliver bad quality and damage your relationship [with the client], it also affects [unit operating with the old business model]"*.With the separation, in case of failure, the name and reputation of the original companies would not be affected. Given the above-mentioned topics, we developed the following proposition:

Proposition 3a*:Iterative attention between organizational changes and BMI leads to long-term changes of the business model*

Discussion

In this paper we sought to explain the process of business model innovation by focusing on managers and on their use of attention. Prior research on business model innovation has explored BMI, showing its importance for enhancing performance and growth, without highlighting how decisions are taken and how the process starts and unfolds through time. In contrast, we delve into managers' attention in order to unpack the process from the initial stage when the decision to innovate is taken to the final implementation of BMI. We accomplished this goal by adopting an attention-based view, highlighting how managers conceive their existing business models and to what extent they pay attention to them in order to implement new ones. As such, we were able to show how the process unfolds and to highlight the factors that allow managers to go from one phase of BMI to the other. We highlight the three different phases of Set-up (Phase 1), Development (Phase 2) and Implementation (Phase 3) and we use attentional varieties in order to explain differences in these phases for managers of different companies. In the first step, we used attentional perspective to understand how the attention focus to existing business models could explain the differences in the initiation of BMI. Through the analysis of our data, we discovered that the following phases of BMI could also be explained through attention, specifically through attentional engagement and attentional selection. These findings have significant implications for research in business model innovation, attention and capabilities evolution.

Implications for business model literature

First, our study brings a dynamic perspective to literature on business model innovation (Casadesus-Masanell & Ricart, 2010), which represents a crucial step for understanding of how BMI is initiated and achieved. In fact, we identify the different phases of business model innovation, showing how they unfold through time and which are the enabling factors that allow the effective implementation. Thus, we are able to go beyond the current exploration of the antecedents of BMI and to deepen the understanding of the reasons that make the process successful. We accomplish this goal by using the attention based view (Ocasio, 1997), which allows us to understand managers' focus of attention to existing business models, how the level of attention influences the unfolding of the process

and how new business models are implemented. Our study is one of the first to frame the exploration of business model innovation within a specific theoretical lens, which allows us to build theory on the concept. Specifically, we leverage on the attention-based view to explain the unfolding of the BMI process, starting from the initial ideas of managers. As such, we complement extant studies considering managers as key actors for the implementation of business model innovation (Doz & Kosonen, 2010; Santos et al., 2009) and we extend them by unpacking their decision-making process. We are specifically able to understand how they conceive their current business models and how they leverage on them in order to enhance innovation (Baden-Fuller & Mangematin, 2013). In addition to that, by looking at managers' attention in relation to different company mechanisms, our study brings us closer to the understanding of how individual frames interact with organizational mechanisms when implementing BMI (Markides, 2013). In this respect, we show that two factors facilitate managers in accomplishing business model innovation: (1) adopt multi-focal set-plans (2) create shared frames. Building on literature within the attention based view, we are able to link the adoption of a multi-focal set-up to the comprehensiveness of the attentional perspective and to highlight that the creation of shared frames leads to attentional engagement to BMI. The combination of these factors leads to the enhancement of long-term changes to the business model. Said in other words, the core mechanism that allow managers to innovate their business model is the conception of the BM as a re-configuration opportunity for the future of the company (Baden-Fuller & Mangematin, 2013), which entails the need to change customers' perspectives instead of conform to them and to create new capabilities instead of operating within the possessed domain of skills. Overall, these findings bring us closer to the understanding of the complex phenomenon of business model innovation and also call for a comprehensive interpretation. For example, findings about the need of overlooking clients' requests in order to innovate can definitely seen as counter-intuitive in respect to the studies identifying the client as a key actor for innovation (von Hippel, 2005) and the issue deserves further attention. More specifically, there is the need to define the role of clients to define the boundaries of business model innovation and determine the extent to which the status quo will be changed.

Implications for attention literature

With our research, we are able to address a central question of attention literature (Ocasio, 2011): *how do managers distribute attention within their companies?* The focus on BMI, which

entails the reconfiguration of several company elements and requires the alignment of different company levels (Rosenkopf & McGrath, 2011), enables us to reach this goal. In fact we are able to look at how attention *travels* across company members and departments. Overall, while looking at the phases of business model innovation, we adopt a cross-level approach that considers the interaction between the individual level (managers' attention) and the organizational level (company's attention) when explaining the transition from one phase to the other. As such, our findings confirm extant studies that emphasize the influence of individual managerial attention on organizational changes (e.g. Gavetti, 2005). Moreover we confirm the findings of the behavioral approach to innovative activities (Cyert & March, 1963; Greve, 2003), showing that performance levels below aspirations - due to the financial crisis in our study - trigger managers to look for innovative solutions for their companies. We also extend extant research by bringing a novel perspective. Specifically, we do not assume that managers who succeed in making sense of external stimuli are able to implement effective decisions for innovating their companies (Kaplan, 2008). On the opposite, we highlight the mechanisms that intervene after the acknowledgement of the external stimuli. Specifically, we are able to show that, despite the homogeneity of our informants in acknowledging the external stimulus (*i.e. financial crisis*), managers make different decisions for the implementation of BMI, based on their focus of attention. We show that different attentional perspectives lead them to initiate different kinds of innovative processes. Moreover we explain how they distribute attention within the company through the creation of new capabilities, which allows the alignment of intentions and therefore the ability to integrate the business model changes within the broader process of company restructuring. In this way, we are able to show how the interaction between individual and organizational frames determines the extent to which the initial ideas for BMI can be implemented and put into practice.

Implications for capability evolution literature

Our study is also contributing to literature on capabilities evolution, by specifically explaining how the creation of new capabilities enables managers to bring change in their companies. On the one side, we confirm the findings of studies looking at the interaction between individual cognitive models and capabilities' evolution (Laamanen & Wallin, 2009), showing that managers represent the crucial decision makers for the creation of new capabilities. On the other side, we confirm and extend recent studies considering the intrinsic role of capabilities for the enhancement of change (e.g. Barreto & Patient, 2013). Specifically,

we confirm them by explaining that endowing employees with new capabilities allow them to acquire the necessary confidence to perform innovative activities. At the same time, we extend them by showing that the creation of new capabilities is also influential for obtaining trust from clients and showing them that the company has the required skills to leverage on the new business model. As such, the creation of new capabilities favors the approval of the new business models from clients who initially might reject them. This finding complements extant research on the mechanisms that make new business models socially acceptable (Santos & Eisenhardt, 2009), specifically showing how new capabilities trigger the acceptance. Finally, we also show that trust obtained through the creation of new capabilities leads to the development of mutual understanding, which gives the opportunity to realize change processes (Helfat & Peteraf, 2014; Tomlin, Kayali, King-Casas, Anen, Camerer, Quartz, Montague, 2006). As such, we give a clear explanation how managers' cognitive models trigger the creation of trust through the development of new capabilities, increasing the understanding of how trust is created within organizations (Gibbons & Henderson, 2012). Finally, we show that the relevance of new capabilities is increased by the use of formal and informal channels of discussion, which lead to the discussion of the newly developed activities and facilitate the transformation of ideas into concrete actions. The combination of new capabilities and discussion channels leads to the creation of shared frames, which increase the effectiveness of change processes, in respect to those cases where many individual frames interact without a collective orientation (Witt, 2007).

Implications for practice

Our study is also influential for guiding managers through BMI. First of all, we provide companies with a clear picture of how individual logics influence the implementation of new business models for the company as a whole. More specifically, we are able to show managers what are the enabling factors for effectively introducing new business models. For example, we warn them that complying with customers' requests might lock their companies within the established activities, preventing them from the accomplishment of their initial innovation plans. In addition to that, we also explain the importance of creating a mutual understanding within the company and with clients in order to effectively implement BMI. As such, the importance of taking risk through the resistance of clients' requests and the investment in new capabilities emerges clearly.

In addition to the above-mentioned aspects, we also demonstrate that, in order to

achieve BMI, making sense of external stimuli is not sufficient. Indeed several barriers might emerge once the process is initiated and managers have to be aware that implementing actions in combination with different levels in the company is crucial for the realization of the BMI project. Overall, what differentiates successful managers from unsuccessful ones is their ability to handle these barriers and we show the specific strategies to do so.

Finally, our findings give specific indications to companies operating in the creative industry, where the balance between creativity and sustainable innovation from the financial point of view is crucial. As such, the effective innovation of the business model is essential to succeed and outperform competitors. At the same time, our findings are also specifically relevant for industries that, as the creative industry, are characterized by profound changes in the environment and that need to re-define their ways of monetization.

Limitations and further research

Despite the contributions to extant literature, this study does not come without limitations. In the first place, the generalizability of our findings might be limited by the specificity of the creative industry, which is characterized by peculiar logics in respect to more traditional sectors. In particular, creative companies are characterized by the constant tension between the artistic innovation and the managerial sustainability of the company. As such, the process leading to business model innovation might be influenced by the interaction between these two elements. In addition to that, the background of managers operating in creative companies might be imbalanced towards the creative expertise, at the expenses of the managerial competences. As such, the barriers arising during business model innovation might be amplified by the lack of specific skills. As a consequence, it would be interesting to repeat the study controlling for industry factors and managerial expertise, in order to highlight possible contingencies.

In the second place, the time frame when we realized the interview might have affected our results. Indeed we interviewed managers while the financial crisis was having its deepest consequences. As such, the choice of innovating the business model could be considered as an *obliged choice* in order to overcome the negative consequences of the crisis. This factor might also explain the homogeneity of behaviors observed in the very initial stage of business model innovation. In this respect, we encourage scholars to replicate our studies across a longer period of time, where the obliged moves triggered by the financial crisis can be disentangled from autonomous decisions.

Finally, it was beyond our scope to provide a complete overview of all the actors involved in the process of business model innovation. We specifically focused on internal stakeholders and decision makers and clients. As such, although mentioned in the interviews, we did not delved into the relationships with other possible key actors such as collaborators, competitors and public stakeholders that might be influential for BMI. Enlarging the scope of our analysis towards this direction can definitely represent an interesting research ave

Appendix

Table 3.2: Examples of statements

Sample quotes supporting the BMI phases
Initial stimuli for BMI
A. "I think the main trigger was like 2 or 3 years ago when the economic situation was not that good. And that we really started thinking like ok what can we do to assure that we're not that dependent on the economic situation."
B. "We are still using both [business models]. And we are more and more moving also to a combination of the two. You see, it still is crisis all over the world and clients they don't have a lot of big budgets to spend on products but they all want to innovate and make something new."
C. "We got to the start of studio [name of the company] 2.0 as I keep on naming it and I think in the coming years, but we also still have a crisis going on, but in the coming years then we should really go for it. I think we have the basic matters quite well arranged with this financial legal organization management team member, we are actively stepping into actively managing our new business."
D. "We had to reduce our out of pocket costs, especially with the crisis coming so that was just too complex"
E. "It's not very fair, it's dangerous but the thing is it's also a matter of, in a risky business and in a difficult economy, why would the risk all be on one person or the company. So you have to find ways to spread the risk and if we all take a little bit of risk, then we're stronger than when one person takes all the risk and then you have to trust him to take care of you and if it falls down, you have nothing."
F. "You see, it still is crisis all over the world and clients they don't have a lot of big budgets to spend on products but they all want to innovate and make something new. But you see all the big companies they ask like 100000 Euros for a new product and we find it very hard to find someone who wants to pay that. So what we now offer is a monthly small fee and then we work for a client for 6 months and then we develop new concepts and new ideas, and then after those 6 months it should be in production or should be finished, or they can add 3 months or 6 months."
G. "Well, ok, we started in 2010 and I think one of the main changes is that now

with my company I am part of a partnership of 4 service designers, so that's called [name of the company]. That's why we are here, so that's a big change. [..]. I think also what is [...] changed is, when I started in 2010, the company I had before was a product design agency, industrial design agency and when I started [...], I didn't have a really fixed strategy on what type of business the new company was going to become, and now it's much more clear that my business is service design, so it's really a service design agency".

Phase I: Set-up

1.0. "if the client is very aiming for innovation or is ready for innovation, then it helps a lot in the output of the what you make. If not, if they are very conservative it's often then you have to take a step back and ok we cannot we're focusing on innovation but on just making a very good job."

1.1. "we're aiming for or what we're working on towards our added value for the client. We haven't figured out yet how that influence can really be measured or sort of become more concrete. We are still very aware that we are in a buyer's market, so that's always tricky, because the, and that also relates with the pitches, because there are pitches means that the client thinks he has a lot of influence on what he can buy and, so that's a very sort of warning sign, and I have to check in there later, but let's see if I can get to the point."

1.2. "Well I think that that is something that is changing more or less organically, we don't really pan that but of course we have as partners we have really now and then we go to have dinner or something or we spend the day to think about our business and how it evolves or what visions we have or what possibilities we see, but it's more a gradual organic process, it's not like we have a strategic plan and think: oh we could do it like this from now on or, that more an organic thing."

1.3. "I'm going to sit down to just dump my thoughts on a bit further future, because I'm starting to feel like I need to look for the next steps. And it might be that the configuration around the studio should be bigger I don't know, but that's what I'm going to, I have this intuition and I want to clarify that, so it can be that this configuration will be bigger in order to keep [name of the company] true to itself, to organize other impulses and that might be smaller agencies or not in other fields, that's what I'm looking into."

1.4. "The funny thing is for us that we are not saying let's innovate this, it's just well lets figure out how to do it and of course you make an excel sheet to put in the amount of subscriptions and the yearly fees and then see what happens whether you get a profit or not."

1.5. "There is a kind of innovation that, in order to keep [...] [name of the company] alive and kicking and get it into the best possible future, we have been looking into innovation and diversification, but without touching the cores of [name of the company] because we build around it. Of course, we also innovate within [name of the company], but that change is within the existing model of selling hours for clients that you manage to have."

1.6. "Meanwhile, with a lot of clients, there was a lot of problems because the process was not running smooth, operationally it was a mess, things were delivered

too late, the reliability of the operational side was very bad and the studio forgot a bit to make money, like it was really romantics of the ideas, which made it a great place, that's what made it big."

1.7. "We're not as a slave following the client, but everything we want to hear we always relate it to the client. What do they want, they don't want exactly what we do, but it's for their objective better so we finally got to the balance I think in a very very good way."

1.8. "And I think that also, something we had a lot of discussions when we were an industrial design company, on revenue systems, on changing our business model. And that's also something that, you see a lot of industrial design companies are struggling with that and you see a lot of hybrid business models."

1.9. "we have two business models. One is what we call the classical business model of contracts and development. So [company name] started as a design company in 1988 and then we worked 100% on the business model that we would find a customer that would commission us with a design question and we would earn money by making the design and selling the design to the company. That's what we call the first business model, the classical one. The second business model that we have is we use our design competence but also combine it with what we call market intelligence, so having knowhow about the markets and we see a business opportunity in that market and then we explore the business opportunity by doing development work, finding a commercial partner that actually is interested together with us in bringing this product in the market and then we supply the product to this commercial partner and then we earn back money by selling the product."

1.10 "The biggest bottleneck I still see is that you, to work in that way [disclaimer: the new business model], you already have to have that certificate of trust from the client, because otherwise, yeah, if you're new to the client and you sort of propose this intense way of working where the budget has a flux or a possible flux, I think that's [too much]".

1.11 "do we have suppliers that already deliver the parts, the type of technology that we would need for this new product. Do we already have suppliers for that? Do we have the knowledge in house. Do we have specifically for type 3 and 4 projects, can we build up our own IP or patent portfolio with it. Do we have enough management attention, because it, especially type 3 and 4, if you're going to build up a new company or make a joint venture that takes a lot of management attention, but not, basically only [name of the partner] and I and maybe our controller can do, but not other people of the company".

1.12 "And now actually we've built a second group of people who are running production. [...] In the beginning [we were] also asking people from the design area of business to take on parts which were more production related, etc., which they didn't feel comfortable with or they didn't think was as challenging as doing the design contracts. So it was actually pushing a little bit internally against what the culture of the company was, we had to change some of the culture and also get new people in who supported the choice".

1.13 "I use the 'F' word again but I hope now for the last time, f*** the clients [...]. If you're really talented and strong, like [us], you can make it successful and Quote I:

"And we're not that dependent on a customer that comes in and asks: ok I want to have this or, and that is what's always so nice here, that we have so many developers here. They always have bright ideas about products or markets or whatever we can go into. So then that really made a change".

Phase II: Development

2.0. "Basically it has meant that we have hired new people and we build a new organization so we have two business units, two competence teams in our organization, one is the development competence team and the second is what we call the operations competence team. And the operations competence team has been built after 2000. Before that we didn't have that."

2.1. "I think we have the basic matters quite well arranged with this financial legal organization management team member, we are actively stepping into actively managing our new business, or that's arranged as well that we have a, we are more predictable in the influx of new business"

2.2. "But actually we're not hiring so much expertise from outside. Most things we can do and some things, like we hire a photographer or a specific …or a copywriter or a specific building technique for a web site or an iPhone application, for example."

2.3. "We really thought we had to expand, become bigger because our knowledge of making more money was basically have more people because they can run more hours and that was the idea of growing. That didn't work out! It's easy to say but it's really hard to train people and to do business and how much time can you spend really educating people, that's difficult."

2.4. "Well a change that we made a little bit is that we still have the development and the production management side, or operation side, no matter how you call it. But now we also have like a team which is more busy with the new business development, but the team who are doing that are mainly [name of the person] and I and well the commercial team."

2.5. "Often we have interns and we school them ourselves internally so after they finish studies, they come and work here. They're really young and they have some space to grow and all that before they get real responsibility. This is of course always aimed for longer periods of time so I'm always really focused on a strong team that sticks together. In our case, we hardly work with freelancers, only on disciplines we don't have in-house like photography or copywriting. But on our own disciplines, I hardly do that."

2.7. "We now have in the management team since I think 6 months, someone that is completely responsible for finance, legal. But also in a way to organize the structural way of the company much more smart."

2.8. "So people are used to structure. We are very structured which I find always very important in creative work. There's always this fake idea that creatives are just like 'ooh' but I think to create better results, it should be really structured and this way you can be much more focused on detail and create complete projects that are really finished."

2.9. "We had a strategic choice to make the switch in about 2000, but the actual

change has been quite gradual. In 2000, we decided to make the switch and actually we had to build a competence because the competence of developing is one but you also need to build the competence of manufacturing and managing the supply chain, and so we've been developing that competence and taking more and more business cases where we earn money by sales of the product instead of selling the development."

2.10. "And in our business model we are also willing to guarantee that we will be successful, so they can understand that we promise to make that happen and that we also take the business risk for them. I think that helps companies to choose us."

2.11. "So we have discussions in our management team all these different models and also looked at what can we do to get more turnover, but also to get more margin, maybe even more important".

2.12. "What has changed is that we hired more people including an office manager, that really helps a lot in smaller assistant tasks and what we are looking for more now it has changed are senior people that means that senior people are more independent which means that my role as creative lead and I would say operations lead, or managing the company, can be more high level, because I can let go easier. So that has changed for us".

2.13. "What we sort of started doing is to get our point internally across by the change we want to make, and that sort of also gives rise to a lot of discussions and even emotions, but that sort of is also good, because it makes things clear and maybe also for some people sort of like whether this is the place for them or not, and it exercises your own brain, like when you are in a meeting you see new possibilities so you sort of see a broader range of answers you can give. And that's more that we sort of now came up with 9 propositions."

Phase III: Implementation

3.0. "We now we have the cost structures completely clear, we know our targets to the detail, so from looking back we got now to the point of looking forward with finance, also the way we organize responsibilities and the interaction of responsibilities which is the same as energies to be smarter about it."

3.1. "We want to get the hours more correct and that has very much to do with how you perceive your own financial situation and how you bring it across. With us, it's very often the project managers so I wanted to me more aware to talk out loud about bigger numbers, to think more in a hundred thousand, two hundred thousand instead of fifty thousand, eighty thousand, get your thinking going like that."

3.2. "So now I can have this development fee and we can just do it ourselves. And I don't need to ask for additional hours because also for me, I know when it's finished I get my royalty, which should be enough to cover the additional time."

3.3. "at some point we changed that, we said, "If we are investing with you, give me a share. Give me anything." but they very often said, "It's really cool what we're going to do. We've got no money of course, but it's really cool what we're going to do so invest your hours." And I don't know if that happens in a lot of industries but I have the idea that especially in creative industries because you are so at the start of something, they try all those tricks."

3.4. "If I look back in the business model that we had is that in the beginning we

were only a development agency and afterward we also started to do production. And that was not because we saw another company, well let's say a competitor doing that, but it was because we developed really successful products, but we only got paid the development project and we did not have any gain from the market success that the product had, but the market success was yeah because we developed such a successful product."

3.5. "A big part of our business now is doing our own projects, we invest ourselves and money when we're selling the product is that you have more control over the planning and timelines of your development team."

3.6. "And starting the business as an industrial designer, now I think of myself much more as a creative entrepreneur and I like to take up the challenge for change, and that's I think the real reason that we changed the business model. Actually, internally we had quite some resistance in changing the business model because most people, especially about 10 years ago, they worked with [company name] because we are a fairly good design company and they liked our design work."

3.7. "What we did last year is that we put on more market focus, from an originally we were more a design agency that did everything, well, depending on the criteria, but for every market and for all kind of customers and, but naturally we did a lot of care and cure products so we got more track record in that but still everybody could enter in that and now we're focusing more on medial cure, human care, and immobility and of course we still get customers that come to our door and ring the bell and want to have a product that is not within those market segments and then we still consider them, but if you look what kind of fairs we go to, what kind of like market development we do ourselves, that is only focusing on these three markets."

3.8. "I'll give you an example, it's also learning by doing, huh, you change the business model but you see also when you're doing it-to give you an example you also get kind of strange crossed opportunities, for instance in our supply chain we work with a Chinese motor company and we have been selecting this company thinking this could be a good company with whom we can build a long term relationship and we also need them for some of our medical products, we cannot use a standardized component but we need to have a special designed component. We've worked for some time with this company and they also respect us because they see that we are a skilled development company and they find out that okay, so we get more and more a preferred customer status."

3.9. " between now and a year we will have a person that is on the strategic level, so it's a kind of brand strategy but also has communication expertise to increase on that because now it's too much linked to me, so it's always dynamic but the principle is that we really want to stay true to what our core component is and that is creativity and design, but yes we are very well aware of the question at the side of the companies are much broader than just design, so also in our network we will look for more intensive relationships in disciplines that are connected to ours."

3.10. "And the smaller companies have been dropped because they have smaller projects, it's a lot of fun working with them but it's not as rewarding in the end as the bigger projects because we are more business focused in that way, we aren't focusing as much on projects with smaller companies or smaller projects."

3.11. "It's more that It's more an iteration process where you make some change, you look what the result is, but also you have constant changes in the external situation of course. So, well then you change a little bit again and look how that works out and what we try to do more nowadays is that we make a strategic plan, we try to stick to that so that we have for ourselves, but mainly also for the rest of the employees more a clear vision of where we are going."
3.12. "you're much more on a strategic level where you think with your clients as an advisor on what type of value proposition do we need to develop and value proposition is let's say something that contains, is build up from different elements, that together make this value proposition and these different element can be translated into processes, service processes and touch points, and it's much more about how to orchestrate customer experience over these touch points and to direct that whole process and not so much execute the design of those different touch points, so it's much more on this strategic level and consultancy level than the execution level."
3.13. "So that's partly what we do and partly it's very important to organize the process, the project management very well. It's just an operational answer that we really need, because clients are messy, understaffed, and in these days more than ever and they need to feel the trust that whatever messy way of working they have that we will solve it for them, so it's a process, it's the strategic analytical part and then in the end it's the creative answer of course. It's that kind, that's the blend basically."
3.14. "It's almost like upgrading our team rather than totally switching structure. So we are of course always restructuring things, like how to work more efficiently, or how you can say better no to clients, or do reports and all that stuff so I don't see that as that we are becoming more like the big agency. We were already very much focusing on structure, but we are
imposing the structure more on clients I think".
3.15. "For new business modeling you always start like in negative, because you need to do a lot of investment and then after some time you will start to earn. But you can grow very high".
3.16. "The risk is if you mess it up in [name of the unit operating with the new business model], then the priority can still be [unit operating with the old business model], but if you deliver bad quality and damage your relationship [with the client], it also affects [unit operating with the old business model]"

Chapter 4. Goal orientation and BMI: the relevance of environmental dynamism and the informational context

Abstract

When managers encourage the diffusion of learning orientation, employees are triggered to engage in innovative behaviors. On the opposite, when performance orientation is encouraged, conservative behaviors are preferred. These effects have been widely studied in the context of incremental innovation. In this paper, we focus on radical innovation processes, by exploring the connection between different goal orientations and business model innovation (BMI). We consider both external and internal contingencies to provide a complete overview: on the one side, we look at the dynamism of the environment; on the other side, we look at the internal informational context. We show that performance orientation and learning orientation might have different effects on radical innovation processes, if compared with incremental ones; moreover, the effects depend on the characteristics of the environment and on the degree of shared knowledge inside the company (knowledge of who knows what). Specifically, we show that learning orientation fosters BMI and the dynamism of the environment positively moderates this effect. Moreover we show how the level of shared knowledge in the company positively interacts with performance orientation on BMI.

Introduction

Research has shown that the engagement in innovative behaviors is prompted by the presence of certain goal orientations in the company (Hirst, Van Knippenberg, Zhou, 2009). Specifically, when managers promote learning in daily activities, company members are triggered to experiment and innovate (Bunderson & Sutcliffe, 2002), seeing the acquisition of new insights as a priority. On the opposite, when performance is considered as the main goal, innovation is not pursued, in order to avoid failure and escape risk (Dweck & Leggett, 1988). These results have been developed in the context of incremental product and service innovations. There is less clarity on the relationship between different goal orientations and radical innovation processes. It is worth to explore the topic because the effects of learning orientation and performance orientation might be different for radical innovation processes in comparison with incremental ones. In the first place, radical innovations are unpredictable and associated with a higher level of risk, if compared with incremental ones (Danneels & Kleinschmidt, 2001; Markides, 2006). Secondly, they are usually less structured and, as a consequence, associated with large room for agency by decision makers. Given these characteristics, the influence of goal orientation is more salient in comparison with incremental innovation. In fact, given the less structured nature, goal orientation might have a stronger influence in comparison with more structured processes, where the execution of specific procedures represents the crucial factor to influence the innovative outcome. Moreover, the presence of a greater amount of challenges might increase the motivating potential of goal orientation in comparison with incremental innovation contexts (Alexander & Van Knippenberg, 2014).

We build on most recent studies to bring more clarity on the topic, by specifically focusing on business model innovation (BMI) as radical innovative outcome. We explore the relationship between *learning orientation*, *performance orientation* and *business model innovation*, which has been partially addressed in recent studies on BMI (e.g. Chesbrough 2010; Mitchell & Coles, 2003; Sosna, Trevinyo-Rodriguez, Velamuri, 2010). Scholars explained that BMI entails the complete re-structuring of how value is created and captured (Amit & Zott, 2001) and this condition requires companies to engage in learning intensive activities, in order to gain the necessary knowledge to enhance change (Chesbrough & Rosenbloom, 2002; Osterwalder, 2004; Sosna et al., 2010). Building on this knowledge, we expect a positive effect of learning orientation on BMI. At the same time, the engagement into radical changes might lead to negative results on the short - term performance and companies might be hampered in the

innovation process, by considering these negative effects (Hill & Rothaermel, 2003). As such, we expect that highly performance oriented companies will be hindered by the possible negative performance results and will not engage in BMI.

Beyond the consideration of the main effects of learning and performance orientation on BMI, we also look at the contingencies that might influence the effects. In the first place, we introduce the environment as a moderating factor that can affect managers' efforts to stimulate innovation (Lee, Lee, Pennings, 2001) and influence the outcomes of their innovative strategies (Posen & Levinthal, 2011). We specifically look at the perceived dynamism of the environment, which might lead companies to re-consider their strategies through time. Indeed, those conditions allowing companies to survive in stable environments might contribute to inertia in turbulent and dynamic environments if managers do not implement appropriate strategies for handling the changes (Chesbrough, 2001). In dynamic environments, learning opportunities emerge constantly, increasing the opportunities to acquire and exploit new knowledge insights. Given their propensity to look for and absorb new insights, highly learning oriented companies are facilitated in detecting and absorbing the emerging learning opportunities in dynamic environments and exploit them to innovate their business model. On the opposite, performance oriented companies are not able to spot these learning opportunities and are also hampered by their low risk - taking attitude, leading them not to engage in the development of new business models by leveraging on new learning opportunities.

Beyond the influence of the external environment, companies are exposed to new knowledge insights also within their company. Specifically, the extent to which companies are able to locate knowledge insights among company members makes the use of knowledge more effective for the implementation of innovative processes (Faraj & Sproull, 2000). In order to address this issue, we include another moderator in our model, by specifically looking at the extent to which there is shared *knowledge of who knows what* (Richter, Hirst, van Knippenberg, Baer, 2012; Stasser, Vaughn, Stewart, 2000; van Ginkel & van Knippenberg, 2009). We specifically argue that the presence of high level of shared knowledge positively moderates the relationship between learning orientation and business model innovation, given that company members will be able to identify the specific sources of learning inside their company and therefore intensify the effectiveness of learning. At the same time, we argue that high level of shared knowledge can also lower the negative effect of performance orientation. The negative effects of performance orientation will be indeed counter-balanced by the high effectiveness in locating extant knowledge and leverage on it for innovating the business model. As such, the presence of shared knowledge will make company members more

confident on the possibilities to innovate the business model, lowering the high perception of risk which is generally associated with highly performance oriented companies.

Conducting our research on a sample of 177 creative companies operating in The Netherlands, as expected, we show that learning orientation positively influences the engagement in business model innovation. Differently from other studies on incremental innovation, we find that performance orientation is not correlated with the involvement in business model innovation. This finding opens new paths for research, showing that the consideration of the innovative outcome at stake is crucial when exploring the effects of companies' behaviors for enhancing competitive advantage through innovation. Finally, we show the existence of a positive interaction between learning orientation and environmental dynamism on BMI. In addition, we find a positive interaction of knowledge of who knows what and performance orientation on BMI. No interaction is found for environmental dynamism and performance; in addition, we do not find interaction between shared knowledge of who knows what and learning orientation. Through our findings, we bring important contributions to different streams of literature. At the same time, the lack of support for some of our hypotheses provides new opportunities to further explore the correlation between different goal orientations and BMI, as explained in the following sections of the paper.

In the first place, we contribute to business model innovation literature, providing a better understanding of the complex interactions among different companies' goals for the enhancement of competitive advantage through new business models (Chesbrough, 2010; Mitchell & Coles, 2003; Sosna et al., 2010). We specifically contribute to literature exploring the contingencies that might hamper or stimulate the implementation of new business models in established firms (Chesbrough, 2001). We focus both on internal and external contingencies, providing literature with a wide-ranging understanding. Overall, we explore how business model innovation can be considered a tool of creating value in times of change (Amit & Zott, 2010), highlighting how company goal orientations are affected by environmental contingencies and how they can be strengthened by the presence of high shared knowledge among company members. As such, we are able to provide business model literature with a comprehensive overview on internal and external antecedents for BMI.

In the second place, we contribute to literature claiming for a better theory for disruptive innovation (Markides, 2006), revealing that business model innovation needs specific consideration when exploring the triggers of innovative behaviors. We specifically highlight the multidimensionality of novelty (Rosenkopf & McGrath, 2011), showing that previous theories of innovation might need to be re-considered when business model

innovation is at stake. By addressing this issue, we respond to the recent call of considering both the mechanisms and the context of the innovative process (Lavie & Rosenkopf, 2006; Rosenkopf & McGrath, 2011) and we show that accepted wisdom on innovation might be contradicted for business model innovation (Markides, 2006). Specifically, we highlight that, once a company decides to innovate the business model, there might be several options to enhance it and create value from it, using a different set of strategies with respect to those adopted for incremental product or service innovation (Charitou & Markides, 2003).

Finally, we contribute to research on goal orientation, focusing on radical innovation processes, instead of incremental processes, as suggested by most recent studies on the topic (e.g. Alexander & Van Knippenberg, 2014). Building on previous studies, we consider both internal and external conditions that trigger or hamper the enhancement of the innovative process. For what concerns external conditions, we consider the effect of fast-changing (Eisenhardt, 1989) and dynamic environments, extending the boundaries of previous studies that have focused on more stable environment. The focus on business model innovation, which is strongly related to environmental conditions (Amit & Zott, 2008), allows us to show how the external environment and the perception of it can moderate the effects of learning and performance orientation. For the internal conditions, we consider the presence of shared knowledge, showing how it can affect learning and performance orientation, given the higher ability of company members to locate useful information if they know who to turn to for collecting new insights (Richter et al., 2012). In this way, we extend the findings of previous studies and we open new avenues of research for literature on goal orientation in the field of BMI.

In the remaining of the paper, we present our theoretical lens, we present our results and discuss the implications of our findings for both theory and practice.

Theory and Hypotheses

On the one side, scholars have widely analyzed the triggers leading companies to change their business models; on the other side, they focused on the problems that might prevent them from innovating (Tucci & Massa, 2013). Through different studies, these scholars explained that companies are triggered to introduce new business models by the decision to enter new markets where competitors have first mover advantage, when the current strategy is inappropriate and when they are trying to scale up a *new-to - the world* product (Markides, 2006). Moreover, it has been highlighted that the business model can be a

tool for testing the environment and the decision to innovate it might be driven by the willingness to understand which is the best strategy to address a changing environment (Voelpel, Leibold, Tekie, von Krogh, 2005). For what concerns the problems that might hamper BMI, scholars shown that the complexity of the innovative process, coordination issues with external actors and resistance from the institutional environment might prevent companies from innovating their business model (Chesbrough, 2001). Overall, both internal and external elements have been identified as triggering or hindering factors for BMI, stressing the importance of analyzing them in combination. As a consequence, scholars have recently started to explore how firm's strategies can be combined with the changes in the external environment for the implementation of new business models. In particular, research focused on the extent to which the efforts of managers to create a fertile climate for innovation can be empowered or weakened in combination with environmental dynamics. In this respect, it has been highlighted that the effort of managers to create a learning orientation climate is crucial for stimulating business model innovation (Chesbrough, 2010; 2007; Mitchell & Coles, 2004; Sosna et al., 2010). At the same time, it has been shown that the return on performance after the introduction of new business models might not be so evident in the short term (Desyllas & Sako, 2013). As such, despite the performance returns that BMI can bring in the long term (Amit & Zott, 2008; Voelpel et al., 2005), companies where managers drive their companies towards performance orientation might be resistant to innovate their business model, in order to avoid risk and failure in the short term. Introducing an environmental contingency perspective, scholars have also highlighted that these effects might be altered if companies have to face changes in the external environment. In fact, the system that ensures certain organizational outcomes in stable environment might have opposite effects if companies are confronted with rapid changes (Chesbrough, 2001). In this paper, building on previous studies, we address this issue by looking at the moderating effect of environmental dynamism on learning and performance orientation for the enhancement of BMI. We enlarge the perspective by considering internal contingencies that might strengthen or lower the effects of different goal orientation during BMI implementation in dynamic environments. We specifically focus on the extent to which there is *knowledge of who knows what* in the company (Richter et al., 2012), arguing that a better understanding of how to locate knowledge in the company can empower the effect of learning orientation on BMI and lower the negative consequences of performance orientation.

Learning orientation and business model innovation

Several studies showed that a climate of proactive learning is crucial to stimulate company's adaptability for handling multifaceted change processes (Argote, Gruenfeld, Naquin, 2001). Specifically, from extant literature, we know that when company's climate is characterized by high learning orientation, employees are more aligned on the steps needed for the implementation of innovative activities and the development of new goals and competences (Bunderson & Sutcliffe, 2003). As such, they will be more inclined to purse a higher number of new ideas that depart from current practices (Bunderson & Sutcliffe, 2002; Turner, Midgley, Meyer, 2002), being triggered by the positive reaction of managers to the suggestion of new insights. The relevance of learning orientation for the enhancement of innovative outcomes has been widely studied in the context of incremental innovations (Montoya-Weiss & Calantone, 1994) and more recently in the domain of radical innovations, highlighting similarities and differences between the two. Similarly to incremental innovation, scholars found that learning orientation has a positive effect on the implementation of radical innovation, given the higher willingness of learning oriented companies to accept the higher risks that radical innovation process entail (Alexander & Van Knippenberg, 2014). In addition to that, radical innovation offers more opportunities for learning (McDermott & O'Connor, 2002), which will be easier to be captured by learning oriented companies. Finally, these companies are also more inclined to search for feedbacks from peers in order to lower the complexity of the innovation process (vandeWalle & Cummings, 1997) and will effectively accomplish their goals. Business model innovation has been described as a radical innovation process (Christensen, 1997) and, as such, learning orientation assumes a crucial importance for its development. The positive relationship described above for general radical innovation processes can therefore be expected for business model innovation as well. This assumption is supported by the studies that have specifically focused on the relationship between learning and BMI, confirming previous findings for radical innovation and extending them. Specifically, recent studies shown that, when companies decide to implement new business models, managers are called to mobilize scarce resources, develop new competencies and promote a climate for change and adaptation (Sosna et al., 2010). As such, managers need to create an environment where employees are encouraged to proactively learn new knowledge insights in order to handle the complexity that business model innovation entails (Chesbrough, 2010). Moreover, as other radical innovation processes, business model innovation requires employees to share ideas in the initial stages of the development (Leifer, McDermott,

O'Connor, Peters, Rice, Veryzer, 2001), being stimulated by the goal of enhancing constructive consensus without being penalized for suggesting ineffective ideas. By operating in this organizational context, employees will aim at learning new insights for the development of new business models and adopt a trial-and-learning aptitude for the development of effective business models (Sosna et al., 2010). As such, we expect:

Hp 1: Companies with higher levels of learning orientation are characterized by a higher involvement in business model innovation.

Performance orientation and business model innovation

Research has shown that failure is seen as more negative and relevant for companies with high performance orientation, with respect to companies with high learning orientation (Farr, Hofmann, Ringenbach, 1993). As such, performance oriented companies adopt a defensive attitude, meant at the preservation of the current state, in order to avoid failure (Dweck & Leggett, 1988). This willingness to avoid failure does not encourage the development of innovative practices (Janssen & Van Iperen, 2004). Indeed innovation entails high degrees of uncertainty and results are usually unpredictable; therefore, focusing on existing practices guarantee higher chances to enhance performance, avoiding risk (Fisher & Ford, 1998). In addition to that, when performance orientation is high, employees tend to avoid deepening the analysis of new tasks and tend to focus on superficial processes (Elliot & McGregor, 2001), missing the necessary mastery needed for implementing innovative processes. If there is a radical innovation process at stake, the influence of performance orientation on the final enhancement of innovation becomes even more evident (Alexander & Van Knippenberg, 2014). In fact, radical innovation is more unpredictable and difficult to plan in comparison with incremental innovation and, as such, the guarantee to excel is extremely lower; as a consequence, high performance orientation will lead to a lower degree of innovation. Moreover, given the constant focus on performance to the detriment of learning and opportunity seeking behavior, high performance orientation will lead to look for easily reachable targets in the future (VandeWalle, 2003), decreasing the chances to enhance radical changes. If the radical innovation being implemented concerns the business model, the relevance of performance orientation becomes a crucial issue. Indeed many companies initiate BMI with the aim of enhancing performance, but the performance results of this innovative process might not be visible in the short term (Desyllas & Sako, 2013). As highlighted by

Markides (2006), the implementation of new business models entails indeed the inclusion of new customer targets and the introduction of new value chains, which might lower the opportunities for the enhancement of performance and therefore losing economic significance for established firms (Christensen, 1997). Moreover, business model innovation is a complex process with unpredictable results and it requires a deep knowledge of the underlining mechanisms in order to be successfully implemented (Chesbrough, 2007). These mechanisms might not be clear since the initial stages of the process and highly performance oriented companies might abandon the process for the lack of clarity on the outcomes that will be achieved. Given the above-mentioned issues, we expect:

Hp 2: Companies with higher levels of performance orientation are characterized by a lower involvement in business model innovation.

The interaction between environmental dynamism and learning orientation

Research has widely confirmed that learning abilities of companies are crucial for enhancing innovative performance, especially in dynamic and fast paced environments (Edmondson, 2002). Indeed, with high environmental dynamism, the pressure for change is higher and new learning opportunities emerge constantly (Huff, Huff, Thomas, 1992). Opportunities are more abundant compared to stable environments and companies with a high inclination to leverage on new chances and learn from them will be facilitated in enhancing innovation and performance (Wiklund & Shepherd, 2005). Companies that are oriented to learn can indeed leverage on new opportunities and exploit the external dynamism to extend the boundaries of their innovative activities. In less dynamic environments, the constant focus on learning might instead lead companies on overemphasizing the development of new activities, compromising the current routines, which have been crucial in the past (Bunderson & Sutcliffe, 2003; March, 1991; Posen & Levinthal, 2011). In fact, as shown by previous studies, conditions that allow companies to survive in stable environments can lead to inertia and inefficiencies in fast-changing environments (Chesbrough, 2001). This perspective is grounded on literature exploring the framework of environmental contingency, which suggests the existence of a correlation between the relevance of certain company characteristics and the configuration of the external environment (Davis et al., 2009). This issue has been recently explored in business model innovation literature, suggesting that the

ability of companies to learn new knowledge is especially crucial under conditions of high turbulence in the environment (Sosna et al., 2010). In highly turbulent environments, the life cycles of business models are indeed shorter (Hamel, 2000; Wiklund & Shepherd, 2005) and high learning orientation can facilitates companies in learning and absorbing new knowledge from upcoming environmental conditions. Company members can indeed understand when it is the right moment to shift to a new strategy, by making sense of the environmental challenges (Pearce & Conger, 2003) and highlighting the elements that might impede the realization of the innovative process (Hackman & Walton, 1986). Overall, the dynamism of the environment might therefore provide a fertile ground for the exploitation of companies' learning ability, stimulating additional opportunities to introduce innovative ideas if compared with more stable environments. As such, we expect:

Hp 3: Environmental dynamism positively interacts with learning orientation on BMI.

The interaction between environmental dynamism and performance orientation

In dynamic environments, business opportunities disappear at a fast pace (Eisenhardt & Sull, 2001) and the amount of time that companies can spend in considering them is low. As such, decisions have to be made quickly, in order not to miss the frequent upcoming opportunities (Kirzner, 1997). The limited amount of time generates high difficulty in predicting the returns of business opportunities, especially for what concerns innovation investments (Posen & Levinthal, 2011), the predictions of which are frequently wrong (Porter, 1985). Moreover, companies only have partial information to make decisions (Miller, 2007) and the available information might not be sufficient to understand if the innovation will be successful for enhancing performance. As such, it is not unlikely that firms aimed at enhancing financial performance will adopt a *wait-and-see* aptitude, waiting competitors' moves before engaging in innovative behaviors (Zhou, 2006). It can be assumed that his aptitude might be extremely frequent for performance oriented companies, which are not inclined to take risk and to pursue uncertain opportunities (VandeWalle, 2003). Indeed, as explained, they focus on specific and delimited goals, which allow enhancing final results with low risk and the chance of failure is low (Dweck & Leggett, 1988). The focus on low risk goals is in contrast with the uncertain characteristics of dynamic environments. Therefore, performance oriented companies will be penalized in this kind of environment; indeed they will not be able

to engage in innovative activities because of the difficulty to combine their cautious strategies with the high velocity of the environment. Moreover, the lack of focus on learning-*favouring performance* - will cause a lack of skills for handling the unexpected situations and turbulence that dynamic environments entail. Overall, performance oriented companies will not be able to exploit the opportunities emerging in the changing environment and will suffer from lock-in their current practices (Hirst et al., 2009). As such, the negative effect of performance orientation on innovative outcomes will be strengthened. Moreover, *(1)* the difficulty of predicting the outcomes of innovative process within dynamic environment and *(2)* the need to quickly catch upcoming opportunities become extremely salient when the innovative process at stake is complex and radical, as in the case of business model innovation. Indeed the returns of radical innovation processes are even more uncertain in a dynamic environment, with respect to a stable context, and the focus on performance instead of learning might create inertia and lock in current practices. Moreover, anticipating competitors on the adoption of a new business is crucial and might represent a necessary condition for survival in the industry (Chesbrough & Rosenbloom, 2002). As such, we expect:

Hp 4: Environmental dynamism negatively interacts with performance orientation on BMI.

The interaction between knowledge of who knows what and learning orientation

The informational resources context where ideas develop has been shown as crucial for understanding how individuals and companies enhance their goals (Richter et al., 2012). More specifically, it has been shown that being aware of who knows what inside the company make it easier for company members to locate where the relevant insights are and to identify the most crucial actors to get these insights when needed (Faraj & Sproull, 2000; Richter et al., 2012). When this happens, company members are more effective in reaching other actors in the company in order to ask what they need and make the relevant knowledge flow in the environment. As such, this knowledge will be faster and more easily utilized for the development of the projects that are planned in the company and that require the combination of different internal skills and insights. Overall, based on past research, we can therefore affirm that the context where individual actors interact is influential for the completion of their ideas; indeed the awareness of how to access relevant information will facilitate individual creativity and related innovative solutions. Moreover, knowing who knows

what, will make it easier to understand the diversity of the knowledge base in the company. Diversity is a crucial element for developing innovative ideas (Phelps, Heidi, Wadhwa, 2012) and being aware of it within the company will facilitate the combination of mixes for accomplishing new projects.

The influence of the informational context has been specifically highlighted for innovation processes that require different kinds of information in order to be accomplished (Björk & Magnusson, 2009). It has been proved that the presence of shared knowledge allows learning to be more effective, because it keeps acquired knowledge relevant and constitutes reference for the future (Lukas, Hult, Ferrel, 1996). Given the presence of shared knowledge, the loss of information is less likely and therefore knowledge utilization is facilitated (Calantone, Cavusgil, Zhao, 2002). These elements are particularly important in the case of business model innovation, which concerns the company as a whole and it is therefore dependent on the shared use of information concerning different departments and the openness to learn new insights from company members belonging to separate domains. Extant studies on BMI have specifically highlighted that the learning process to develop new business models derives from a continuous interaction between individual and collective levels of information (Sosna et al., 2010). This interaction has been described as crucial for determining the success of BMI initiatives, because it allows to direct knowledge toward the most effective directions and generate knowledge sharing among company members belonging to different fields. As such, being aware of where to search for having information-at the individual and the collective level-becomes crucial to effectively innovate the business model because it facilitates the learning process, making the implementation of BMI more effective and faster. As such, we expect:

Hp 5: Knowledge of who knows what positively interacts with learning orientation on business model innovation.

The interaction between knowledge of who knows what and performance orientation

As explained, performance orientation has a negative influence on innovative processes because it leads managers to avoid initiatives with high levels of risk, which can hamper performance (Janssen & Van Iperen, 2004). Performance orientation can be especially negative for radical innovation processes as business model innovation, given the high level of

uncertainty and therefore the intrinsic risk perceived by company members and decision makers. Moreover, high performance orientation indicates the desire to show competences and avoid negative demonstration of competence (Schmidt & Ford, 2003). As such, it usually leads to a lower involvement in radically new activities where a lack of competences might be easily shown when facing new tasks for the first time. As in the case of learning orientation, the informational context can influence the effect of performance orientation on innovative behaviors. In this respect, we argue that the fact of having knowledge of who knows what in the company, can give company members higher self-confidence and therefore lower the concern of showing negative competences when performing a new task. Company members would indeed be informed of the knowledge that is present in the company and it would be easier for them to transform this knowledge into capabilities and skills useful to perform new tasks. Overall, recognizing that the company possesses the necessary knowledge to perform a task, will encourage organization members to try new assignments (London & Smither, 2002), combining the caution deriving from performance orientation with the safety given by knowing where to find relevant information. As such, we expect a positive effect of the combination between performance orientation and KWKW:

Hp 6: Knowledge of who knows what positively interacts with performance orientation on business model innovation.

Methodology

Setting and data collection

The Dutch creative industry is a relevant context to study business model innovation. Indeed, the creative industry is characterized by the constant emergence of new market trends; as such, creative companies are called to develop effective strategies to capture these trends and implement new business opportunities for the enhancement of competitive advantage. Specifically, three main trends have recently reshaped the majority of creative sectors: the competitive boundaries are being re-defined (Hirsch, 2000), the introduction of new technologies occurs at increasingly faster rates and the financial crisis obliges companies to adopt and implement new courses of actions (Hartley, 2005). Therefore, creative companies are re-orienting themselves towards the implementation of new business models, in order to

face the revolutionary changes that are taking place in the industry. These characteristics make our empirical context extremely relevant for studying business model innovation in dynamic and fast changing environment.

Moreover, the balance between learning and performance issue is crucial in this industry. Indeed, on the one side, creative companies are mainly driven by creative goals and they are dependent on creativity and continuous learning and innovation (Hirsch, 2000). On the other side, the changes brought by the economic turbulent conditions have led creative companies to re-think the ways used to monetize on creativity and to find a sustainable equilibrium between artistic goals and performance, ensuring company's survival. As such, our main constructs of interest for explaining differences in BMI (*learning orientation and performance orientation*) can find a fertile context to be studied in the creative industry.

For the realization of this study, we delivered a survey to different sectors in the creative industry in The Netherlands. Specifically, three sectors were covered: architecture, design and gaming. With the goal of maximizing the response rate, we followed several procedures suggested by Dillman (2000) and Dillman and Bowker (2001) and we adjusted them to the specific needs of our respondents. In the first place, companies received an email from the chair of the different branch associations, presenting the research and providing all the relevant information about the steps we would have gone through. In the second place, researchers have participated to numerous industry events in order to present the research. Surveys were then sent to companies' addresses, accompanied by a presentation letter. Two surveys were included in the envelope received by companies: one survey for the CEO of the company and one survey for a colleague. Sending two surveys per companies allowed us to control for common method bias, as it will be explained in the following paragraphs. In the presentation letter, it was explained that the survey could be filled in two ways: by sending back the paper version received by post, or online, through the use of a unique identification code. Phone calls were used to stimulate the participation in the research. In total we received 177 responses from the first survey (for the CEO) and 109 responses from the second survey (for one colleague). The number of surveys (from CEOs) used in the regression model is 123, because 54 surveys had missing information. Data from the surveys were combined with publically available information (i.e. national databases, company website, newspapers).

Measurement

Learning orientation. We measured learning orientation adapting the scale by Bunderson and Sutcliffe (2002). The adaptation led to adapt different items from the individual to the company level, following the procedure already implemented in other studies where individual items where changed to team or group level constructs (e.g. Porter et al., 2010). Specifically, we asked to rate the extent to which the five items reflected company's climate on a scale from 1 to 7 (*Cronbach's alpha =0.83*). Sample items are: *In our company we: 'look for opportunities to develop new skills and knowledge'* and *'likes challenging and difficult assignments that teach new things'*. Items were averaged to create a single variable (*mean* = 5.67, *Standard deviation* = 8.81, *S.E.* = 0.07).

Performance Orientation. The adaptation from the individual to the company level was implemented for performance orientation as well, as in the case of learning orientation. We adapted the eight items scale by Van Yeperen and Jannsen (2002), asking respondents to rate them on a scale from 1 to 7 (*Cronbach's alpha =0.87*). Sample items are: *We, as a company, feel more successful if: 'We are the best in the market'* and *'Others cannot do as well as we do'*. Items were averaged to create a single variable (*mean* = 5.17, *Standard deviation* = 0.1, *S.E.* = 0.08). .

Environmental dynamism. We measured environmental dynamism by using the original five-items scale by Dill (1958), subsequently used in the most recent studies (e.g. Jansen et al., 2006). This scale is aimed at asking respondents the extent to which they perceive the dynamism in the environment and is therefore used to assess how dynamic the environment is. Respondents rated the five different statements on a scale from 1 to 7 (*Cronbach's alpha =0.8*). The items were averaged in order to create a single variable (*mean* = 4.44, *Standard deviation* = 0.72, *S.E.* = 0.06).

Knowledge of who knows what (KWKW). The scale was taken from Richter et al. (2012) (*Cronbach's alpha = 0.95)*. The scale has three items, rated on a scale from 1 to 7. The items were averaged in order to create a single variable (*mean =5.58* , *Standard deviation* =1.1 , *S.E.* =0.09). The three items were: *"If I need to get expertise on a certain issue, I know exactly who to turn to in this team"*; *"I know which team members have expertise in specific areas"* and *"I have a good understanding of 'who knows what' in this team"* .

Business model innovation. We developed a new scale for the measurement of business model innovation (*Cronbach's alpha =0.86*). The scale consists of 6 items that respondents rated on a scale from 1 to 7. Sample items are: *'Our organization frequently adopts new ways to deliver customer value'*, '*We experiment with new business models in local markets'*. Items were

averaged to create a single variable (*mean* = 3.82, *Standard deviation* = 1.16, *S.E.* = 0.1). In addition to this measure, we also developed another scale, focusing on a smaller number of items. Based on the definition by Teece (2010), we considered cost structure, revenues system and value proposition for customers as constituent elements of the business model. As such, we asked respondents to rate (from 1 to 7) the extent to which these elements are considered to be innovated by the company. The two measures were highly correlated. ($r=0.53$; $p<0.05$). We repeated the analysis with the variable including three items and we found the main effects for learning orientation and dynamism and, as in the main model, we did not find correlation between performance orientation and BMI. However, we did not find the interaction between learning orientation and business model innovation.

Assessment of common method bias

As explained, we delivered two copies of the survey to each company, in order to check for common method bias. We assessed inter-rater reliability for the cases where we had two responses for our dependent variables. The Intraclass Correlation Coefficient showed high reliability among raters (Shrout & Fleiss, 1979). The ICC was 0.34 for business model innovation measured with the 6 items scale and 0.31 for the scale with 3 items. Having a fair ICC for the dependent variable (measured in two different ways) led us to exclude the presence of major issues for common method bias. In addition to that, the high correlation between the two measurements of BMI supported the validity of our model, excluding problems of common method bias. We also tested ICC for performance orientation (ICC = 0.33), learning orientation (ICC=0.49), dynamism (ICC=0.19) and knowledge of who knows what (ICC = 0.47). For dynamism, we found a low level of agreement. However, this fact did not represent a concern, given that we were aware of the fact that managers were more knowledgeable about this variable in comparison with other members of the company. Secondly, we conducted a Harman's one factor test (Podsakoff & Organ, 1986) for business model innovation, learning orientation, performance orientation, environmental dynamism and KWKW. The first factor explained only 24% of the variance, confirming the validity of our constructs. Third, we performed a confirmatory factor analysis on all the items of business model innovation. The analysis gave acceptable indices for the goodness of fit: Chi-square/df = 4.9 ($p<0.10$), comparative fit index CFI = 0.96, root mean square error of approximation (RMSEA) =1.21 ($p<0.05$).

Control variables

Our first control variable is *firm's size* (*Mean= 9, Standard deviation = 15, S.E. = 1.23*). Indeed big firms might experience more favourable conditions for the innovation of the business model since they have access to a higher number of resources to face this process. We calculated the size of firms taking the natural log of the number of employees. In addition to that, we used the *age* of firms (*Mean = 15, Standard deviation = 10.73, S.E. = 0.87*), taking the natural log of the number of years since the company was founded. We included age as control variable since companies with more experience might have developed a higher level of skills that would allow them to easily engage in business model innovation. We also considered resources availability (*scale adapted from* Choi & Chang, 2009), given the fact that the availability of resources can influence the ability of companies to engage in innovative behaviors. Finally, we included internal cognitive diversity, controlling for the fact that, for companies with a more diverse internal environment, might be easier to innovate their business model, given the higher opportunities to combine novel and diverse insights. In order to do so, we adapted the scale of cognitive complexity by Van der Vegt and Janssen (2003).

Analytical approach

We used hierarchical multiple regression analysis to test our hypotheses. This approach is meant to compare different alternative models. Before running our models, we standardized *business model innovation*, *learning orientation*, *performance orientation, KWKW* and *environmental dynamism* (Aiken & West, 1991). Additionally, we performed several regression diagnostics to test the validity of our modelling assumptions. We assessed the variance inflation factor (*VIF*) and we did not detect multicollinearity problems (VIF < 4.7; tolerance > 0.21).

Results

Descriptive statistics

On average, companies have been operating for 15 years (*Standard deviation = 10.73, S.E. = 0.87*) and the average number of employees is 9 (*Standard deviation = 15, S.E. = 1.23*). Significant and positive correlation exists between business model innovation and learning orientation (r=0.34; p< 0.05), business model innovation and environmental dynamism (r=0.49; p< 0.05) and KWKW and learning orientation (r=0.33; p < 0.05). Correlations are reported in Table 4.1.

Table 4.1: Correlation Table

	Variable	Mean	Std. Dev	Min	Max	1	2	3	4	5	6	7	8	9
1	BMI	3.81	1.16	1	6.83	1								
2	Firm age	15.62	11.12	1	58	-0.12	1							
3	Firm size	9.06	16.41	1	163	-0.05	0.50*	1						
4	Learning orientation	5.67	0.84	2.00	7.00	0.34*	-0.07	-0.13	1					
5	Performance orientation	5.17	0.94	2.00	7.00	0.16	-0.04	-0.13	0.44*	1				
6	Dynamism	4.44	0.75	2.00	6.00	0.47*	-0.02	-0.03	0.46*	0.27*	1			
7	KWKW	5.58	1.1	2.00	7.00	0.14	-0.09	0.04	0.33*	0.30	0.24*	1		
8	Internal diversity			8.00	28.00	0.08	0.14	0.12	0.04	0.07	0.04	-0.13	1	
9	Resource availability			1.25	6.00	-0.05	0.18	0.17	0.02	0.03	0.01	-0.04	-0.12	1

Hypotheses testing

In Table 4.2 we presents the models used to test our four hypotheses. Model 1 only includes the control variables (firm's size, firm's age, internal diversity and resource availability). These variables are not correlated with our dependent variable business model innovation. In Model 2, we include the two independent variables: learning orientation and performance orientation. As hypothesized in Hypothesis 1, we find a positive relationship between learning orientation and business model innovation ($\beta = 0.32, p < 0.001$). This finding confirms our hypothesis on business model innovation. At the same time, it also confirms past studies in product and service innovation, finding a positive relationship between learning

orientation and the engagement in innovative behaviors. Surprisingly, we do not find the expected negative relationship between performance orientation and business model innovation (*ß =0.01, p = n.s.*), as hypothesized in Hypothesis 2. This finding is unexpected and open new paths of research, given the difference with respect to past studies on other typologies of innovation; contrarily to these studies, we do not find a negative relationship between the two constructs. The implications of this result are presented and discussed in the Discussion Section. In Model 3, we add the main effect of environmental dynamism and of KWKW. We find a positive effect of environmental dynamism on BMI (*ß =0.38, p < 0.001).* This positive effect was not part of our hypotheses, but it definitely brings interesting considerations, which can contribute to the environmental contingency perspective on innovative behaviors. Indeed it shows a strong effect on environmental characteristics on business model innovation. In Model 3, it can also be observed that learning orientation loses significance and the effect becomes smaller in comparison with Model 2 (*ß =0.13, p = n.s.).* We speculate on this result in the Discussion section. In Model 4, we add the moderation of environmental dynamism and we observe that there is a positive moderation of *learning orientation * environmental dynamism* on business model innovation (*ß =0.21, p < 0.05*). Moreover, the effect of learning orientation is positive and significant (*ß =0.28, p < 0.01*), as the main effect of environmental dynamism (*ß =0.36, p < 0.001).* As such, our hypothesis (*Hypothesis 4*) on the positive moderation of environmental dynamism on the relationship between learning orientation and business model innovation is confirmed. In addition, the effect of learning orientation on BMI increases, supporting the idea that this kind of goal orientation becomes more salient in dynamic environments. The hypothesis of a negative moderation *performance orientation * environmental dynamism* is not confirmed; indeed we do find a negative moderation, but it is not significant (*ß = -0.15, p = n.s.*). Some possible explanations of the lack of support for our hypothesis are provided in the Discussion Section and in the Limitations section. We also find a positive moderation *performance orientation * KWKW* (*ß =0.23, p < 0.05).* We do not find support for Hypothesis 5. Indeed we find a negative moderation of *learning orientation * KWKW*, which is not significant *ß = - 0.15, p = n.s.).* We speculate on this result in the section of Limitations and further research. The significant moderations are shown in Figure 4.1 and 4.2. Overall, with the inclusion of the moderation, the adjusted R^2 goes from 0.21 to 0.27 (*p < 0.05*).

Table 4.2: Regression results

	Model 1	Model 2	Model 3	Model 4
Control variables				
Company Age	-0.21 (0.13)	-0.16 (0.13)	-0.14 (0.12)	-0.11 (0.12)
Company Size	0.04 (0.09)	0.02 (0.10)	0.004 (0.09)	0.015 (0.09)
Resource availability	-0.008 (0.09)	-0.015 (0.10)	-0.02 (0.08)	-0.06 (0.08)
Internal diversity	0.16 (0.09)	0.092 (0.10)	0.09 (0.08)	0.12 (0.08)
Independent variables				
Learning orientation		0.30* (0.09)	0.13 (0.10)	0.28* (0.10)
Performance orientation		0.097 (0.10)	-0.03 (0.09)	-0.10 (0.10)
Moderators				
Knowledge sharing (KWKW)			0.03 (0.09)	0.019 (0.09)
Dynamism			0.38* (0.09)	0.36* (0.09)
Interaction effects				
*Learning orientation*KWKW*				-0.1503 (0.11)
*Learning orientation*Dynamism*				0.2138* (0.10)
*Performance orientation*KWKW*				0.2280* (0.11)
*Performance orientation*Dynamism*				-0.1460 (0.11)
Constant	0.47	0.39	0.36	0.21
Observations	123	123	123	123
R squared	0.04	0.14	0.26	0.34
Adjusted R squared	0.01	0.09	0.21	0.27

Standard errors in parentheses

Figure 4.1: Interaction learning orientation * Dynamism

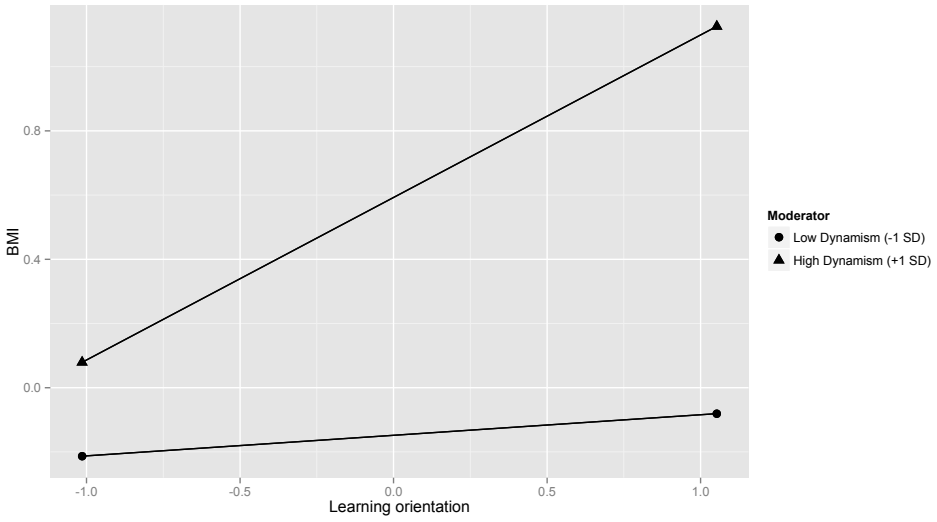
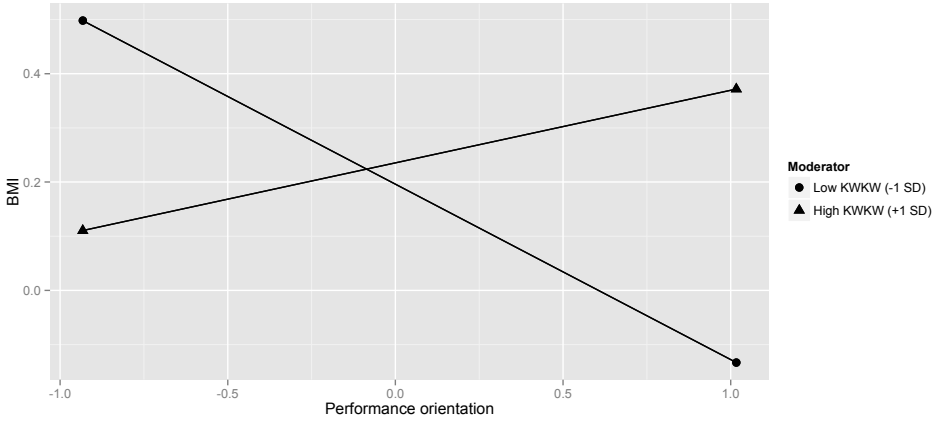


Figure 4.2: Interaction performance orientation * KWKW



Discussion and conclusion

In this paper, we addressed the influence of learning orientation and performance orientation on business model innovation, differently from previous studies that focused on product and service innovation. We also included a contingency perspective in our model, showing how environmental dynamism and the informational context (*knowledge of who knows what*) affect the relationship between goal orientation and BMI. Our results inform us that learning orientation is positively correlated with the involvement in BMI and environmental dynamism positively moderates this relationship. Moreover, we find a direct positive relationship between environmental dynamism and business model innovation. We do not find the hypothesized negative relationship between performance orientation and BMI. We also find a positive moderation of shared knowledge of who knows what (KWKW) and performance orientation on BMI. We do not find the interaction between learning orientation and KWKW on BMI. Our findings bring light on the need to distinguish among different typologies of innovation (Markides, 2006), confirming that existing theories developed in innovation literature might have to be re-considered if the innovative outcomes is radical and complex as in the case of business model innovation. Indeed we do not find confirmation for established relationships in product and service literature, such as the negative influence of performance orientation on innovative outcomes. Moreover, we confirm the importance of considering the external environment when drawing conclusions on companies' goal orientation (Alexander & Van Knippenberg, 2014) for the enhancement of innovative outcomes. Finally, we show how the availability of information can influence the effects of goal orientations.

These findings are primarily interesting for business model literature. Specifically, we contribute to studies looking at the triggers and obstacles influencing established companies for the innovation of their business models (Chesbrough, 2001), exploring the influence of goal orientations (*learning and performance orientation*) in combination with changes in the external environment and with the informational context in the company. Some of the companies in our sample are young companies, but the majority of them are already operating in the industry since a relatively long time; as such, these companies might experience the difficulties characterizing established companies during moments of turbulence (Chesbrough & Rosenbloom, 2002), given the difficulty of implementing radical changes for established players. In our study, in order to survive the crisis, the companies in the sample are required to change their business model, implementing radical changes, which are widely influenced by

the perceived dynamism in the external environment. Indeed we find a strong correlation between the dynamism in the environment and the involvement in BMI, showing that the more the environment is dynamic, the more companies will be prone to change their business model. Moreover, we explain that, environmental dynamism positively moderate the relationship between learning orientation and the innovation of the business model. As such, we highlight the relevance of learning orientation for capturing opportunities in the industry of belonging.

Moreover, we confirm that, when exploring BMI, scholars should re-consider of previous theories on innovation (Markides, 2006), when drawing conclusions on the effectiveness of different antecedents of innovative behaviors. Our study specifically shows that the innovative outcome at stake influences the effectiveness of company's goal orientation. Indeed, differently from numerous studies on product and service innovation, we do not find a negative relationship between performance orientation and the engagement in innovative behaviors-*i.e. business model innovation*. This result might be explained by the nature of the business model innovation process: companies might be aware of the fact that the introduction of a new business model cannot bring performance in the short term (Desyllas & Sako, 2013), given its radical consequences and the shock it brings to the company. As a result, companies do not consider performance issues when implementing decisions for new business models, paying less attention to performance orientation. They might consider other positive consequences, such as cost reduction or strategic flexibility after the introduction of the new business model. It would be interesting to repeat our analysis in different points in time, in order to capture possible changes in the results. Another possible explanation might be given by the trends that characterize the Dutch creative industry when we conducted our study. Because of the financial crisis, companies were forced to change their business models; as such, managers might have given more importance to survival, avoidance of bankruptcy or continuation of the business, instead of considering performance when changing the business model. Both explanations appear reasonable to the authors and might also be correlated. However, independently from the explanation, our findings confirm that the dynamics behind the implementation of new business models might be completely different from the mechanisms leading CEOs to introduce new products and services (Pohle & Chapman, 2006) and current wisdom on innovative processes might be revised when BMI is brought into the discussion. Interestingly, we find a positive moderation of shared knowledge of who knows what and performance orientation on business model innovation. This effect might be explained by the fact that the awareness of knowing where to find the necessary information gives companies the safety to engage in new projects, which, on the opposite, might be low in

case of highly performance oriented companies that do not want to take excessive risk. At the same time, we can also affirm that the combination of the caution given by performance orientation and the confidence given by the awareness of existing knowledge constitutes a powerful solution for safely engaging in BMI.

Finally, some of our findings can contribute to the discussion among scholars focusing on the relationship between different goal orientations and innovative behaviors. As suggested by the recent study by Alexander and Van Knippenberg (2014), the effects of goal orientation might be different if we consider radical innovation outcomes. Moreover, it is also important to consider the environment where companies innovate and other contingencies (Bunderson & Sutcliffe, 2003), such as the organizational context. In our study, we bring a better understanding to this issue, focusing not only on the organizational environment, through the informational context, but also on the external environment, which plays a crucial role in determining the effects of company's strategies to enhance innovation (Posen & Levinthal, 2011). As such, we are able to show how the availability of information inside the company and in the environment both contribute to business model innovation. Overall, we hope that these insights can be useful to continue the discussion on the contingencies that might affect the relationship between different goal orientations and the engagement in innovative behaviors.

Implications for practice

Beyond the theoretical contributions explained above, we believe that our study might have important implications for practice. The relevance of business model innovation is increasing over time in different sectors; in the majority of cases, managers are called to make decisions in a fast manner in order to innovate their business model, without having time to think about the consequences of their actions. With our study, we provide managers with an overview of the strategies they should focus on in order to prepare their companies for implementing BMI. We highlight the importance of triggering their employees to be always ready to learn-*being learning oriented* - and absorb new insights. As such, they might be able to make sense of the trends in the environment and take effective steps to innovate the business model. Concerning the environment, we inform managers of the crucial important that the dynamism has on the extent to which companies are engaged in BMI. This result might already be known to managers; what we add, it is a set of guidelines on how to *seize the environment*, through learning orientation and the risk taking that it involves. We also show the

importance of creating an environment where employees are aware of existing knowledge inside the company and, as such, it is easy for them to collect the information they need to innovate. This awareness might indeed be useful to create intra-organizational confidence and trigger employees to take risk by implementing radical innovation processes.

Moreover, we inform them that what they know about the effect of certain strategies on product and service innovation might work for business model innovation as well, but might also be contradicted. As such, managers might think to develop specific task forces for implementing strategies for BMI, with dedicated competences and specific task requirements. This strategy might help them to understand similarities and differences between business model innovation and other innovation processes developed in the past. This would lead to better decision processes, guiding them to understand the extent to which they can leverage on previous knowledge or instead develop new specific skills and strategies for business model innovation. In a single sentence, we warn managers that the 'mould' that they used in the past for enhancing successful product and service innovations might have to be renewed when innovating the business model.

Finally, we also inform managers of the possibility that the dynamism in the environment might overwhelm their efforts to promote learning in the company. Our suggestion in this respect would be to find a way to balance the learning orientation with other *buffering* strategies to protect themselves from invasive consequences of environmental dynamism. Specifically, they could leverage on their learning orientation in order to trigger employees to develop new competences for the business model and also to be constantly updated on changes in the environment, monitoring how competitors react to shocks and learn from them. Especially in the case of established companies, this issue might be particularly useful in order to address the shocks that might shake the stability acquired in the past and vanishing the effort of managers to promote learning and creativity though time.

Limitations and further research

We are strongly convinced of the contributions of this study for theory and practice; however, we are also aware of the limitations it entails. In the first place, we worked on cross-sectional data; as such, we cannot claim causality in our results. As a consequence, we can only limit ourselves to highlight correlations among our variables. Working on cross-sectional data is also limiting us in possible concerns that might be raised on endogeneity issues. In this respect, with the aim of testing the correctness of our assumptions for formulating the

hypotheses, we relied on the field notes and the interviews we collected before the delivery of the survey and also during its administration. In this way, we were able to understand how managers consider the relationship among different constructs (*e.g. if they think that business model innovation is stimulated by learning orientation-as we hypothesize - or if learning orientation increases when companies innovate their business model*). From our field notes, we confirmed the rationale used to formulate our hypotheses. The fact of relying on cross-sectional data led us to reflect upon another aspect: business model innovation is a radical process which entails complete restructuring in the company; as such, its effect might be different through time. Therefore, it would be extremely interesting to work on longitudinal data in order to empirically test this assumption. Moreover, having data in different points in time we would also be able to check if the lack of support for hypothesis 2 is confirmed or changes through time.

In the second place, we relied on self-reported measures on environmental dynamism. As explained in the previous sections, we are confident that this measure reflects reality; at the same time, we acknowledge that having a direct measure of environmental dynamism in the industry might strengthen the validity of our model. However, collecting objective data about the environment in the creative industry might present several difficulties, given the lack of publicly available data on technology change, market restructuring and switches in customers' base in creative sectors. In this respect, we are willing to devote additional efforts to develop a more objective measure of dynamism in this industry, opening new research possibilities in our research and for scholars interested in the exploration of this theme. Moreover, the construct of environmental dynamism also raises other questions. Specifically, we found a main effect of environmental dynamism on business model innovation. After the inclusion of dynamism in the model, the effect of learning orientation is strongly lowered and it loses significance. As such, we investigated the reasons that might be behind this effect. As explained, we used a self-reported measure of environmental dynamism; as such, it can be considered as the perceived dynamism by the respondent. Starting from this assumption, we explored the presence of a possible mediation of dynamism on learning orientation, hypothesizing that a higher learning orientation might lead companies to be more alerted toward the external environment and therefore to perceive higher dynamism. Comparing different models, we actually found the presence of this mediation effect, and we are willing to further investigate this issue and explore the relationship between these constructs. We also encourage scholars to deepen the understanding of how environmental dynamism influence business model orientation, in combination with different company goals. Other issues are raised by the lack of support for the moderation of learning orientation and KWKW on BMI. In our model we find a negative moderation that is not significant. We

cannot find a theoretical explanation for this finding, but the topic could be further explored by analyzing the specific knowledge that is shared and easily available within the company. As such, it might be possible to explore if different kinds of knowledge have different moderating effects if combined with learning orientation. At the same time, it could be possible to explore different methodologies for measuring the availability of knowledge and the awareness of company members about this knowledge.

In the third place, we acknowledge that further research can be done in order to address the lack of support for our hypothesis 2. As explained in the previous paragraphs, we suggest scholars to test our hypothesis using longitudinal dataset. At the same time, we recognize that the inclusion of additional variables in our model might represent a point of strength to increase validity and reinforce our findings. For example, in the next studies, managers might be asked to rate the extent to which they are oriented to pursue alternative goals with respect to learning orientation and performance orientation, such as strategic flexibility and cost reduction. As such, comparisons between performance oriented companies and companies oriented to pursue these other goals-*related to the enhancement of BMI* (Pohle & Chapman, 2006)-can be made. Pursuing this research avenue, we could understand of performance orientation is complementary or mutually exclusive with other goal orientations that might trigger BMI. It would be also interesting to deepen the understanding of how different contingencies beyond the informational context explored in this study can change the effect of performance orientation on BMI. Moreover, the influence of shared knowledge on business model innovation should be further analyzed in order to understand which kind of knowledge is more useful to be combined with performance orientation for the effective implementation of new business models.

Overall, we commit ourselves to address these issues in our next studies and we also hope that other scholars reading this paper might be inspired to pursue some of the research avenues we suggest.

Appendix: Survey questions[5]

1. KWKW (Richter et al., 2012 - adapted)
In this company:
People who need to get expertise on a certain issue, know exactly who to turn to
People know which employees have expertise in specific areas
People have a good understanding of 'who knows what' among colleagues

[scale from 1(*strongly disagree*) to 7(*strongly agree*)]

2. Business model innovation (newly developed scale)
Please rate your agreement on the following statements:

Our organization adjusts regularly the way in which customer value is delivered
We are constantly looking for new ways to generate revenue
We experiment with new business models in markets
We make regular use of new distribution and sales channels
We frequently change the cost structure (fixed and variable costs) within our organization
Our organization regularly changes aspects of the business model

[scale from 1(*strongly disagree*) to 7(*strongly agree*)]

3. Environmental dynamism (Dill, 1958; Jansen et al., 2006)
Please rate your agreement on the following statements:

Environmental changes in our local market are intense
Our clients regularly ask for new products and services
In our local market, changes are taking place continuously
In a year, nothing has changed in our market
In our market, the volumes of products and services to be delivered change fast and often

[scale from 1(*strongly disagree*) to 7(*strongly agree*)]

[5] Only questions used in the paper are reported. Questions presented here were preceded by questions concerning demographic details of companies and managers.

4. Learning orientation (Bunderson & Sutcliffe, 2002; 2003 – adapted)
Please state your agreement on the following statements. Our company:

Looks for opportunities to develop new skills and knowledge
Likes challenging and difficult assignments that teach new things
Is willing to take risks on new ideas in order to find out what works
Likes to work on things that require a lot of skill and ability
Sees learning and developing skills as very important

[scale from 1(*strongly disagree*) to 7(*strongly agree*)]

5. Performance orientation (Van Yperen & Janssen, 2002 – adapted)
We, as a company, feel more successful when:

We are the best in the market
Others cannot do as well as we do
We perform better than oour competitors
We can clearly demonstrate that we are the best qualified company
Other companiesmess up and we do not
We accomplish something where other companies failed
We are the only company who know about particular things or who have a particular skill
We are clearly the most productive company

[scale from 1(*strongly disagree*) to 7(*strongly agree*)]

Chapter 5. Conclusion and Discussion

In this Dissertation I analyzed the theme of business model innovation, with the aim of shedding light on its internal and external antecedents and understanding how the process starts and it is implemented. More specifically, I described the mechanisms through which managers collect new knowledge insights- *from the network of belonging and from the market*- and combine them with internal skills of the company. In this respect, I focused on the importance of network diversity, network flexibility and market proactiveness as mechanisms to leverage on knowledge insights outside the boundaries of the firm. In order to extend my understanding on the process of BMI, I started from the assumption that managers exposed to the same external triggers might perform differently in their involvement in business model innovation, depending on their attentional perspective, attentional engagement and attentional selection. In order to explore this issue, I developed a process study that allowed me to understand the importance of managers' awareness of existing business models (*attentional perspective*), their ability to engage company members through the creation of new capabilities (*attentional engagement*) and their skills for balancing attention to clients and attention to performance when implementing BMI (*attentional selection*). Going further in the exploration of managers' influence on the implementation of BMI, I analyzed the relevance of different goal orientations for the implementation of new business models. In this respect, I highlighted the positive influence of learning orientation on BMI, which becomes especially important in dynamic environments characterized by fast changes. As such, my Dissertation constitutes a wide-ranging overview on business model innovation, describing the relevance of external knowledge for the implementation of new business models, in combination with the features of internal leadership and the characteristics at the company level that are necessary to succeed in BMI. These topics, with a multi-method approach, have been analyzed in the creative industry, which constitutes a vibrant and fast-changing environment for what concerns the introduction of new business models and the strategic renewal of the companies. In the following paragraphs, the main findings of the three studies presented in the Dissertation are summarized. In addition to that, the limitations of the Dissertation are explained and the avenues for further research are explored. Figure 5.1 presents the overall framework of the Dissertation.

Figure 5.1 : Dissertation framework

EXTERNAL ENVIRONMENT

NETWORK PERSPECTIVE

Study 1

Business model innovation is a complex process, entailing the combination of different knowledge sources. As such, companies complement internal knowledge with external knowledge. Their network of belonging becomes a learning environment where they can get useful insights to handle the process. Learning occurs through the exchange of insights and the benchmarking with competitors and partners. In this study, I consider different aspects of the network: *network diversity* and *network flexibility*, with the aim of taking into account the static characteristics of the network and the strategies used by companies to change their networks. I also take into account the interaction between network and market knowledge by including proactiveness in the model.

COMPANY LEVEL

ATTENTION BASED VIEW

Study 2

Once knowledge is acquired from the network of belonging and the market, how do managers distribute this knowledge inside the company in order to align company members on BMI? In this study, I explore the process of business model innovation, revealing how the initial ideas for BMI are transferred from individual managers to the company as a whole. In order to accomplish this goal, I adopt and attention based view, using *attentional perspective*, *attentional engagement* and *attentional selection* to explain the different phases of BMI.

LEADERS' PERSPECTIVE

Study 3

Which is the most fertile company environment to stimulate business model innovation? In this study, I explore how managers' efforts to create highly learning oriented environments or highly performance oriented environments influence BMI. I also consider the influence of the external environment that, if highly dynamic, can positively influence the effects of learning in the company. At the same time, I consider the effect of knowledge sharing within the company, which can facilitate the use of acquired knowledge to innovate the business model.

5.1 Summary of the main findings

5.1.2 Study 1

In *Study 1*, the focus is on the external antecedents of business model innovation. Building on literature on the relevance of inter-organizational networks for the enhancement of innovative processes (e.g. Kogut & Zander, 1992; Rigby and Zook, 2002) and on the most recent studies exploring inter-organizational networks in relation to business model innovation (Bonaccorsi et al., 2006; Calia et al., 2007), I develop a model looking at networks as a learning environment, where companies collect knowledge insights for the implementation of business model innovation. Within this framework, I acknowledge that network diversity has a positive effect on the engagement of companies in business model innovation. I measure network diversity looking at the content of ties and not at the structure, following the suggestion of the most recent studies on the topic (e.g. Phelps, 2010). I introduce the construct of network flexibility to measure the extent to which companies are inclined to change their networks through time and I discover that it has a positive effect on business model innovation. This finding is against theories of *embeddedness*, predicting that changing partners through time might lead to negative consequences in terms of innovative outcomes. Indeed companies would suffer from a lack of knowledge about partners and would therefore be unable to obtain knowledge insights from them and leverage on this knowledge to innovate (Uzzi & Lancaster, 2003). With the aim of understanding how companies can effectively mix knowledge acquired in the network with general knowledge from the market, I look at the interaction between network elements (*network diversity* and *network flexibility*) and proactiveness (Covin & Slevin, 1989). Proactiveness can indeed be described as the ability of companies to act rather than react to changes in the external environment (Miller, 1987; Miller & Friesen, 1978). As such, proactive firms gain awareness of new trends and market dynamics before their competitors (Smith & Cao, 2007). I find a positive interaction between network diversity and proactiveness, showing that proactive firms are able to leverage in a faster way on new insights from the network. On the opposite, I do not find the interaction between network flexibility and proactiveness.

This study has important implications for business model innovation, providing an overview of the relevance of external networks for the implementation of BMI (Calia et al., 2007). At the same time, it also contributes to social network literature, responding to the recent call of scholars to disentangle the measurement of diversity from the structure of ties (Phelps, 2010). Moreover it calls scholars for a re-consideration of network theory on

innovation, when a complex outcome as BMI is concerned (Centola & Macy, 2007). As additional point, I also stress the importance of considering companies' agency in the network, looking at nodes as architects of their networks, able to change and adjust ties through time (Hallen & Eisenhardt, 2011). Finally, it also contributes to practice, showing managers how to combine network strategies with market strategies for the implementation of new business models. A summary of the hypotheses can be found in Table 5.1.

Table 5.1: Summary of the hypotheses-Study 1

Hypotheses	Result
Hypothesis 1: There is a positive relationship between the diversity of partners in terms of company size and the involvement of focal firms in business model innovation.	***Supported***
Hypothesis 2: There is a negative relationship between a focal firm's network flexibility and its involvement in business model innovation.	***Not supported*** ***(I find a positive relationship)***
Hypothesis 3: The positive relationship between tie diversity and the involvement in business model innovation is strengthened if firms adopt a proactive behavior.	***Supported***
Hypothesis 4: The negative effect of network flexibility on the involvement in business model innovation is reduced when firms adopt proactive behavior.	***Not supported*** ***(not significant)***

5.1.2 Study 2

The main aim of *Study 2* was exploring the process of business model innovation. I start from the acknowledgement that previous studies have not been able to provide literature with a theoretical lens to highlight how the process of business model innovation is initiated

and developed through time (Teece, 2010). In order to address this issue, I use the attention-based view (Ocasio, 1997), which allow me to use managers' attention to existing business model as a starting point for understanding the process of BMI. Firstly, I highlight the importance of external triggers for business model innovation. In particular, all the managers involved in this process study confirm that the financial crisis and the turbulence in the industry triggered them to change their business models in order to survive and remain competitive. However, external triggers can only partially explain the implementation of BMI. Indeed I discover that managers who have a comprehensive attentional perspective are able to set-up multi-focal processes of business model innovation, which allows them to introduce the new BM without blocking the process because of the negative reactions of clients, who are not prepared to accept the novelty. I call this initial step of BMI *set-up* phase and I explore the awareness of existing business models through the use of attentional perspective, which is an attentional variety characterized by top-down mechanisms where managers look at existing conditions and decide how to change them (Ocasio, 2011). In addition to the set-up phase, I am also able to identify two other phases of business model innovation: *development* and *implementation*. I explain the differences among companies in the development phase through the attentional engagement, which concerns the ways in which managers engage other members of the company, through the iteration between top-down and bottom-up mechanisms. In this respect, I discover that the creation of new capabilities and of formal and informal discussion channels facilitates the engagement. Specifically, employees who are endowed with new capabilities feel confident for the realization of the new business model; at the same time, clients see the new capabilities as a guarantee for the good execution of the new business model and, as such, they trust managers and their companies. Moreover, the use of discussion channels leads company members to feel part of the BMI process and, therefore, they are triggered to contribute to it. Finally, I can explain differences in the implementation phase through the use of attentional selection, which represents the outcome of the attentional process. The innovation of the business model represents the selection outcome in our study. Managers who are able to balance attention to the organizational aspects and attention to the business model innovation are able to develop long-term changes to the BM, leading to organizational re-structuring of the company. Overall, through the use of attention-based view, I am able to explain how managers start and develop the process of business model innovation and to explain why managers exposed to similar external triggers make different decisions. Moreover, I use the attentional varieties (perspective, engagement and selection) to highlight how managers can effectively proceed through the phases of business model innovation.

This study contributes to business model literature by bringing a dynamic perspective going beyond the antecedents of BMI and focusing on the process (Baden-Fuller & Morgan, 2010; Casadesus-Masanell & Ricart, 2010; Svejenova et al., 2010). It is one of the first studies to suggest a theoretical lens suitable for capturing the process of BMI from the initiation to the final implementation. The study can also be considered as a contribution for attention literature. In this respect, I overcome the individual focus of attention and I focus on attention distribution within the company (Gavetti, 2005; Ocasio, 2011), explaining how individual and organizational frames interact for the implementation of change processes (Kaplan, 2008). Moreover, I am also able to contribute to literature on capabilities renewal for strategic change (e.g. Laamanen & Wallin, 2009). I confirm the recent findings stating that capabilities create internal confidence to implement change (Barreto & Patient, 2013) and I extend them by showing that the presence of new capabilities is also a tool for obtaining trust from clients and leverage on them in order to implement change. Finally, the study can also bring solid contributions for practitioners. Specifically, I am able to inform managers of the importance of carefully exploring existing business models in order to understand the connection among the different elements of the BM and therefore being able to change them. Moreover, I am also showing which attentional mechanisms are crucial to successfully implement BMI, specifically suggesting that paying attention to the creation of new capabilities and balancing attention to organizational issues and clients are essential in the process. Table 5.2 summarizes the main findings.

Table 5.2: Summary of the findings-Study 2

Phase of the business model	Explanatory attentional variety	Differences in the attentional variety
Set-up: managers develop action plans for implementing new business models, look at existent business models, consider clients' reactions, look at the external environment.	***Attentional perspective***: the extent to which managers are aware of existing business models and pay attention to the link among different BM elements.	Managers with a comprehensive attentional perspective set up multifocal plans for BMI. Managers who pay attention only to customers set up single - focused plans.
Development: managers discuss with other members of the company, plan changes in the organization,	***Attentional engagement***: Iterative process between top-down and bottom-up	Managers who engage employees by endowing them with new capabilities are able to create intra-organizational

assign new roles and experimentation with new projects.	attentional mechanisms, which allows managers to distribute attention on BMI within the company.	trust for the change process and to create trust in the eyes of clients. Without the creation of new capabilities, in combination with other mechanisms for discussion, the change is hard to internalize
Implementation: managers implement changes to the cost structure, changes to the revenues system and changes to the value proposition. More concretely, they become strategic advisors of clients, instead of simply realizing the final product or service.	***Attentional selection***: The iteration between customers and performance issues determines the outcome of the BMI process.	Managers who see BMI as a long-term process change the business model with a long term orientation, introducing radical changes to the organization. Managers with a short term orientation make temporary experimentations with new business models without changing the organization

5.1.3 Study 3

In *Study 3* of this Dissertation, I wanted to deepen the understanding of managers' influence on the implementation of new business models. In order to do so, I looked at the influence of different goal orientations on companies' engagement in BMI. I specifically focused on learning orientation (Bunderson & Sutcliffe, 2002) and performance orientation (Dweck & Leggett, 1988) and I obtained interesting findings. On the one side, I confirmed extant studies on goal orientation and innovative outcomes (e.g. Bunderson & Sutcliffe, 2002; Turner et al., 2002) and I discovered that there is a positive correlation between learning orientation and business model innovation. On the opposite, I did not find a correlation between performance orientation and BMI. Performance orientation is not significant for the enhancement of BMI. This finding goes against extant wisdom stating that high performance orientation leads to negative innovative outcomes, given the willingness of performance oriented companies to avoid risk and failure and therefore avoid experimentation (Farr et al., 1993; Janssen & Van Iperen, 2004). The answer I give in the study to explain the lack of support for the negative relationship between performance orientation and business model innovation refers to the nature of BMI as innovative outcome. Specifically, I argue that companies might be aware of the fact that the introduction of a new business model cannot

bring performance in the short term (Desyllas & Sako, 2013), given its radical consequences and the shock it brings to the company. As a result, companies do not consider performance issues when implementing decisions for new business models, paying less attention to performance orientation. They might consider other positive consequences, such as cost reduction or strategic flexibility, after the introduction of the new business model. As such, I suggest that the uncertainty and complexity of the innovative outcome at stakes might determine the relevance of different goal orientations. I go beyond the main effects of my model by introducing the turbulence of the external environment and the internal informational context (*knowledge of who knows what*), with the aim of understanding how the opportunities for innovation emerging from the external and internal environment influence the enhancement of business model innovation. In order to do so, I look at environmental dynamism (Dill, 1958) and I find a positive moderation of environmental dynamism on learning orientation. As such, it can be concluded that the willingness to learn and obtain new insights is even more important in dynamic environments, where the ability of companies to create new combinations for their business models can be crucial for competitive advantage. On the opposite, I do not find a moderation of environmental dynamism on performance orientation. I also find a positive moderation of knowledge of who knows what and performance orientation on BMI. This finding shows that the caution deriving from performance orientation, combined with the easiness of knowledge utilization, leads to positive results in terms of business model innovation. Said in other words, the safety deriving from the fact of knowing where knowledge resides helps companies to lower the risk-avoiding aptitude given by performance orientation; therefore they engage in innovative activities.

With this study, I am able to contribute to business model literature, clarifying the interaction between internal and external antecedents on business model innovation (Bonaccorsi et al., 2006), exploring the influence of goal orientations (*learning* and *performance orientation*) in combination with changes in the external environment and the availability of knowledge inside the company. Overall, I analyze how business model innovation can be considered a tool for creating value in times of change (Amit & Zott, 2010), understanding the contingencies that might hamper or stimulate the implementation of new business models in established firms (Chesbrough, 2001). Moreover I contribute to literature on disruptive innovation (Markides, 2006), which explicitly claimed for a better consideration of the characteristics of the innovative outcome at stake when exploring the triggers of innovative behaviours. I specifically highlight the multidimensionality of novelty (Rosenkopf & McGrath, 2011), showing that previous wisdom on innovation, such as the negative correlation between performance orientation and innovative outcomes-might need to be re-considered when

business model innovation is at stake. Finally, I respond to the recent call from scholars who have recently suggested that focusing on radical innovation processes instead of incremental processes might lead to different conclusions for what concerns the relevance of different goal orientations (e.g. Alexander & Van Knippenberg, 2014). I build on these studies and extend them by considering the effect of fast-changing (Eisenhardt, 1989) and dynamic environments, differently from previous studies focusing on more stable environment. Practitioners can also benefit from the findings of this study. I underline the importance of company climate for the development of business model innovation, suggesting to increment learning orientation inside companies. At the same time, I inform managers that business model innovation might require different logics in respect to those entailed by product and service innovation. As such, managers have to be aware that the involvement in BMI might require them to change their strategies. Finally, I am also stressing the importance of the external environment for the implementation of new business models. The hypotheses of this study are reported in table 5.3.

Table 5.3: Summary of the hypotheses-Study 3

Hypotheses	Result
Hypothesis 1: Companies with higher levels of learning orientation are characterized by a higher engagement in business model innovation.	***Supported***
Hypothesis 2: Companies with higher levels of performance orientation are characterized by a lower engagement in business model innovation.	***Not supported (not significant)***
Hypothesis 3: Environmental dynamism positively interacts with learning orientation on BMI.	***Supported***
Hypothesis 4: Environmental dynamism negatively interacts with performance orientation on BMI.	***Not supported***
Hypothesis 5: Knowledge of who knows what positively interact with learning orientation on BMI.	***Not supported***
Hypothesis 6: Knowledge of who knows	***Supported***

what positively interact with performance orientation on BMI.

5.2 Implications for theory

Beyond the above-mentioned contributions of single studies, this Dissertation leads to interesting general insights in: (1) *business model literature*, (2) *social network literature*, (3) *attention literature*, (4) *capabilities renewal* and (5) *goal orientation*. In the following paragraphs, I will give an overview of the empirical and theoretical insights that my Dissertation stimulates in the different fields.

5.2.1 Business model and business model innovation

As already explained in the contributions of the single studies, this Dissertation opens several opportunities for reflection on the relevance of business model as a unit of interest and on the field of business model innovation, both from the empirical and the theoretical perspective. On the empirical side, I suggest a way to measure business model innovation, handling the complexities that might emerge in the development of an empirical analysis of business model as a construct. These complexities prevented scholars from agreeing on how to define the business model from a general perspective (Zott et al., 2011). The lack of agreement on a unique definition of business model has prevented scholars from empirically measuring business model innovation and has led to a stall in the advancement of the field. The methodology I use to craft the definition of business model might be considered as a step-forward in resolving this issue. In fact, I ground my definition in extant theory, with the aim of building on previous findings and therefore creating a 'critical mass' in the exploration of the concept (Zott et al., 2011). I start from a wide-ranging literature review and I base my operationalization of BMI on Teece definition from 2010, considering the business model as what '*articulates the logic, the data, and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value*' (Teece: 179). In order to lower the biases on the construct- that might seem complex to be operationalized in a survey- I also use feedbacks from informants. As such, the agreement between the theoretical nature of the definition and the understanding of respondents is

maximized. Especially in *Study 1* and *Study 3*, I show that business model innovation can be measured and I present my overview on how to solve the complex nature of measuring this construct. Extant literature, despite some exceptions (e.g. McNamara et al., 2013; Bock et al., 2012) has been mainly nourished with conceptual papers and case studies on business model innovation; my studies are aimed to enlarge the number of empirical quantitative studies and contribute to bring the study a step forward. Given the explorative nature of a doctoral Dissertation, I use different ways of measuring business model innovation, showing the effects of these measures. However all the measures are based on the conceptualization of the business model explained above (i.e. ensemble of cost structure, revenues system and value proposition for customers). The operationalization of BMI in my quantitative studies is of course also based on *Study 2*. In this process study, I had the chance to interview multiple informants, and these interviews supported me in crafting the definition and adjusting it in the survey.

Also from the theoretical point of view, my Dissertation raises several points of discussion for business model scholars. In the first place, it is legitimate to ask if business model scholars should rely on extant wisdom developed in product and service innovation fields or a new theory is needed to study business model innovation. The answer deriving from my Dissertation is that theories in innovation have to be revised, in order to explore companies' initiatives for business model innovation. In my studies, on the one side, I confirm extant findings in innovation literature, such as the positive influence of network diversity on innovative behaviours (Burt, 2004) in *Study 1* and of learning orientation (Bunderson & Sutcliffe, 2002) in *Study 3*. On the other side, I show that some of the results from innovation literature are not confirmed for business model innovation, as demonstrated in the lack of support of my Hypothesis 2 in *Study 3* and the absence of correlation between centrality measures and innovative behaviour in *Study 1*. As such, the exploration if business model and business model innovation can lead to interesting theoretical reflections both for BMI literature itself and for innovation literature more in general. The explanation of the differences between the lack of support for innovation theories in my studies resides in the complexity of the process of business model innovation, which requires companies to engage in an innovative journey with uncertain outcomes and characterized by the involvement of different organizational elements during the innovative process (Rosenkopf & Mc Grath, 2011). As such, the higher complexity of the innovative outcome might lower the effectiveness of the strategies used for the enhancement of product and service innovation. From the theoretical point of view, *Study 2* has to be mentioned as well. As explained in the previous dedicated section, this process study shows the relevance of the attention-based view

(Ocasio, 1997) for the exploration of BMI process. Through the use of this theoretical perspective, I shed light on the phenomenon of business model innovation and I join the chorus of scholars aiming at bringing a dynamic perspective on business model innovation and understanding how the process starts and develops (Baden-Fuller & Morgan, 2010; Casadesus-Masanell & Ricart, 2010; Svejenova et al., 2010).

5.2.3 Social networks revisited

What emerges quite clearly from this Dissertation is that, as for product and service innovation, inter-organizational networks are relevant for business model innovation. However, some differences might be observed, as explained in *Study 1*. Specifically, I do not find a correlation between centrality measures and business model innovation. The centrality measures tested in my studies are measures usually associated with network diversity (e.g. *betweenness centrality*) and are predictive of innovative behaviours (Burt, 2004). The explanation for the absence of this correlation might be of different reasons. On the one side, we might refer to the fact that business model innovation is a complex phenomenon and simply being central in the network and receive knowledge insights might not be enough to be prompted to innovate. On the opposite, it is not the quantity of insights received from companies to trigger them to innovate in complex domains, but it is instead the relevance of the information received (Centola & Macy, 2007). On the other hand, we might refer to the call of scholars for a better exploration of network diversity (Phelps, 2010), disentangling the structural aspects of the network from the content and nature of ties. In *Study 1*, I respond to this call and I do find different results for diversity measured from the structural point of view and measured looking at the content of ties (i.e. considering diversity in terms of company size). This second explanation is part of the many research avenues that are being suggested for entering the new era of network literature. I tried to address some of these aspects in my studies. For example, I am providing some points for reflection on the importance of considering network nodes as architects of their networks (Hallen & Eisenhardt, 2011) and therefore giving more importance to agency in the exploration of network evolution. As such, network evolution can be seen not only as a consequence of existing network structure but also as the result of companies' choices. In this respect, I agree with the recent study by Borgatti et al. (2014), claiming that the harsh criticism against network literature for the lack of exploration of network change is unjustified, given the presence of numerous studies on the topic (Newman, 2002). At the same time, I am willing to contribute to the debate by highlighting the

importance of agency in combination with structure when exploring network formation and change, along the lines suggested by Gulati and Srivastava (2014). These scholars introduced the concept of 'constrained agency', which entails the interaction between the structural characteristics of the network and the individual motivations of actors for the alteration of network ties. As such, the position of an actor in the network -and the alteration of ties-has to be seen as the result of a complex combination of conditions, relating to individual choices and to less intentional structural characteristics of the ties.

5.2.4 A distributed overview on attention

The extent to which managers pay attention to existent conditions is crucial for the implementation of change processes and the enhancement of strategic change. This finding has been confirmed by many studies in the field of attention literature (Ocasio, 2011). My Dissertation (in *Study 2*) builds on these findings and extend them starting from the assumption that managers might pay attention to the right trigger to implement the change process, but the actual implementation of decision might be influenced by the interaction between individual and collective frames (Kaplan, 2008). As such, it becomes important to overcome the individual focus of attention and consider the distributed mechanisms of attention (Greve, 2005), understanding how attention travels from individual managers to different members inside the company. As suggested by Ocasio (2011), it is therefore important to distinguish between top-down and bottom-up processes of attention, focusing on the different principles of the attention based view, often misled in extant literature: (1) the principle of focus of attention, (2) the principle of situated attention, and (3) the principle of structural distribution of attention (Ocasio, 2011; 1290). It is therefore crucial to understand how attention is distributed through different communication channels (Ocasio & Joseph, 2008) and to explore how company members contribute to the operationalization of managerial attention into concrete actions. Extant studies have mainly focused on the individual aspects of attention and the distributed mechanisms of attention have been under-analyzed (Rerup, 2009). As such, the 'journey' of the attention from the individual to the organization as a whole has not been explored. I hope that my Dissertation can contribute to the debate and trigger scholars to deepen the understanding of this journey. The use of business model innovation as outcome of the attentional process facilitated me in the exploration of the topic. I have especially leveraged on the transversal nature of business model innovation, which entails the re-structuring of different department of the company

and its implementation occurs in a distributed manner, leading to the engagement of different company members through time. As such, in *Study 2*, I was able to capture the distributed nature of attention in the process of BMI, starting from the initial attention of managers to the external environment and to the existing business model and following the process to the final implementation of the new business model.

5.2.5 Capabilities for change and creation of trust

New capabilities are crucial for enhancing strategic renewal and remaining competitive in fast-changing environments (Eisenhardt & Martin, 2000); indeed companies can implement innovative processes in order to remain competitive and outperform competitors that are not able to adapt to the changing conditions of the environment. The role of managers is essential for recognizing the need of new capabilities and leveraging on them to handle innovative processes (Dutton & Duncan, 1987). The perception of managers in this respect might vary consistently (King & Zeithaml, 2001), determining different levels of new capabilities creation. These differences might be related to managers' ability to connect the possession of exclusive capabilities to the enhancement of specific goals. Barreto and Patient (2013) have also recently underlined that managers' interpretation of capabilities positively relate to opportunity interpretation. My Dissertation (*Study 2* in particular) builds on this postulation and shows the importance of capabilities' interpretation for the effective accomplishment of BMI and the ability to leverage on the process as an opportunity to enhance competitive advantage. I show that managers who look at the creation of new capabilities as an opportunity to set the stage for a long-term change are more successful in engaging employees in BMI compared to managers who want to leverage on existing capabilities, in order to reduce the level of investments. Managers aimed at long-term changes are also open to commit to company re-structuring. I widen the focus of capabilities' perception to the organization as a whole and I explain the importance of new capabilities for the creation of intra-organizational confidence, which make employees feel confident on their ability to operate with new business models. Moreover I also explain that clients' perceptions of companies' capabilities might be crucial for the effective implementation of the change process. As such, I show that companies obtain clients' trust through the creation of new capabilities, which clients see as a guarantee of feasibility of the new business model. On a higher level of abstraction, my Dissertation joins the discussion on the importance of considering different aspects when analyzing attentional mechanisms behind capabilities'

creation. Specifically, we bridge attention with the cognitive aspects of decision making, highlighting that managers' believes on the importance of capabilities for the enhancement of competitive advantage lead to different results for the innovation of the business model. Overall, my Dissertation might be a call for scholars to look at the 'production process' behind capabilities observed within companies, suggesting that they are the results of managers' attentional mechanisms, cognitive models and decision-making processes. In this frame, it is also important to consider how managers engage other company members in the creation of a shared perception on the importance of new capabilities for the enhancement of strategic change.

5.2.6 Goal orientation and business model innovation

Many times in this Dissertation, I highlighted that radical innovation is more complex and leads to more uncertain results in comparison with incremental innovation processes (Danneels & Kleinschmidt, 2001; Garcia & Calantone, 2002). *How do complexity and uncertainty influence the effectiveness of different goal orientations?* My Dissertation (particularly in *Study 3*) can be considered as a contribution to partially answer this question. Building on the recent study by Alexander and Van Knippenberg (2014), I suggest that a goal orientation perspective might be a useful lens to understand radical innovation processes. At the same time, I am also showing that theories of goal orientation developed in the domain of product and service innovation might not hold in the context of radical innovation processes. My Dissertation can be seen as 'food for thought' for scholars interested in the analysis of these issues, maybe aimed at understanding if the practices that lead to positive results within the context of incremental innovation are equally valid for radical innovation. Moreover, as in the case of attention, I suggest scholars to have a collective view on goal orientation, looking at the presence of learning orientation and performance orientation not only at the individual level of managers, but also in the company as whole. Indeed, for radical innovation processes, concerning the re-structuring of several company elements, the sharedness of goal orientation is crucial and has to be taken into account beyond individual orientations. This reasoning can also trigger scholars to highlight the mechanisms that contribute to the enhancement of a shared goal orientation. Moreover, it might be interesting to understand how company members might alter the goal orientation of their companies, overcoming the possible reluctance of decision makers to engage in radical and highly risky innovative processes. Making a connection between *Study 2* and *Study 3* can lead to a further contribution in this

respect. In *Study 2,* I highlight the importance of attention for stimulating engagement and discussion for the effective implementation of business model innovation; this finding can constitute a starting point for understanding how managers can generate a shared climate of learning orientation through the use of their attentional mechanisms; vice versa it might also lead to highlight how different company members might eventually influence the creation of the company climate towards a higher learning orientation that is beneficial for BMI. Finally, scholars might also be encouraged to consider the effects of the higher number of learning opportunities offered by radical innovation processes (McDermott & O'Connor, 2002), trying to understand which are the best practices to manage them.

Another question arises from findings of my Dissertation. *How does the external environment influence the relationship between goal orientation and business model innovation?* I try to answer this question by introducing the effect of dynamic environments to explain the consequences of different goal orientations. As such, I am suggesting to jointly considering the external environment and the internal mechanisms of the firm, especially when the innovation process at stake is highly influenced by changes in the market. Said in other words, I am suggesting that the lack of effectiveness of specific goal orientation might be due to the presence of turbulent environments, which have to be taken into account when implementing radical innovation, the effects of which might go beyond the boundaries of the firm and affect the market and the industry of belonging. Again, a link with the attentional perspective might be salient to analyze how managers and decision makers might be more aware of the external environment and lead the company to adjust its goal orientation accordingly.

Finally, I am also suggesting to take into account the internal informational context, in order to understand the influence of learning orientation and performance orientation on BMI. In future research, it might be interesting to explore how the internal availability of knowledge interacts with knowledge dynamics in the external environment.

5.3 Implications for practice

Being a *manifesto* for business model innovation is beyond the scope of this Dissertation. As such, it cannot be considered as a manual describing how to innovate the business model and succeed. However, my Dissertation does give important insights to managers who decide to innovate their business model. First of all, I am telling them that they are the key nodes for business model innovation; however they cannot implement this radical process by themselves, no matter how big is their company. They need partners' insights,

clients' cooperation, a favourable environment and, above all, the support of other company members. I describe business model innovation as a collective mission, which cannot be accomplished without the cooperation of all these actors and managers have to develop the right skills to involve them in the process. Moreover, before starting the journey of business model innovation, managers have to ask themselves: What do I know about my business model? Am I aware of the connection among the different elements of the business model? Do I know the consequences of changing one of the elements? The lesson of this Dissertation is that answer to these questions has to be a YES. If the answer is negative, managers have to take a step back and bring clarity on their conception of the business model.

From my Dissertation, managers learn- or are reminded that -business model innovation is a complex process. To what should managers devote their efforts in order to handle complexity and not to waste their resources? From this Dissertation, they learn that they do not have to invest all their resources for the obtainment of a central position in their network of belonging, but they should instead make sure to be in such a position that allows them to obtain the relevant information they need to change the business model. Moreover, they should trigger their employees to be eager for learning and keeping eyes open on the new trends in the market and on the opportunities to gain new insights to improve the business model. Finally, they have to understand the potentialities of business model innovation for the implementation of a long-term change in the company; as such, the creation of new capabilities and the organizational re-structuring are fundamental. The investment in these goals is not a waste and has to be pursued.

My Dissertation can also give specific insights to managers working in the creative industry, suggesting that they are required to balance creativity goals with several other goals, if they want to innovate and stay competitive in the turbulent environment they are operating in. Both a pure artistic focus and a pure performance focus will lead them out of the market. At the same time I am suggesting them that the adherence to their initial plan of business model innovation has to be pursued with the same strength used to pursue their artistic mission, no matter the negative relationships of clients. The key is developing a structured plan and finding a way to convince clients that it will work. As such, I think that this Dissertation can constitute a valid tool for managers in the creative industry who are looking for new ways of monetization in order to handle the profound changes in the environment.

Finally, I warn managers on the fact that the effect of certain strategies implemented in the past for product and service innovation might work for business model innovation as well, but might also be contradicted. As such, the suggestion that managers might take from this Dissertation is developing specific task forces for implementing strategies for BMI, with

dedicated competences and specific task requirements. In this way, they might be able to understand similarities and differences between business model innovation and other innovation processes developed in the past. As such, they would implement more effective decision-making processes, understanding how to leverage on previous knowledge and *rejuvenate* this knowledge with new specific insights.

5.4 Limitations and further research

Despite the contributions presented in the previous paragraphs, this Dissertation presents some limitations, which I am going to explain in this section, beyond the specific ones presented in the single studies. At the same time, I will also provide an overview on how to address some of these limitations in future works. Finally, abstracting from the single studies of this Dissertation, I will also suggest further research avenues that might derive from this work.

One limitation if this Dissertation is the temporal element. I manage to include a temporal dimension in *Study 2*, but the data collected for the other two studies are cross-sectional and this has prevented me for claiming causality in my models. However, in order to support the reliability of my data, despite the cross-sectional nature, I used different tools, complementing my results with field notes, interviews and company reports. In this way, I was able to have informants' overview on the relationship among my constructs of interest. In this respect, I am definitely determined to collect longitudinal data applying the models I suggested in my studies and I am also encouraging scholars to pursue this research avenues. Collecting longitudinal data might also reveal how the results of this Dissertation will change if analyses are repeated in different points in time, as already explained in the specific limitations of single studies.

Another limitation might reside in the specificity of the context of the creative industry. Despite my effort to ensure variation by including different sectors-design, gaming and architecture-some of my results might be biased by the characteristics of the creative industry, which strongly relies on creativity, learning, and constant innovation more than other industries. At the same time, I also think that these characteristics make the creative industry as one of the most suitable contexts to study business model innovation, being able to capture the vibrant nature of innovation initiatives and highlighting best practices that might be exported and confronted with other sectors. However, it would be invaluably interesting to

repeat my analyses in more stable industries, where innovation is not a structural element but is instead a pure choice of single companies.

For the hypotheses that were not confirmed in the data, I implemented different strategies in order to find an explanation for the lack of support, such as the additional analyses in *Study 1* and the theoretical explanations provided in *Study 3*. However, some of these strategies are based on assumptions, which might be possibly challenged by scholars using a different theoretical lens. If these elements can be considered as a limitation of my Dissertation, at the same time, they might be seen as an opportunity for opening up new research avenues. For example, I explain the absence of correlation between performance orientation and business model innovation relying on the fact the managers might know since the beginning that such a radical process as BMI will lead to negative performance results in the short term; as such, their decision to innovate or not might be based on other factors, which do not include performance. It would be interesting to deepen this issue and to further explore the rationale that lead managers to set aside their performance orientation when they decide to innovate their business model. It might also be important to explore the characteristics of managers and companies managing to overcome the focus on performance orientation versus managers who do not succeed in this task.

Overall, summarizing conclusive remarks on possible research avenues in the future, learning mechanisms generating business model innovation within inter-organizational networks might be further explored, providing literature with a holistic understanding on the relevance of knowledge mechanisms for the implementation of BMI process through time. In order to achieve this goal, the collection of longitudinal network data across different sectors might be a suitable research avenue. Moreover, the understanding of how managers achieve business model innovation through the operationalization of their ideas might be deepened. Practically, the realization of lab and field experiments might constitute a viable and promising research avenue to explore this topic. Addressing these topics will allow to obtain a clear empirical overview of the antecedents of business model innovation and to extend the efforts of scholars who focused on the process of business model innovation, exploring it from a dynamic perspective. Finally, the correlation between diverse goal orientations and the implementation of new business models might be explored by focusing on the behavioural foundations of BMI, relying on survey methodologies and experiments. Finally, I see an interesting extension of this Dissertation, which is the contemporary analysis of different innovation processes occurring in the same companies, confronting the strategies implemented for product innovation, service innovation and business model innovation. As such, the understanding on the differences between theories developed in different innovation

fields in the past and in the more recent topic of BMI could be explained. I really hope that my Dissertation can inspire scholars to pursue this research avenue and the above-mentioned ones in the future. At the same time, I am also willing to address the limitations of my current work and to extend it in my future academic career. In the end, *The most beautiful sea hasn't been crossed yet* (Nâzim Hikmet, 1945).

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Summary

Business model innovation (BMI) is an emergent area of research that has the potential to re – structure the pillars of strategy and innovation research, given its higher complexity in respect to other innovation processes (*e.g. product and service innovation*) usually explored in these fields. This complexity is generated by the fact that it involves the transformation of many company elements that requires managers and stake – holders to achieve alignment and coordination among different organizational levels. Despite the growing interest of scholars, the process of *how* business models change is not clearly described. On the one side, only a few empirical studies explain the antecedents of BMI and we do not have a clear understanding of how companies combine external knowledge with internal skills and capabilities. On the other side, scholars have not been able to describe the steps that managers practically undertake to innovate their business models. As such, it is not possible to distinguish between successful and unsuccessful BMI processes. This Dissertation is aimed at addressing these gaps.

Building on extant studies, I find that networks in which companies are embedded function as learning environment for stimulating engagement in BMI. As such, I confirmed the importance of inter-organizational networks for innovative outcomes, as showed by research on product and service innovation. At the same time, I highlighted specific network dynamics, characterizing BMI as a different phenomenon if compared with innovation processes studied in past research. Moreover, I address the analysis of the BMI process, showing the relevance of managers' attention in interaction with organizational mechanisms. Finally, I also show the importance of managers' goal orientation, looking at how they are influenced by environmental and organizational contingencies. These findings derive from the combination of qualitative (*interviews, case studies*) and quantitative (*surveys, analyses of archival data*) methods.

Through the combination of different theoretical and methodological perspectives, my dissertation has the potential to contribute to research along three different dimensions: (1) shedding light on the process of business model innovation, exploring its antecedents and the different phases simultaneously (2) exploring the relevance of managers' attention in order to understand how they use their logics to innovate the business model within their companies, (3) exploring the effectiveness of different BMI strategies and understanding the outcomes.

Samenwatting (Dutch Summary)

Business model innovation (BMI) is een opkomend onderzoeksveld dat gezien de hogere mate van complexiteit in de bestudering van innovatie processen (*bijvoorbeeld. product en service innovatie*) de potentie heeft om fundering van strategie en innovatie onderzoek te herstructureren. Deze complexiteit komt voort uit het feit dat de vele transformaties van bedrijfselementen waarbij managers en stakeholders nodig zijn voor de coördinatie van verschillende organisatie niveaus meegenomen worden. Ondanks de groeiende interesse onder geleerden is het proces *hoe* bedrijfsprocessen veranderen niet duidelijk beschreven. Aan de ene kant zijn er slechts enkele empirische studies die de antecedenten van BMI beschrijven en hebben we geen duidelijk beeld van hoe bedrijven externe kennis combineren met interne vaardigheden en capaciteiten. Aan de andere kant zijn geleerden er niet toe in staat om de stappen te beschrijven waarmee managers in de praktijk innovatie van verdienmodellen te werk stellen. Hierdoor is het niet mogelijk om een onderscheid te maken tussen succesvolle en niet succesvolle BMI processen. Dit proefschrift richt zich op het opvullen van deze gaten.

Voortbouwend op bestaand onderzoek vind ik dat netwerken waarin bedrijven ingebed zijn dienen als een leeromgeving voor het stimuleren van engagement in BMI. Als dusdanig bevestig ik het belang bedrijfs-onderlinge netwerken voor innovatie uitkomsten, zoals eerder is aangetoond in onderzoek over product en service innovatie. Tegelijkertijd benadruk ik specifieke netwerk dynamieken die BMI als een ander fenomeen karakteriseren in vergelijking met eerdere studies van het innovatie proces. Bovendien behandel ik de analyse van het BMI proces, en toon ik het belang van de aandacht van de managers voor interactie met andere organisaties aan. Uiteindelijk toon ik ook het belang de doel georiënteerdheid van managers aan door te kijken naar hoe zij worden beïnvloed door de omgeving en bedrijfskarakteristieken. Deze bevindingen komen voort uit een combinatie van kwalitatieve (*interviews en case studies*) en kwantitatieve (*vragenlijsten, analyse van archief data*) methoden.

Door een combinatie van theoretische en methodologische lenzen heeft mijn dissertatie de potentie om op drie dimensies aan onderzoek bij te dragen: (1) het belicht het proces van verdienmodel innovatie en verkent de antecedenten en verschillende fases tegelijkertijd, (2) het verkent het belang van de aandacht van managers om te begrijpen hoe zij hun logica gebruiken om verdienmodellen te innoveren binnen hun organisaties, (3) het verkent de effectiviteit van verschillende BMI strategieën en maakt de uitkomsten hiervan begrijpelijk.

Sommario (Italian summary)

L' innovazione del modello di business rappresenta un nuovo argomento di studio nelle discipline di management. Ad attirare l'interesse dei ricercatori è soprattutto la complessità del processo, rispetto all'innovazione di prodotto o servizio già vastamente analizzata in letteratura. La complessità deriva principalmente dall'alto numero di componenti aziendali che vengono trasformati durante il processo di innovazione del modello di business e dalla necessità di raggiungere alti livelli di coordinamento (*tra i diversi decisori*) all'interno dell'azienda, al fine di poter implementare tale cambiamento radicale. L'interesse degli studiosi è andato crescendo nel tempo, ma non c'è ancora chiarezza su *come* il modello di business sia effettivamente innovato. Da un lato, non sono stati sviluppati abbastanza studi empirici che spieghino come le aziende possano combinare conoscenza esterna con capacità interne per innovare il loro modello di business. Dall'altro lato, le tappe seguite dai manager per innovare il modello di business delle loro aziende non sono state chiaramente descritte. Di conseguenza, non è possibile distinguere tra processi d'innovazione di successo e processi fallimentari. Questa tesi ha lo scopo di colmare queste lacune.

Partendo dagli studi esistenti, questa tesi conferma l'importanza delle reti inter-organizzative all'interno delle quali le aziende operano. Questo risultato conferma le tesi sviluppate negli studi concernenti le innovazioni di prodotto e di servizio. Allo stesso tempo, all'interno della tesi, si evidenziano dinamiche innovative diverse all'interno delle reti inter-organizzative, che pongono l'attenzione sull'innovazione del modello di business come dinamica peculiare rispetto ad altre tipologie d'innovazione. Non solo le reti inter-organizzative sono importanti per l'innovazione del modello di business. Infatti, nella tesi si riscontra la rilevanza dell'attenzione dei manager ai modelli di business esistenti, come punto iniziale per iniziare il processo di innovazione. Inoltre, i manager giocano un ruolo fondamentale nel diffondere un clima fertile all'innovazione del modello di business all'interno delle loro aziende, promuovendo la disponibilità ad assorbire nuovi stimoli nell'ambiente esterno e all'interno dell'azienda. In questo quadro, la consapevolezza dell'ambiente esterno – sia da parte dei manager che degli altri attori aziendali – è fondamentale.

Questi risultati derivano dalla combinazione di studi qualitativi (*interviste, casi studio*) e quantitativi (*questionari, analisi di dati d'archivio*). Attraverso la combinazione di diverse metodologie e lenti teoriche, questa tesi ha il potenziale di contribuire alla letteratura esistente nelle seguenti direzioni: (1) evidenziando le cause dell'innovazione del modello di business e le tappe che portano al cambiamento finale, (2) esplorando l'importanza dei manager come attori chiave per l'innovazione, (3) capire i risultati delle diverse strategie di innovazione.

About the author

Maria Rita Micheli, born in Italy (1985), completed her Bachelor Degree and Master Degree in Management at Bocconi University in Milan. After the completion of her Master Degree in 2009, she worked as Research and Teaching Assistant in the Management and Technology Department at Bocconi University. Maria Rita started her PhD trajectory in 2010 in the Department of Strategic Management & Entrepreneurship at RSM. During her PhD, she spent the Fall Quarter 2013 at Kellogg School of Management – Northwestern University. She was affiliated both with the Management and Organizations Department and the Northwestern Institute on Complex Systems. Her research interests span from social networks to attentional based view, which she combined for exploring processes of business model innovation. The empirical field of her PhD project is the Dutch creative industry, with a special interest in architecture, design and gaming companies. In her work, she combines qualitative and quantitative methods, showing the relevance of managers' cognitive models and of inter – organizational networks for the innovation of companies' business models. Beyond being a researcher, Maria Rita is fondly passionate of sport, cinema and dance.

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BUSINESS MODEL INNOVATION

A JOURNEY ACROSS MANAGERS' ATTENTION AND INTER – ORGANIZATIONAL NETWORKS

Business model innovation (BMI) is an emergent area of research that has the potential to re – structure the pillars of strategy and innovation research, given its higher complexity respect to product and service innovation, usually explored in these fields. This complexity is generated by the fact that it involves the transformation of several company elements, requiring coordination among different organizational levels. Despite the growing interest, the process of how business models change is not clearly described and we do not have a clear understanding of how companies combine external knowledge with internal capabilities in order to handle the complexity of BMI. Moreover, there is no clarity on the specific steps that managers undertake to innovate their business models. This Dissertation addresses these gaps.

I find that networks in which companies are embedded function as learning environment for acquiring relevant knowledge for BMI. In this respect, I highlight specific network dynamics, characterizing BMI as a different phenomenon respect to other innovation processes such as product and service innovation. Moreover, I address the analysis of the BMI process, showing the relevance of managers' attention. Finally, I also show the importance of managers' goal orientation, looking at how they are influenced by environmental and organizational contingencies. These findings derive from qualitative and quantitative studies conducted in the field of Dutch creative industries.

This Dissertation contributes to research along three dimensions: (1) shedding light on the process of BMI, (2) exploring the relevance of managers' attention for business model innovation, (3) exploring the effectiveness of different BMI strategies.

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