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"BUSINESS MODEL INNOVATION AND PERFORMANCE OF YOUNG VENTURES: A CONFIGURATIONAL APPROACH"

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EXECUTIVE SUMMARY

Only few decades ago, "innovation" used to mean for companies to invest in research, leverage on the rise of new technologies and come up with brand new products and processes. Now it is not like that anymore. Factors such as worldwide competition and tremendously fast technological evolutions make the aforementioned acceptations of the term "innovation" out-of-date. Nowadays, what is topical about innovation is Business Model Innovation.

Managers are increasingly realizing that Business Model Innovation seems to be superior to other types of innovations, for instance in terms of total shareholder return (BCG, 2009) and of operating margin growth (IBM, 2006). That is why the interest in the subject has been rising and consolidating in the last years, making Business Model Innovation an extremely interesting issue. Several pieces of strategic management literature suggest the existence of some kind of relationship between Business Model Innovation and firm performance. According to a widely shared view in extant literature, keeping one's Business Model up-to-date is crucial for firm performance (Teece, 2010; McGrath, 2010), and this usually requires change, especially in the earliest stages of a firm's life cycle (Amit and Zott, 2001; Zott and Amit, 2007, 2008; Leih, Linden and Teece, 2015). However, not all the changes in Business Model determine superior firm performance, and this makes it important to investigate what actually leads some Business Models to perform better than others.

However, being the field relatively new and being the theme quite complex, the literature about Business Model Innovation results to be heterogeneous. This makes it hard to orientate among the various articles in order to approach the theme in a univocal way. What is missing in literature is a unique and structured framework for understanding which factors actually

drive performance, and how Business Model Innovation should be carried out in order to be successful. This is the direction towards which we want to move with the present work.

In the theoretical part, our work looks into existing literature about Business Model and Business Model Innovation for finding the main Business Model Innovation performance drivers recognized by scholars, in order to draw a framework encompassing as many aspects as possible of the firm's strategy, organization and environment. This is possible thanks to the adoption of a configurational perspective: due to the complexity of causal relationships underlying the managerial choices about Business Models and strategy, what is investigated is not the individual effect of specific aspects on performance, but rather multifaceted configurations of different, interrelated aspects. For this purpose, our empirical analysis is based on the qualitative comparative analysis (QCA) technique, with the support of the fs/QCA software. Such analysis brings together the main strengths of within-case analysis and cross-case analysis, working on the membership of the cases analyzed to given sets and organizing such sets into configurations. Our goal is to identify which configurations of attributes lead to the occurrence of high performance on a sample of firms, namely young companies belonging to various medium/high-technology industries.

In the first chapter, we define Business Model and Business Model Innovation, starting from the main definitions of the topics in extant literature, and we describe the main drivers and implications of the increasingly popular phenomenon of Business Model Innovation.

The second chapter will describe and scrutinize the main theoretical views about antecedents and consequences of Business Model Innovation, with a particular focus on the directions along which Business Model Innovation is likely to create value. We will also describe the impact on Business Model Innovation of the other elements surrounding this process, namely organizational, strategic and environmental elements, investigating also which factors constitute a barrier to Business Model Innovation.

In the third chapter, the topic is faced with a narrower focus on young ventures. We will explain why it is important to speak about Business Model Innovation in young ventures, describing the main views in literature about the topic and focusing on the features of these companies with respect to established ones in the face of challenges and opportunities related to Business Model Innovation.

Our fourth chapter concerns the empirical analysis: after explaining the approach and the analytical tools adopted, we will describe the sample, the variables chosen and the steps followed for the analysis. It seeks to identify the configurations that lead to high performance in young ventures, combining strategic choices, environmental turbulence and Business

Model themes, or "value drivers", being innovated (namely efficiency, complementarity, novelty and lock-in). Our analysis yields some potentially interesting results, starting from the finding that high performance seems to be driven by Business Model Innovation performed along a combination of few value drivers, rather than along all of them, and combined with a focused differentiation strategy where environmental turbulence is moderate. Our solutions suggest that high performance can be the outcome of configurations characterized by one primarily relevant value driver improvement, often coupled with minor improvements in one or two other value drivers, where the non-relevance or even absence of lock-in improvements emerges.

After showing and discussing the above-mentioned results, for which we will propose an interpretation based on our theoretical knowledge of the subject, we will give some suggestions for the interest of managers, based on the possible implications of our results, which could possibly find significant applications in the management of young, medium/high-tech ventures.

CHAPTER 1

BUSINESS MODEL AND BUSINESS MODEL INNOVATION

1.1 Introduction

In recent years, the topic of "Business Model", together with the correlated one of "Business Model Innovation", has been increasingly subject to the attention of researchers and managers, especially in strategy, entrepreneurship and innovation literature (Foss and Saebi, 2015). This can be explained by the fact that, with the current economic conditions rapidly evolving, traditional frameworks have shown their shortcomings and the Business Model concept has progressively emerged to replace or integrate the traditional units of analysis, such as industry or resources (Amit & Zott, 2001, Bucherer, Eisert and Gassmann, 2012). Along with the relevance of the Business Model concept, the one of Business Model Innovation deserves particular attention, especially in the face of the increasingly changing conditions of the economic environment. In the present chapter, we are going through the main views present in literature about the Business Model construct, starting from terminology and getting to the current relevance of the topic, as well as about the phenomenon of Business Model Innovation.

1.2 The Business Model concept

Business Model in strategic literature

The origins of the term "Business Model" can be dated back to the 1950s, taking as a reference point Pete Drucker's paper (1954), where he described a construct seeking to answer the questions "Who is your customer, what does the customer value, and how do you deliver value at an appropriate cost?" (Casadesus-Masanell and Ricart, 2007, 2011). However, the concept as we know it today gained popularity within the scientific community only gradually, and especially from the 1990s on (Morris, Schindehutte and Allen, 2005).

The theme of Business Model has seen a particular surge in strategic and managerial literature in the recent years, with the emergence of new technology and consequently new forms of commerce, making more traditional approaches out-dated (Bucherer, Eisert and Gassmann 2012). Such growing attention for the subject is signalled by the about 1200 articles concerning the Business Model issue that have been published in peer-reviewed academic journals and practitioner-oriented studies between 1995 and 2010 (Zott, Amit and Massa, 2011). As a matter of fact, literature has churned out a huge number of theories dealing with such issues and their link with the firm's performance. The enormous proliferation of theoretical perspectives about the subject has led to a general inconsistency in the definitions of Business Model and Business Model Innovation and in the frameworks purposed for studying their dynamics across different authors. As asserted by Zott, Amit and Massa (2011), Business Models "have yet to develop a common and widely accepted language that would allow researchers who examine the business model construct through different lenses to draw effectively on the work of others" given the heterogeneous set of definitions, approaches and classifications on the issue (Baden-Fuller and Haefliger, 2013).

For the sake of the present work, we have analyzed 30 among the most relevant articles in the field of Business Model and Business Model Innovation. Of these articles, 17 are about Business Model design, 19 are about Business Model Innovation and 6 are about both topics. 21 out of 29 articles exhibit an explicit definition of Business Model (in Table 1 "BM"), of which 16 are original while the others recall already existing definitions; only 5 articles present a clear definition of Business Model Innovation. The main definitions observed are summarized in the tables below.

Table 1: Main definitions of Business Model in strategic management literature

Article	Author(s)	Definition of Business Model
Value creation in E-business	Amit, Zott (2001)	"A BM depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities" (p.511)
Competing through business models	Casadesus-Masanell, Ricart (2007)	"A BM consists of (1) a set of choices and (2) the set of consequences arising from those choices" (p.3)
Business model innovation: it's not just about technology anymore	Chesbrough (2007)	"At its heart, a BM performs two important functions: value creation and value capture" (p.12)
The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies.	Chesbrough, Rosenbloom (2002)	The BM "provides a coherent framework that takes technological characteristics and potentials as inputs, and converts them through customers and markets into economic inputs. The BM is thus conceived as a focusing device that mediates between technology development and economic value creation" (p.532)
The business model in practice and its implications for entrepreneurship research	George, Bock (2011)	"A BM is the design of organizational structures to enact a commercial opportunity" (p.24)
Why business models matter	Magretta (2002)	BM answers the questions: "Who is the customer? And what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?" (p.4)
Business model innovation	Massa, Tucci (2013)	The BM "emphasizes a systemic and holistic understanding of how an organization orchestrates its system of activities for value creation" (p.6)
Business models: A discovery driven approach	McGrath (2010)	BM "suggests a change to the way that strategies are conceived, created and executed against". "Modeling, therefore, is a useful approach to figuring out a strategy, as it suggests experimentation, prototyping and a job that is never quite finished" (p.248)
The entrepreneur's business model: Toward a unified perspective	Morris, Schindehutte and Allen (2005)	"A concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create sustainable competitive advantage in defined markets" (p. 727).
Business models, business strategy and innovation	Teece (2010)	"A BM 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" (p.179)
The fit between product market strategy and business model: Implications for firm performance	Zott, Amit (2008)	"The BM is a structural template that describes the organization of a focal firm's transactions with all of its external constituents in factor and product markets" (p.1)
The business model: Recent developments and future research	Zott, Amit, Massa (2011)	"A system level concept, centered on activities and focusing on value" (p.19)

Source: Personal elaboration

As it is clear from the table above, the available definitions for Business Model are numerous and diverse, and they reflect the fact that different views on the issue exist.

If we look at the most recent literature on Business Model, it is possible to identify several main topics that are privileged by authors and seem to recur across papers. The most common themes are the ones that Zott, Amit and Massa (2011) have observed in their review of 133 articles about Business Model:

- *Business Model as the new unit of analysis*. Business Model is replacing old units of analysis such as the firm, the business unit or the network as a base concept to study organizations. With the rise of the Business Model concept, strategists have started to study its dynamics as a driver for firm performance.
- *Holistic perspective*. The Business Model viewpoint that emerges when examining literature values content and process of businesses in an integrated way. A systemic view is demanded also in innovation management, where integration between Business Model innovation and technological innovation is needed (Bucherer, Eisert and Gassman, 2012). Hence, it is not only about "what" businesses do anymore, but scholars value more and more the "how", namely processes and interactions between Business Model elements, seeking to have a view on the bigger picture.
- *Emphasis on boundary-spanning activities*. The idea is that the focus of Business Model is a focal firm, but it is not limited to the boundaries of the firm itself; it interests the whole network in which the company is inserted. A big part of the existing definitions of Business Model highlight the importance of the activities carried out by the company and its related parties. Older frameworks studying firms and their organizations in isolation are not enough to completely explain value creation (Amit and Zott, 2001).
- *Importance of value creation as well as value capture*. The Business Model concept in literature has typically been linked to the concept of value creation, referring to different types of value: social or economical, wealth improvement and so on; this means that the emphasis is not on who generates value, but on the fact that value is created within the business environment of the firm. Traditionally, strategic literature's attention is concentrated on competitive advantage, a concept that since Porter (1985) explains the ability of a firm to gain profits above the industry average, hence it is directly linked to the *capture* of value by an actor rather than by another. Differently from strategic literature, the Business Model concept gives more consideration to cooperation and joint efforts in the act of value *creation*.

Looking through contemporary literature and focusing also on the newest articles (following the 2011 one by Zott, Amit and Massa), it is possible to enrich such list with an additional theme that seems to be topical today:

- *Organizational aspects in Business Model design and Business Model innovation*. In the latest years, an increased attention for organizational dynamics linked with Business Model has emerged. Of course, bringing the organizational issues into the discussion does not mean that Business Model is studied in an isolated way; the holistic approach and the focus on boundary-spanning activities is still present, but particular attention is given to aspects like the management model, the organizational structure, resources and capabilities (Foss and Saebi, 2015).

If we integrate the most relevant descriptions, we can come up with a summary definition that seeks to be as complete as possible. We can define Business Model as the *architecture chosen to articulate the content, structure and governance of intra- and extra-organizational transactions of a focal firm to pursue value creation, delivery and capture*.

The choice of the word "architecture" is not casual: it can be defined as a set of relationships among elements in a system (Simon, 1969), a concept that highlights the dimension of complexity that such construct embeds (Stieglitz and Foss, 2015). As for content, structure and governance, such concepts refer to the main aspects of the transactions in which the business is involved (Amit and Zott, 2001). Content is represented by *what* is being exchanged (goods, information etc.), and by the resources and capabilities involved in the transaction; the links between parties, their sequencing and mechanisms are the structure (*how*); governance refers to the *who*, namely which participants manage the exchanges at issue, as well as the organization form and the incentives for the parties involved. The transactions about which we are speaking are intra-organizational, involving organizational units within the firm, as well as extra-organizational, hence between the firm and other organizations (Zott and Amit, 2007). All of these features interest not simply a generic firm, but what is called a "focal firm" (Zott and Amit, 2007, 2008 and 2013), namely a firm that is positioned at the center of a network of relationships. Hence, despite being the Business Model concept focused on the focal firm, it has to extend beyond the boundaries of the organization and, as said before, involve also the connections with related parties outside the firm. In this respect, many scholars encourage a systemic and holistic thinking, where the business is interpreted not in an isolated way but as integrated in a broader network, using an ecosystem perspective (Amit and Zott, 2001, Massa and Tucci, 2013, Baden-Fuller and

Haefliger, 2013). The point is that the success or failure of a firm's Business Model depends on its interaction with other industry players' Business Models (Casadesus-Masanell and Ricart, 2011). As a last aspect in the proposed definition, we highlight that the aim of Business Model is surely to create value (Massa and Tucci, 2013), but also to deliver it (Teece, 2010) and, most importantly, to appropriate such value (Chesbrough and Rosenbloom, 2002).

The Business Model concept has gained a prominent role among authors in trying to explain value creation, performance, and competitive advantage in companies. In this respect, strategic research on Business Model in the last years has focused on some recurring aspects, such as the networked nature of value creation, the link between Business Model and performance, and the study of Business Model as a distinct concept with respect to strategy (Zott, Amit and Massa, 2013).

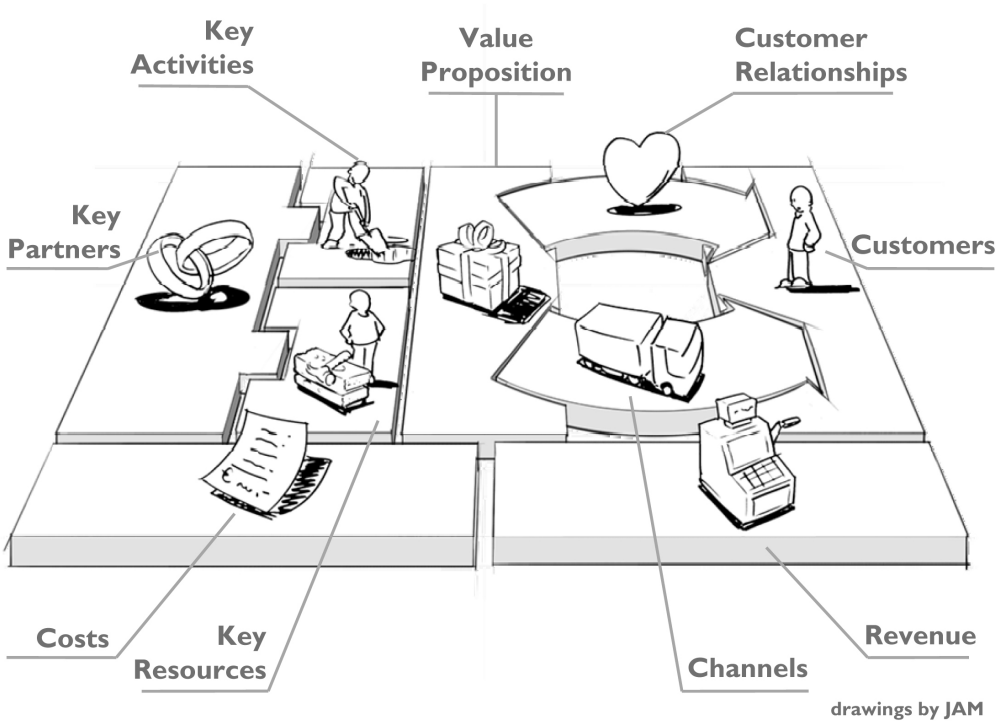
A quite diffused argument in management research sustains that, even if Business Model is not the same as strategy, Business Model has a role in the company's competitive positioning, as it can represent a source of competitive advantage itself. As suggested by Magretta (2002), when a new model influences an industry's economic dynamics and is also difficult for competitors to imitate, it can generate competitive advantage. On the same line of reasoning, Teece (2010) argues that a Business Model can be a source of competitive advantage by addressing particular customer needs and featuring the attribute of non-imitability. The Business Model concept is also strictly connected to firm performance and firm survival, being it key for the company to be able to exploit market opportunities (George and Bock, 2011).

Tools for managers

Once they understand the concept of Business Model, managers need to adopt tools that can help them describing and getting to know their own Business Model in depth. One of the most widespread tools is Osterwalder's Business Model Canvas[1], a framework that serves to depict the configuration of a company's Business Model, either to develop a new one or to illustrate an existing one. The "Canvas" at issue is basically a template that seeks to represent a company's Business Model as a set of nine basic building blocks, as depicted in Figure 1.

[1] http://www.businessmodelgeneration.com/canvas/bmc

Figure 1: Graphic representation of the Business Model canvas



Source: Osterwalder and Pigneur (2009)

- **Customer segments**. Every business needs to identify and define the groups of people or organizations to whom it addresses and decide which segments to serve. As a consequence to this decision, companies have to understand and seek to satisfy the specific customer needs such segments embed. A company can decide to serve different types of segments, for instance mass market as opposed to niche market, segmented groups with slightly different needs, diversified groups with completely distinct needs, or multi-sided markets where different groups have correlated needs.
- **Value proposition**. The above mentioned customer needs are satisfied through a precise offering, a set of products or services, which the company has to clearly set forth in advance. The value proposition is basically the answer to what the identified customer segments need and the reason why they should prefer the company to another one. Some elements that can contribute to the customer's perception of the value delivered can be performance, customization, price, brand image and so on.
- **Channels**. An important element for a business to define is given by its interfaces with the customers, namely how the company can reach the customers for many different purposes. Indeed, the firm needs to get in touch with the audience first to deliver its message and create awareness, so as to help customers evaluate the

offering, then to allow them to purchase the good or service and of course for delivering it, and finally to offer a proper after-sales service. The company can use one or more channels to pursue each of these purposes, recurring for example to sales force, web, own stores, partner stores and wholesale, possibly integrating different types of channel (such as online and offline).

- **Customer relationships**. A firm should specify which kind of relationship it aims to set with its customer base, distinguishing from segment to segment. The choice of the relationship type can vary depending on the goal of the company, which could be for instance customer acquisition, retention, upselling and so on.
- **Revenue streams**. If all the elements above have been defined correctly and they result in a valuable offering, then customers will be willing to pay for it and they will drive revenue generation. Representing the revenue streams for a company means identifying which customer segments pay for the product/service and how they pay. A Business Model can generate revenues in different ways: asset sale (the most popular one), usage or subscription fees, lending, licensing, brokerage fees. Moreover, there are several types of Business Models that incorporate some "free" elements (McGrath, 2010), hence revenues are generated in an indirect way, are limited or sometimes even absent. The most common models are the following: *advertising*, in which the company is paid by an advertiser for having access to the firm's audience; *cross-subsidization*, where the company offers a bundle of products/services of which certain items are given away for free or at low prices; *promotion*, where a good is given away at a low price to promote something else (such as McDonald's free toys with the kids' menu); *freemium*, in which the firm offers a basic version of the product/service (for example a software) for free, to induce a number of customers to pay for the "premium" version; *barter*, where the product/service is offered for free to the ones who give some kind of contribution back to the company; *gratis*, where the offer is simply given away for free without expecting any contribution back.
- **Key resources**. The value proposition is based on a number of key assets that the company should explicit. Such key resources can be physical (plants, buildings, machinery etc.), intellectual (brands, customer databases, patents, explicit knowledge etc.), human (embedding tacit knowledge) or financial (mainly cash, but also lines of credit, stock options etc.).
- **Key activities**. If key resources represent what the company must have to make the Business Model work, key activities represent what it must do for this purpose. They

correspond to the company's capabilities, hence the processes that combine resources to create and deliver value competently. Resources and capabilities are key not only for the company's Business Model but also for its strategy. Indeed, together they are the firm's competitive assets, and consequently the basis for a sustainable competitive advantage.

- **Key partnerships**. A company needs to put in place working relationships with business partners, suppliers and other actors to allow for key activities to be carried out. For instance, it can establish alliances or joint ventures, either with non-competitors or with competitors, or buyer-supplier agreements. The goals can be different: to ensure a reliable partner in the supply chain, to exploit economies of scale, to reduce competition, to access particular resources and capabilities that the company lacks internally, to catch new business opportunities, to spread the business risk and so on.
- **Cost structure**. No business can set forth activities to create and deliver value without incurring in costs. When describing its own cost structure, a company must identify elements such as the presence of economies of scale or scope, as well as the percentage of fixed and variable cost to understand its flexibility in case of fluctuation. Looking at the bottom part of the Canvas, namely at the cost structure and revenue streams sides, a company's Business Model can be defined cost-driven or value-driven. Cost-driven Business Models focus on minimizing costs, whereas value-driven Business Models focus on value creation and aim at gaining a price premium over competitors.

The Business Model Canvas is now more than 15 years old and has gained enormous popularity among managers. In a recent survey among Canvas users conducted by Alex Osterwalder's collaborators in his Strategyzer blog[2], interesting highlights about Canvas usage and correlated motivations have emerged. Among the contributions that the framework has given in creating value for its users, the top ones are improved conversations on strategy, the provision of a shared language and overall better ideas on the table (Figure 2). Indeed, an effective way to apply this template is to try to fill it out by sharing ideas with collaborators within the company, in a dynamic way and through constructive dialogues. Indeed, if it were the CEO alone to describe its own business, he/she would be easily subject to biases in

[2] http://blog.strategyzer.com/posts/2015/2/9/why-and-how-organizations-around-the-world-apply-the-business-model-canvas

decision making (for instance escalation of commitment), while with contributions from colleagues or even subordinates the process would be enriched by a variety of contributions. Thus, not only the output is likely to be better, since group decision making is typically effective in detecting mistakes and in providing a wider view on the issue (better ideas/brainstorming), but also the atmosphere within the company is likely to be improved, as the results of the survey show. Indeed, involving people in the process can help to improve communication (create a shared language) and to raise people's attention towards strategic issues (better conversations on strategy), so that everybody is aligned with the direction the business should take.

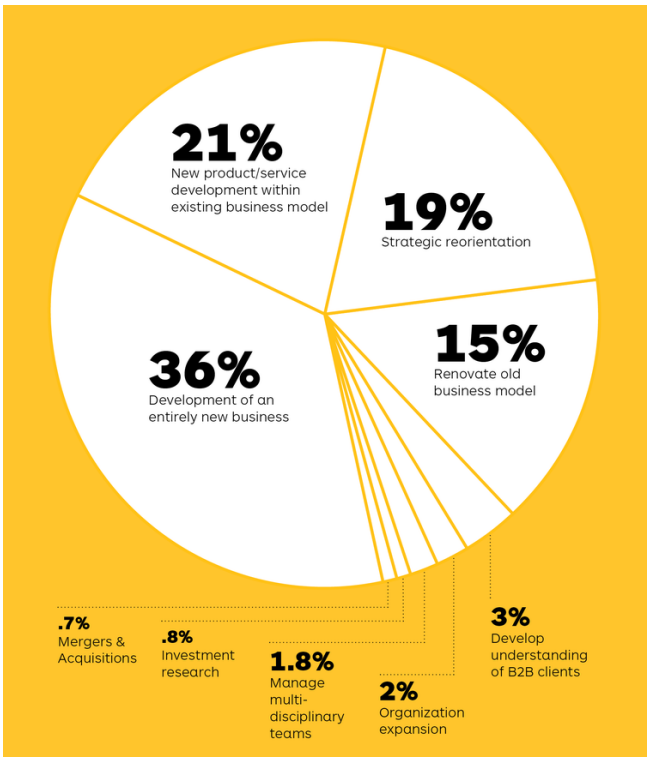
Figure 2: How the Business Model canvas creates value for users

Source: blog.strategyzer.com

This template is pretty versatile, as can be seen from the fact that firms use it in different business areas and for different reasons (Figure 3). A big part of respondents have used it to establish a new business from scratch (36%). The rest is more or less fragmented into different answers. However, taking a close look to the reasons mentioned, we notice that several are linked: new product/service development within the existing business (21%), strategic reorientation (15%), renovation of old Business Model (19%), but also merger and

acquisition (7%) and organizational reorientation (2%), are all correlated by the common thread of Business Model Innovation. Indeed, all of these reasons involve some kind of revision and modification to an existing Business Model, whether it is a fine-tuning of the model or a complete renovation. Hence, if we put the above-mentioned reasons together as a unique set, we can assert that over 60% of respondents have used the model to introduce some kind of innovation in its Business Model.

Figure 3: Reasons for using the Business Model canvas



Source: blog.strategyzer.com

1.3 Business Model Innovation

Definition of Business Model Innovation

The considerations above are logically linked with the topic of Business Model Innovation, which is increasingly present in strategic literature among those scholars that are interested in the dynamic elements of Business Model and its evolution with respect to the environmental stimuli.

Literature about Business Models has traditionally been characterized by a predominantly static view, based on the conceptualization of Business Model components (like in Amit and Zott, 2001; Osterwalder, Pigneur, and Tucci, 2005) or on the cutting-edge potentialities of

new Business Model forms (like in Chesbrough and Rosenbloom, 2002; Chesbrough, 2007). It is only recently that this predominant view has been overcome by a new and more dynamic perspective, giving more attention to Business Model transformations rather than to its static attributes (Saebi, 2015). Indeed, it is important to focus on how Business Model changes in response to external opportunities and threats.

Table 2: Main definitions of Business Model Innovation in strategic management literature

Article	**Author(s)**	**Definition of Business Model Innovation**
Understanding management models: going beyond "What" and "Why" to "How" work gets done in organizations	Birkinshaw, Ansari (2015)	"How a firm changes its business models" (p.85)
Towards systematic business model innovation: Lessons from product innovation management	Bucherer, Eisert, Gassman (2012)	"We define business model innovation as a process that deliberately changes the core elements of a firm and its business logic" (p. 184)
Business model innovation	Massa, Tucci (2013)	"Business Model Innovation may refer to (1) the design of novel Business Models for newly formed organizations" (Business Model design) "or (2) the reconfiguration of existing Business Models" (Business Model reconfiguration) (p. 8)
Evolution, adaptation or innovation? A contingency framework on business model dynamics	Saebi (2015)	"The process by which management actively innovates the internal and/or external dimensions of the business model to disrupt market conditions" (p. 149)
Business model design and the performance of entrepreneurial firms	Zott, Amit (2007)	"Business model innovation may complement innovation in products and services, methods of production, distribution or marketing, and markets (Schumpeter 1934). A novel business model either creates a new market or innovates transactions in existing markets" (p. 184)

Source: Personal elaboration

As can be seen from the table above, literature has proposed quite different definitions for Business Model Innovation. For the sake of the present work, we will focus mainly on the definition provided by Bucherer, Eisert and Gassmann (2012), defining Business Model Innovation as "a process that deliberately changes the core elements of a firm and its business logic" (Bucherer, Eisert and Gassmann, 2012, p. 184). Coherently, Birkinshaw and Ansari in their article inserted in the handbook "Business Model Innovation – The organizational dimension", edited by Saebi and Foss (2015), associate Business Model Innovation to the ways in which the company changes its existing Business Model(s). Therefore, Business Model Innovation can be intended as *a change process involving the company's Business Model, whereby the firm makes purposeful modifications to its core elements and to its*

business logic. Another stream in extant literature adopts a more disruptive view, stemming from Christensen's (1997) concept of "disruptive innovation", whereby Business Model Innovation is a process that overturns extant competitive conditions creating something completely new for the industry (Saebi, 2015; Bock, 2012). Basically, while this more radical view on Business Model Innovation refers to innovations that are new to the industry, our broader acceptation, as explained above, entails innovations that are new solely to the firm. Therefore, for the sake of this work, we can interpret this disruptive view in the sense that a possible outcome of a Business Model change process, as suggested by Saebi (2015), is the disruption of market conditions, meaning that it has the potential to actively modify the competitive environment. This somehow supports what sustained by Zott and Amit (2007): a novel business model "either creates a new market or innovates transactions in existing markets". Nevertheless, we will not consider the actual ability to disrupt markets as essential to the definition of Business Model Innovation, since benefits from innovation can be observed at the organizational level without necessarily impacting the competitive environment. As suggested by Zott and Amit (2007), "Changes to business model design […] can be subtle; even when they might not have the poten- tial to disrupt an industry, they can still yield important benefits to the innovator" (Zott and Amit, 2007, p. 44). Rather, we will intend Business Model Innovation in the broader sense of Business Model deliberate change.

According to Amit and Zott (2012) and building on their definition of Business Model (2001), Business Model Innovation can be pursued by adding novel activities to the business (working on *content*), by linking such activities in novel ways (*structure*), or by changing the parties involved (*governance*). Usually, Business Model Innovation is the result of changes to more than one of these items, and usually such changes are interrelated to one another. A good example of Business Model Innovation is the one of Lego, displayed in Box 1.

Business Model Innovations have the power to create a new market for the company products or services, but they can also enable a firm to create and exploit new opportunities in markets that already existed before (Amit and Zott, 2012).

Business Model Innovation is different from more traditional types of innovation, like product or process innovation. However, a company's value proposition depends also on its offer, namely its products and services, and in the same way a firm's operational model is influences by the processes implemented internally. Therefore, it is reasonable to assert Business Model Innovation occurrence can be linked to product or process innovations.

This does not prevent Business Model Innovation from taking place independently, since also other core elements of the Business Model can lead to Business Model Innovation, alone or

jointly with respect to product/service offering and processes (Bucherer, Eisert and Gassmann, 2012).

A widely shared view in the Business Model Innovation literature is anchored to the assumption that what constitutes the basis for such innovation is some idea or technology (Chesbrough, 2010), which is the essential trigger for innovation. As suggested by Bogers, Sund and Villarroel (2015), this idea can come from various sources, like the entrepreneur, the organization, collaborations and partnerships between organizations. However, what is fundamental is that the organization develops the right Business Model to unlock the potential value of such new technology (Chesbrough and Rosenbloom, 2002) and to market the innovation properly (Teece, 2010).

Box 1: The Lego case

THE LEGO CASE

Lego, based in Billund, Denmark, is one of the major toy producers in the world, with sales amounting to DKK 35.8 billion in 2015, recording an impressive 25% growth with respect to 2014. However, in the last decade the company engaged in some questionable strategic choices about its diversification strategy, which were not very enthusiastically welcomed by customers. This led to a significant performance drop, bringing the company close to bankruptcy in 2004. To solve the imminent crisis, a new CEO, Jørgen Vig Knudstorp, was appointed. He managed to take the lead of the situation and got the company going again through bringing some substantial innovations into Lego's Business Model.

- **Cut of inputs and product offering**. Lego gradually eliminated the manufacturing of most non-construction products and sold many assets including theme parks, while in parallel reducing the components sourced for production.
- **Supply chain restructuring**. Knudstorp abandoned the previously vertically integrated structure by outsourcing part of production to Flextronics, an external manufacturer, while keeping the production of the most advanced items in-house.
- **User communities and co-development**. Lego involved in product development distributors like Wal-Mart and Toys "R" Us, but also customers through communities allowing user collaboration in the design of products.
- **Digitalization of operations and products**.

The aforementioned innovations involve all the aspects of Business Model (content, structure and governance). Indeed, Lego was able to work on what is being exchange in its transactions (content) by cutting its inputs and changing the product range, while simultaneously involving new actors in the transactions (governance) through co-development with customers and distributors, and establishing new links between them (structure) through digitalization, communities and an overall supply chain restructuring.

Sources: Stieglitz and Foss (2015), https://www.lego.com, http://fortune.com/2016/03/01/lego-sales-toys-2015/

Driving forces for Business Model Innovation

Business Model Innovation has been gaining increased relevance for economists and managers nowadays. "Business Models really matter because industry boundaries don't matter anymore", Alex Osterwalder has recently declared in his *Discussion: Companies are waking up to Business Model Innovation* (2016) in his Strategyzer blog[3]. New ideas and new Business Models are continuously surging, in line with an increasingly turbulent environment. That is why being able to innovate promptly is key for staying in the market.

Indeed, the continuous shifts in the economy and in the competitive setting that affect the current economic landscape pose different opportunities and threats to businesses. Such shifts are driven by many different ***change forces***, which can be external as well as internal to the organization and which push companies to operate significant changes in their Business Model elements.

- **Globalization**

Modern companies need to understand that their competitive floor is not a single national market anymore, but the world is. Indeed, borders between states are gradually fading in favour of a globalized economy, thanks to growing international trade and to easier and faster communication. This leads more and more companies to go for a globalized value chain approach, relocating each activity or process in the country where it costs less or where the necessary resources or capabilities are present. The increasing phenomenon of delocalization in low-cost countries certainly represents an opportunity for companies, but it also significantly increases the overall systemic risk for businesses. Moreover, globalization has relevant implications for competition, which is becoming global, with the consequent threat of foreign players from low-cost countries entering the market. Emerging countries like China and India represent a more and more competitive threat for advanced economies. An example can be the terrific surge in GDP per capita these countries are witnessing: this is just a signal of their relentless stepping into the worldwide competitive environment with increasingly winning solutions. The clearest examples are in the high-tech industry, where Chinese mobile phone sales worldwide are rising considerably, stealing market share to established firms[4].

[3] https://soundcloud.com/strategyzer/q2-why-does-business-model-innovation-matter?in=strategyzer/sets/discussion-companies-are-waking-up-to-business-model-innovation#t=0:00

[4] https://www.bloomberg.com/gadfly/articles/2016-08-22/xiaomi-s-u-s-incursion-sends-a-chinese-warning-to-apple

- **Market forces**

A turbulent setting is shaped also by events interesting the market environment, requiring businesses to be prompt and reactive. For example, escalating customer expectations, especially critical for service providers, or unexpected market shifts can be very challenging for companies. In addition, the buyers' bargaining power is enormously increasing. This is mainly due to an increased price transparency, thanks to the easier access to information, which makes it easier for customers to compare goods and services from different providers and choose the most advantageous one. Moreover, there are so many options in the market that almost any product or service has a valid alternative offered by competitors; hence it is more and more difficult to differentiate on the sole base of products or services.

- **Technological advances**

The contemporary landscape is characterized by continuously evolving technologies, with new trends emerging almost daily. Just to mention some, today's hot topics in technology are represented by nexus technologies, like cloud and remote sharing, big data, social media, digital and e-business, artificial intelligence and many more[5]. Suffice it to say that Internet usage in the world has increased from about 1% of the population in 1995 to 40% today[6]: if twenty years ago the web was just a brand-new trend that innovators might dare to ride, today it is an established technological element, yet still expanding, which any company cannot afford to leave out of consideration. The issue is that innovators raise the bar for the industry, requiring businesses not only to adapt to new technologies, but also to be on the front line to innovate themselves, if not in terms of products or technologies at least in terms of business model. Overall, technological shifts lead to higher disruption, shorter Business Model and product life cycles, to cope with which companies need to be reactive and ready to innovate.

- **Industry dynamics**

Businesses are increasingly challenged also by issues that interest specific industries or industrial practices. For instance, one is deregulation, which has direct implications on competition and exposes businesses to higher risks. Moreover, the current consciousness towards environmental issues puts companies in front of challenging social and ecological constraints, which require organizations to revise their practices to meet certain standards.

[5] http://www.cmswire.com/digital-workplace/emerging-technologies-promise-business-opportunities-gartner-says/

[6] http://data.worldbank.org/indicator/IT.NET.USER.P2

- **Organizational issues**

As emerges from IBM's 2006 "Global CEO study", also internal problems such as the ones linked to workforce matter to CEOs. For instance, motivational issues, turnover, but also changing employee regulations can push firms to deal with organizational changes.

All of these forces shape a turbulent and increasingly risky environment, where the status quo is continuously upturned. Moreover, the relentless shifts in technology and in competition lead financial markets to require to companies unheard-of growth. The situation seems to be particularly critical for high-tech and digital businesses. According to Gartner[7], a lot of digital companies are now transforming their Business Model, but only about 30% of them will turn out to be successful, namely only the ones who are ready to innovate rapidly on the Business Model side but also in terms of business process and technology. It can be explained by the fact that digital business' need to be adaptive and agile in changing is probably more accentuated than for other types of companies. According to Julie Short, research director at Gartner, "It's imperative to break away from linear business processes and deploy a spectrum of standardized and variable processes to reap the benefits of digital business". For instance, with technology evolving so rapidly, customers expect a prompt inter-connection between things and the use of real-time information as inputs; therefore, firms need to conceive business processes that are designed for change in order to promptly use such information. This is possible thanks to flexible and dynamic processes, while it is harder when using large, stable and more static ones.

An important thing to understand is that "Delivering expected returns from digital business investments requires process reinvention — that is, significant innovation in how products and services are created, priced, distributed and serviced across not just one group, but often across the entire value chain", as declared by Mark Kerremans, research director at Gartner. The point is that digital businesses inevitably operate changes on the competitive environment. As a consequence, one-time disruptive changes are not suitable anymore, but continuous reinvention processes, sometimes even unpredicted, are required. Therefore, what companies need to embody in their organizations is the ability to adapt, using creativity and resilience, to be always ready to sustain such transitions.

The aforementioned change forces have the potential to challenge the viability of firms' Business Models, raising the thorny issue of *sustainability*: how can a business keep up with

[7] http://www.gartner.com/newsroom/id/2968317

all of these changes, survive, and possibly gain competitive advantage over competitors? The answer lays in Business Model Innovation: challenged by a constantly evolving context, organizations need to adjust and reassess their Business Model in order to continue operating (Linder and Cantrell, 2000; Amit, 2010). Indeed, these changes can either directly push the company to react and evolve, or they can determine downturn situations, which require necessary innovation to be overcome. Aware of this, two out of three CEOs involved in IBM's Global CEO Study expect their organizations to be interested by some kind of change in the next couple of years. As a matter of fact, factors such as rapidly evolving competition, technological advances, market shifts and so on, create a context of instability, where Business Model Innovation best shows its great potential (BCG, 2009) by allowing firms to break out intense competition, to face economic disruptions or even to tackle downturn conditions using an innovative approach.

Another key element of this landscape is given by ***competition***. Not only Business Model Innovation can be a reaction of competitive pressures, but it can also be driven by the need to do some competitive moves before rivals. Indeed, 40% of the Business Model innovators interviewed in IBM's Global CEO Study changed their Business Model pushed by the fear that their competitors could carry out some Business Model Innovation first. This event would lead to an inevitable impact on the industry's competitive dynamics, making timing fundamental for innovation. Being late in innovating would mean leaving competitors with a huge advantage and hence losing ground in terms of competitive positioning.

Both the environmental forces and the competitive pressures described above can drive and influence Business Model Innovation, either individually or in combination, and the Business Model Innovation thus generated can be either *defensive* or *proactive*. Indeed, companies can innovate to protect their core business from environmental or competitive threats, but they can also change their Business Model Innovation proactively in order to explore new opportunities or to actively threaten competitors (BCG, 2009). The latter approach (acting to create threats rather than to pre-empt them) possibly drives to a more robust innovation and consequently to a more viable business.

Business Model Innovation and competitive positioning

Many scholars have dealt with the issue of the importance of Business Model Innovation for firm performance. Not only Business Model itself has a role in competitive positioning, as said above (Magretta, 2002; Teece, 2010), but also Business Model Innovation has. Firms are

motivated to change and improve their Business Model because innovative Business Models represent a major source of competitive advantage for companies, as well as a driver for their performance (Zott and Amit, 2007). From the point of view of competitive positioning, Business Model Innovation matters because it is more difficult for competitors to imitate a whole innovative system of activities, like a Business Model, rather than an isolated product or process innovation. As a consequence, through Business Model Innovation companies are more likely to defend their competitive position and to gain sustainable competitive advantage. If we draw a comparison between product/service innovation and Business Model Innovation, we can assert that the former is often relatively easy to copy, sometimes even managing to make the same thing but in a cheaper way (as can be seen with Chinese electronics and mobile manufacturers); on the other hand, Business Model Innovation is likely to be extremely hard to imitate, as suggested by Bucherer, Eisert and Gassmann (2012). The authors report the view by Kim and Mauborgne (1999) in arguing that Business Model Innovation's strong point is that it allows the firm to change the rules of the game, giving to the innovator a substantial advantage over competitors. Novel Business Models make imitation difficult for competitors because they require complex and idiosyncratic efforts. Indeed, to innovate its Business Model, a company must operate simultaneous changes to more elements, which makes the process complex, hard and time-consuming (Bucherer, Eisert and Gassmann, 2012). Such efforts must also be consistent with the specific company's strategy, in line with its culture and leverage on its competences. In other words, Business Model Innovations can be said to be organization-dependent. Moreover, the tighter the fit among Business Model elements, the more it will be difficult for competitors to grasp the basis for the firm competitive advantage and to imitate it (Stieglitz and Foss, 2015).

It is thus possible to assert that Business Model Innovation exhibits the feature of inimitability. If we adopt the Resource Based View's jargon (Peteraf, 1993) an underlying factor for such inimitability is causal ambiguity: the source of the company's competitive advantage is not identifiable, and therefore it is not possible to copy it or to export it to another organization. This is particularly true if the underlying asset is socially complex, meaning that it is subject to interaction patterns that cannot take place only in presence of its individual elements alone. That is the case of Business Model Innovation: a competitor cannot hope to reproduce the overall Business Model Innovation only by copying single Business Model elements. Thus, the strength of Business Model Innovation lies in the fact that the imitator should have specific insight in the organizations to fully understand it.

Morris, Schindehutte and Allen (2005) further detail such considerations by distinguishing

two levels in a company's Business Model. According to the author, sustainable advantage ultimately depends on what he terms the proprietary level of the organization, meaning the management's ability to find novel and unique ways to approach basic Business Model decision, as opposed to the foundation level, represented by such very decisions. While the foundation level is generic and allows for general comparisons across companies, the proprietary level is strategy-specific. Coherently, while the foundation level is easy for competitors to copy, the proprietary level is inimitable thanks to the tight and complex interactions among proprietary level elements, which leads to competitive advantage. For this advantage to be sustainable, it must be coupled with consistency, in terms of both internal and external fit. This means that Business Model novel elements must be configured coherently with one another and with the elements of the organization, but they must also exhibit features that are appropriate for the external environment.

Thus, the more Business Model Innovation is based on complex interactions and on consistency with the organization and with the environment, the more it is a source of defendable and sustainable competitive advantage.

The importance of the Business Model Innovation phenomenon

Business Model Innovation is often conceived in combination with other types of innovations, such as product or operational innovation, though being substantially different. According to a global survey conducted on about 4.000 managers by the Economist Intelligence Unit in 2005, more than half of respondents preferred innovation in business model to new product/service development as a source of future competitive advantage. This supports the considerations made above about the importance of Business Model Innovation for competitive positioning.

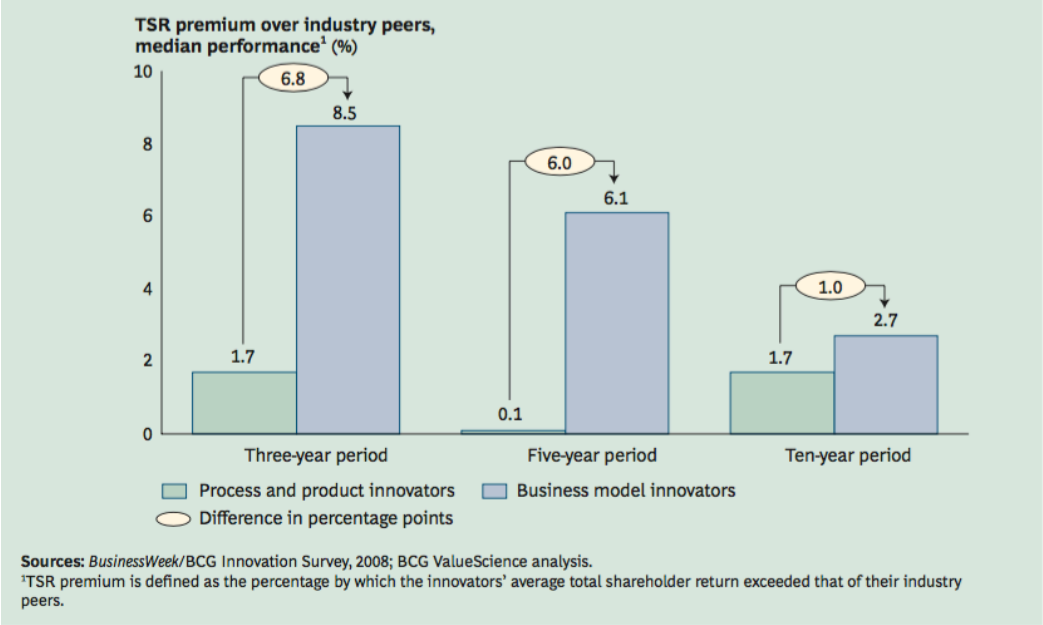
Many studies show that Business Model Innovation exhibits distinctive features with respect to other types of innovation, which make it the most complex but to certain extents also the most effective.

Several studies show that Business Model Innovation is generally more challenging than product or process innovation. Indeed, 94% of the 1,500 senior executives interviewed by The Boston Consulting Group in its 2014 research on the most innovative companies have engaged in Business Model Innovation for their companies to some extent, but just 27% actively pursued it. These figures make us understand that Business Model Innovation is very

appealing to firms, which undoubtedly understand its great potential, but its actual implementation is much more demanding.

Though more complex and challenging to apply, Business Model Innovation in the end shows to be more profitable and even more sustainable than other types of innovation. Indeed, the survey conducted by BCG jointly with BusinessWeek in 2009, comparing the performances of Business Model innovators and product innovators or process innovators, has shown that the average premium over competitors gained by the former was almost four times the one gained by the latter, and it continued to be considerably higher even in the following years. As shown in Figure 4, Business Model innovators' average total shareholder return exceeded the one of competitors by about 8,5% in the three-year period, 6,8% higher than the premium gained by product innovators. Such excess resulted to gradually decline over years, but to stay positive and to continue to overcome the one registered for product innovators by about 1% even in the ten-year period.

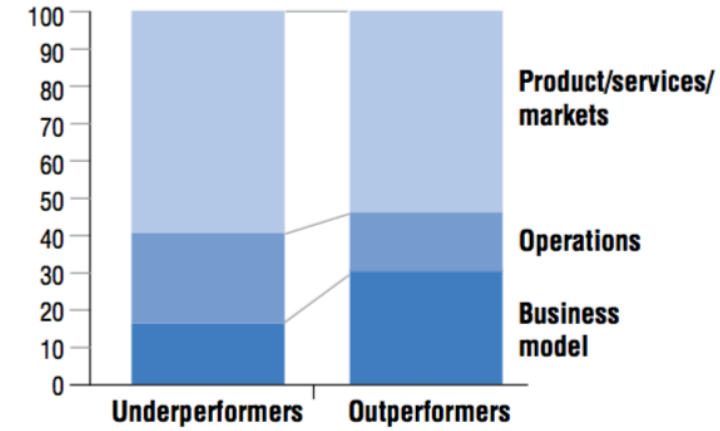
Figure 4: Business Model innovators' performance compared with traditional innovators



Source: BCG (2009)

The profitability of Business Model Innovation emerges also from IBM's Global CEO Study, according to which outperformers (companies with operating margins growing faster than competitive peers) resulted to be exerting in Business Model Innovation an effort worth approximately two times the one of underperformers, as from Figure 5.

Figure 5: Innovation priorities of outperformers compared to underperformers (percentage of emphasis)



Source: IBM Global CEO study (2006)

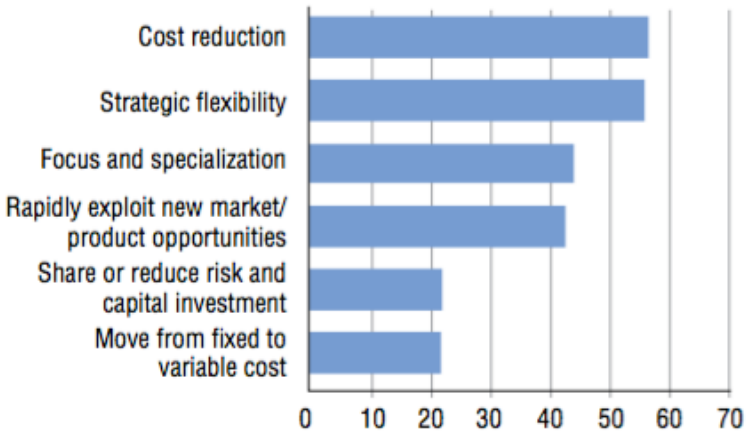
Even if it can be coupled with other types of innovation (product and operational), Business Model Innovation resulted to be the type with the strongest correlation with operating margin growth. Under this profile, the results of IBM's Global CEO Study appear slightly different with respect to the ones by BCG: while Business Model Innovation leads to higher growth in operating margin, it is not the one exhibiting the highest sustainability, since other types of innovation (product/service/market and operational) seem to lead to sustainable margins over time.

As emerging from the same study, the most relevant forms of Business Model Innovation are represented by changes in the organizational structure (almost 70% of the Business Model innovators) and strategic partnerships (over 50%). This latter aspect perfectly reflects the dynamics occurring in the contemporary environment: in front of increasing and globalized competition, together with continuous market shifts, the wisest response by companies is to join forces with external actors in the direction of value creation that reveals to be reciprocally advantageous for the parties.

As a matter of fact, a relevant aspect that intervenes in Business Model Innovation is external collaboration, namely collaboration with business partners, customers, suppliers and so on. According to IBM's Global CEO Study, business partners and customers were among the most important sources of innovation for managers, at the expense of internal sources as R&D, typically linked to product/service innovation. Indeed, cooperation is considered important for innovation by about 75% of the CEOs interviewed, even if fewer companies were actually exerting efforts in collaboration.

As shown in Figure 6, among the benefits coming from Business Model Innovation, the most relevant ones were found to be cost reduction and strategic flexibility, noticed by over 40% of respondents. As a matter of fact, being able to innovate one's Business Model allows firms to be more agile and faster in pinpointing opportunities, which enables them not only to reduce costs but also to boost revenues.

Figure 6: Benefits of Business Model Innovation according to the innovators (percentage of respondents)



Source: IBM Global CEO study (2006)

What is required to managers is to wisely mix different types of innovation according to the specific needs of the company and its strategic objectives, without neglecting the vital importance of Business Model Innovation. Indeed, as shown by the studies mentioned in this section, it is not conceivable to change one's product, service or operations without questioning and possibly changing also one's Business Model. Here is where the greatest potential for competitive advantage lies.

1.4 Conclusion

The Business Model is the logic through which a firm pursues value creation, delivery and capture, and the process of Business Model Innovation entails some purposeful change to this logic. This process is becoming an increasing popular phenomenon in today's economy, and it is particularly interesting for the following reasons.

- In a landscape characterized by turbulent changes such as technological innovations and the intense dynamics of a globalized competition, one cannot neglect to improve

its Business Model in order to survive and to create value.

- Business Model Innovation can be an important source of sustainable competitive advantage because, differently from product innovation, it entails complex interdependencies among complementary elements, and thus it is hard for competitors to imitate.
- The phenomenon of Business Model Innovation is gaining popularity across managers; numbers show that it is being preferred over other types of innovations and that it yields superior performance results.

CHAPTER 2

DRIVERS OF SUCCESSFUL BUSINESS MODEL INNOVATION

2.1 Introduction

In the present chapter, we are going through the main pieces of literature exhibiting insights into the relationship between Business Model Innovation and firm performance. After that, we are exploring the factors at the basis of this relationship, that is to say the elements that drive a company's predisposition to undertake Business Model Innovation. Being the field relatively new and being the theme quite complex, the literature about Business Model Innovation results to be heterogeneous. Therefore, this chapter will consist in a collection of different views both on what "success", "value" and "superior performance" mean and on what are the drivers for such performance achievements. However, this does not mean that the different theories illustrated exclude each other. The purpose of the chapter is to offer an overview on the existing lines of thought, trying to give possible answers to the question: "What drives Business Model Innovation, and what makes it successful?"

2.2 Sources of value creation

In order to investigate the link between Business Model dynamics and firm performance, we need to understand in which direction managers should move when innovating their Business Model. In other words, which elements should a company introduce to create value?

Amit and Zott (2001) developed a theory to study the process of value creation limitedly to the context of e-businesses, and thus with reference to virtual markets in particular. Specifically, the authors have studied the influence of certain elements, called "sources of value creation" or "value drivers", to the value creation potential of e-businesses. By the expressions "sources of value creation" and "value drivers", the authors mean those factors that enhance the total value created by the business, whoever is the participant to the transaction that appropriates such value. Namely, the authors identified four main value drivers: efficiency, novelty, complementarities and lock-in.

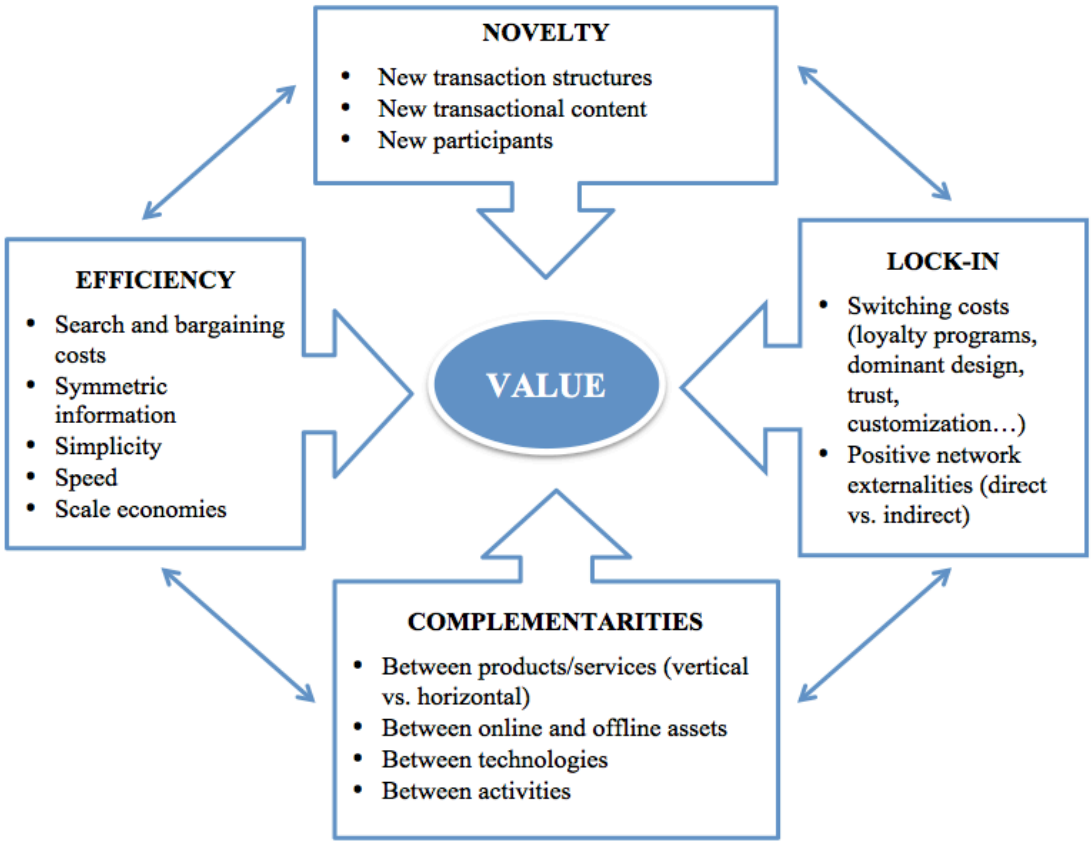
The research was carried out through an integration of within-case analysis and cross-case analysis. The analysis was based on data collected in in-depth inquiries to 59 firms using a replication logic, namely operating on multiple cases and with multiple investigators, which were then triangulated with archival data.

The core finding of the article at issue is that modern businesses like e-businesses create value through innovative transaction means, different from the tools used by more traditional companies, thereby making it necessary to find a unit of analysis that spans firm and industry boundaries. That is why the authors elected the Business Model structure as a unifying unit of analysis. The novel exchange means used by innovative companies involve the interaction of many elements, making the value creation process complex and multifaceted, so much that it is impossible to fully explain it with a single managerial or strategic theory.

The value drivers identified by the authors are innovative constructs, yet inherently anchored in more traditional ones: efficiency is based in transaction costs economics (Williamson, 1975, 1983, 1989), novelty is achieved through Schumpeterian innovation (Schumpeter, 1934, 1939), complementarities are based on resource-based view (Penrose, 1959; Wernerfelt, 1984; Barney, 1991; Peteraf, 1993; Amit and Schoemaker, 1993), and lock-in is a feature of strategic networks (Gulati, Nohria and Zaheer, 2000). However, this theory represents a step forward with respect to more traditional ones: while traditional theories hypothesized that value could be created through value chain configuration, strategic networks and core competences internal to the firm, the value drivers theory identifies the Business Model construct as the locus of value creation. Each of the theories mentioned can offer insights into some aspects of value creation, but what actually explains and captures value created by multiple sources is the Business Model. Indeed, these sources of value creation intervene in the transactions enabled by innovative Business Models, by improving one or more of the transaction elements, namely content, structure and governance (Amit and Zott, 2001). The

value creation potential of transactions is enhanced by the presence of these drivers and by their interaction.

Figure 7: Sources of value creation in e-business



Source: Personal elaboration on Amit and Zott (2001)

The four value drivers

- **Efficiency**

The results of the research at issue show that transaction efficiency is one of the major value drivers for e-businesses. By efficiency we mean the adoption of practices to maximize outputs while minimizing the costs of inputs, thus making the best possible use of available resources. In line with transaction cost economics, whereby the authors call upon the studies by Williamson (1975, 1983, 1989), transaction efficiency increases with the reduction of the costs per transaction. As a consequence, a business' value will be enhanced by its ability to generate transaction efficiency gains and reduce its related costs.

For instance, businesses can achieve efficiency gains by reducing information asymmetries. In contracts, in business relationships and in intra-organizational interactions, it can happen

that one party is more informed about the transaction than the other. This situation can give rise to the manifestation of opportunistic behaviors, when the most informed party exploits its informational advantage against the uninformed one, which is and element contributing to raise the overall cost of the transaction.

If businesses introduce ways to exchange more complete and up-to-date information, possibly through real-time tools, they can minimize the information asymmetries by streamlining communication between business partners, between buyers and sellers or also within the organization. These types of efficiency tools concern mainly the transaction content, since they intervene in the information that is being exchanged, which is an object of the transaction.

Box 2: The Autobytel case

THE AUTOBYTEL CASE

Autobytel is an automotive marketing services company founded in 1995, pioneering the automotive Internet in a period when the web was breaking through. The company owns and manages some popular consumer automotive sites, including autobytel.com. Its mission is to work as an intermediate between car dealers and buyers using Internet lead referral programs and online advertising. Autobytel.com provides potential customers with specific and comprehensive comparative on different car models and their cost relatively to each dealer, so that buyers can make informed decisions in a fast and easy way. This way, search and bargaining costs for customers are minimized and their decision making process is substantially streamlined. On the dealers' side, margins on each transaction might be reduced too, but sales volumes increase at minimum marginal costs. What is essential for Autobytel.com to be effective is that car dealers guarantee prompt delivery of the products, in order to avoid inefficiencies associated with the implementation of the process. This shows that the enactment of efficiency gains is largely driven by the dependability of partners.

Sources: Amit and Zott, 2001; dealer.autobytel.com

Better communication and access to information can be helpful for the transaction structure as well, by improving how the transactions are carried out, for example through enhancing the exchange mechanisms and the transaction speed and simplicity, as well as reducing the relative costs.

For instance, improved communication and information can be helpful for customers. Indeed, it can contribute to reduce search costs, making it easier for customers to compare different offers and to get details about the firm and its products easily. It can also reduce bargaining costs, if the company introduces tools to establish a direct communication with customers.

Another way to achieve efficiency gains is to improve the decision making process, always

exploiting technology and interconnectivity in order to make it faster, more aware and more transparent.

Furthermore, companies can work on cost reduction on many fronts: streamlined supply chain and inventory management, simplified transactions, easier fulfilment of orders and distribution and so on. All of these improvements can lead to an overall increased number of transactions, with the consequent cost savings coming from scalability.

All of this is particularly possible today, with the advent of the 2.0 Internet, especially for innovative businesses linked to technology like e-businesses. Such businesses can leverage on innovative interaction and exchange means, making communication and information research easier and accessible to an increasingly wider number of people. It is the case of Autobytel.com, described in Box 2. However, even offline businesses can attain a certain extent of efficiency, if they have the wit to consistently adopt innovative solutions. This way, many redundant costs linked to the flow of information (for instance, monitoring costs) are cut, the eventualities of mistakes are reduced and eventually the quality of the information transmission is improved.

- **Complementarities**

By complementarities, we mean those synergies that arise when getting a bundle of goods delivers more value than the one created by having the same goods, but separately. This is in line with the Resource Based View, according to which value can be created by setting a unique combination of complementary and specialized resources and capabilities, as Amit and Zott (2001) assert based on the concepts by Penrose (1959) and Barney (1991). Indeed, if a company is able to integrate its resources and capabilities into its organization and with each other, such assets become more valuable, rare, difficult to imitate and to substitute. And the more they are valuable, rare, inimitable and non-substitutable, the more they can be considered a source of sustainable competitive advantage. Also strategic network theory, anchored in the work by Gulati (1999) builds on complementarities, underlining the importance of complementarity relationships among members of a network.

Companies can create complementarities on many fronts. First, they can offer bundles of products or services that are complementary to the eyes of the customer. A tactic is to create *vertical complementarities* by offering the product integrated with something else that is still part of the customer experience, like after-sale service. A company can also establish *horizontal complementarities* with an external partner, by providing an offer that the buyer

values more when she also has the other company's product or service, rather than when she has the product singularly. Moreover, companies can complement online and offline offerings, for example integrating online purchases with after-sales services by physical stores. Of course this is particularly valid for e-businesses, but with the Internet spreading so pervasively it is becoming more and more topical also for all the other businesses.

Ultimately, complementarities improve the company's value proposition by broadening its offer or improving its quality with accessory products or services. This boosts customers' willingness to pay, thereby allowing for significant revenue increases.

The complementarities described above interest all of the three Business Model elements in different ways. They impact on the transaction content to the extent that they intervene in the company's offering, which it is enriched to the eyes of the customer through complementary products or services. They can affect the transaction structure, through the use of particular transaction combinations or cross-selling tools. Lastly, they can impact on governance, to the extent that they improve the collaborations with partners, especially if they have complementary assets that the company can integrate with its own ones.

- **Lock-in**

A business can be able to create value also thanks to its ability to engage customers and business partners in repeated transactions, by inducing the former to make repeated purchases and the latter to develop solid commercial and strategic relationships. The benefits of lock-in are increased transaction volumes and increased customer willingness to pay. Moreover, it prevents key stakeholders like customers and partners from migrating to competitors. Companies can enhance their lock-in potential by increasing the costs (in terms of money, time and effort) that customers or partners would have to bear for switching to another supplier or partner, namely *switching costs*. This way, they would find it more convenient to maintain and nurture their relationship with the company rather than to engage in a new one with another firm. Such costs may be increased through the use of several tactics. One is represented by loyalty programs, incentivizing the customer to repeat purchase and sometimes even to escalate its purchasing habits.

Box 3: The Virgin Atlantic Flying Club case

THE VIRGIN ATLANTIC CASE

The British airline company Virgin Atlantic includes in its offer a loyalty program called Virgin Atlantic Flying Club. Such program offers the possibility to earn tier points together with accumulating miles. The tier points allow customers to access different Club tiers, namely Club Red, Club Silver and Club Gold. Each tier entails progressive rewards, spanning from discounts on car rentals and hotels to the right to priority seating, until the access to exclusive clubhouses. This hooks the customer into repeating its experience with the brand, so much that she is unmotivated to switch to another provider because she would feel giving up these benefits and engaging in a relationship with another brand as a cost which is not worth sustaining.

Source: www.virgin-atlantic.com

One successful example is the case of Virgin Atlantic's Flying Club program, described in Box 3. Introducing loyalty programs is a way to improve the transaction structure and governance, since it implies working both on the participants in the transactions and on the frequency and intensity of such transactions.

Moreover, a firm can build ties based on trust in order to increase the customer or partner engagement in the relationship, influencing the way the transactions are carried out (structure). For customers this can be achieved for example by ensuring safety and reliability in the transactions and in the service component of the offering. For business partners it can be tougher, especially in the case of collaborations like alliances and joint ventures; in such situations, it can be signalled by the commitment in the relationship, determined for example the extent of the material and financial investment in the relationship. In both cases, transparency is key.

Another way to achieve lock-in effects is to work on positive network externalities, as the authors suggest calling upon the theory by Katz and Shapiro (1985), meaning those effects thanks to which the utility that a customer gains from using a good increases as the number of users increases. Network externalities contribute to lock-in, and then to value creation, to the extent that individuals are incentivized to join a certain customer base proportionally to its size. This is particularly true in the context of virtual markets, often based on communities in which customers are interested to stay only if the community is large enough. The more communities are large, the more they allow for frequent and immediate interactions, thus boosting transaction volumes and consequently customer loyalty. Network externalities and communities are linked respectively to the structure and the governance of transaction, since they determine how participant interact and how the base of participants is composed.

Companies, and especially e-businesses, can also build on customer learning and familiarity with the interface, as well as to enable customization as means to increase the customer's time and effort investment in the relationship, consequently discouraging her to give up and start from scratch with another company. Another tactic is to develop a dominant design, for instance by patenting some proprietary technology, so to set the standards for the customer and gain a top-of-mind position. Interfaces, customization and dominant design are elements that shape the content of the Business Model, since they concern the information part of the transaction and thus, ultimately, its the object.

Also other factors embedded in the company, such as its strategic assets, enhance its lock-in potential by affecting the content of the transactions. Intangible assets contribute particularly to this regard, being they more difficult to imitate and to substitute, according to the VRIN framework proposed by Barney (1991). For instance, a company's brand name and brand recognition often constitute the added value that stands at the base of customer loyalty, contributing to lead customers to prefer the specific brand to competitors repeatedly over time. On the other hand, business partners base their loyalty on intellectual property items like business practices, as well as on buyer–seller relationships based on trust.

- **Novelty**

Novelty is the value driver that most concerns the concept of Business Model Innovation in its strict sense. According to Zott and Amit (2007), who in turn call upon Drucker (1985), novelty-centered Business Models focus on innovation, which represents "the specific instrument of entrepreneurship. It is the act that endows resources with a new capacity to create wealth" (Drucker, 1985, p. 30). That is to say, innovation can create wealth by recombining existing resources in a way to shape new designs (Zott and Amit, 2007).

Novelty refers thus to the ability of the business to conduct the transactions it is engaged in in a new way. These new ways can concern any of the transaction elements, namely content, structure or governance. First, a business can come up with a novel transaction content, by introducing innovations on products/services, technology and operations. These kinds of novelty impact on what is being exchanged, be it goods, services or information, and on the assets involved in the delivery of such objects. Therefore, this is the aspect that looks closest to the conventional meaning of "innovation", traditionally interpreted as product innovation.

The introduction of a cutting-edge product or service, or of a new combination of goods, independently on the way it is commercialized, is a blatant example of content innovation.

Companies can innovate also in terms of governance and structure, meaning that they can introduce new parties in the transaction and new links between them. Novelty can be found in innovative and web-based businesses in particular: while innovation has traditionally been conducted on transactional content, e-businesses make a step forward innovating also the way they do businesses (Amit and Zott, 2001).

Novelty is a source of value creation to the extent that the company is able to connect participants that were not connected before, to create new markets, to eliminate inefficiencies in commercial relationships and in inter as well as intra-organizational communications, in a way that enables revenue increases but also an overall enhanced perception of value by the key stakeholders. A good example of novelty is given by OnePlus' Business Model, briefly illustrated in Box 4.

According to a further study (2007) by the authors of the paper at issue, apart from innovating by recombining the assets they control, firms can also create wealth by intervening on the resources of partners, suppliers, and customers who they transact with.

Novelty can lead to reconfigurations of the company and of its assets on various levels. Saebi (2015) asserts that the introduction of disruptive elements of novelty through Business Model Innovation can translate into different innovative outcomes. For instance, Business Model Innovation can yield "industry model innovation", which redefines existing industries, "revenue model innovation", which reconfigures the company's offering and/or pricing models, and "enterprise model innovation", which reconfigures assets and/or modifies the company's relative position in the value chain or value network with respect to the key stakeholders (Saebi, 2015).

Box 4: The OnePlus case

THE ONEPLUS CASE

OnePlus is a Chinese smartphone company founded in 2013 in Shenzhen. Its offering is based on high performance, low cost smartphones, seeking to compete with the high-end phone sellers on the market. It currently sells products through its direct online store over 42 countries worldwide. OnePlus released its first product, the OnePlus One phone, in May 2014, using a formula that was new for the industry and that resulted to be extremely successful, bringing the company to record over $300 million in the first year. The novelty brought by OnePlus was its unique sales proposition, based on an "invitation only" system and taking place exclusively online. To buy a OnePlus phone, customers need to get an invitation from somebody that already got one (or directly from OnePlus, as it happened in the case of the OnePlus One launch). The invitation has an expiration date and, if used within the validity period, it gives to the buyer the right to another invitation, which he can forward to another potential customer in turn.

This system brings novelty to the Business Model's transaction structure: it enables participants in the transaction to interact in a new way, through creating a sort of communication chain among actual and prospective customers and through creating a direct link with the company thanks to the web-based sales proposition. Moreover, the OnePlus website features a dedicated space for the support as well as for a user community, to provide direct assistance also through the involvement of the most knowledgeable customers. Connecting customers with each other in this way (through the invitation system and the community) is innovative, and it enhances the sense of community and the customer engagement. Furthermore, being part of the "OnePlus community" means to receive updates about products and sales. This, together with the "invitation only" formula creates a sense of exclusivity, thereby boosting the customer's perception of value delivered by the brand.

Sources: technode.com, www.theguardian.com, https://oneplus.net

Table 3 depicts the ways in which the four value drivers (or Business Model design themes, as from Zott and Amit, 2008) are captured by the three Business Model elements identified in the definition of Business Model given in the present work, namely content, structure and governance. Though the focus is on virtual markets in particular, as said before, the same considerations can apply to generic businesses as well.

Table 3: Sources of value creation and Business Model elements

	Efficiency	Complementarity	Lock-in	Novelty
Business Model Content	- More information available for decision-making and reduced information asymmetries about participants and goods - Transparency of transactions	- Combination of online and offline resources and capabilities - Access to complementary products, services, information and technologies - Vertical products/services - Horizontal products/services	- Promotion of trust - Participants deploy specialized assets - Dominant design - Customizable and/or personalized offers	- New (combinations of) products, services and information
Business Model Structure	- Exchange mechanisms - Search and bargaining costs - Cost for marketing, sales, transaction processing, communication, inventory - Transaction speed and simplicity - Demand and supply aggregation - Scalability of transaction volumes	- Cross-selling - Integration between activities of participants - Combination of online and offline transactions	- Transaction reliability - Affiliate programs - Direct and indirect network externalities - Transaction safety systems - Learning investments made by participants	- Unprecedented number of participants and/or goods - New links between participants - Patents for business methods, trade secrets or copyrights - First mover position in the introduction of the Business Model
Business Model Governance		- Incentives to develop co-specialized resources - Alliance capabilities of partner	- Loyalty programs - Information flow security and control processes - Community	- New participants and new incentives (e.g. involvement of customers)

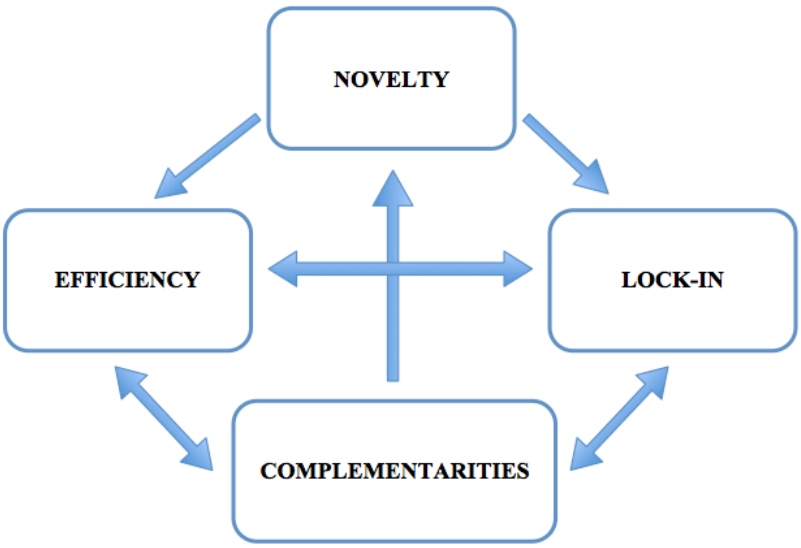
Source: Personal elaboration on Amit and Zott (2001)

Interdependencies among value drivers

The four value drivers are not to be conceived in an isolated way. On the contrary, the manifestation of each value driver can enhance the intensity and the effectiveness of the others (Amit and Zott, 2001). Hence, it is fundamental to abandon the idea according to which value creation can be explained by a single factor and rather go for an integrated approach. The same holds on a theoretical point of view: it is pointless trying to fit value creation in a single theoretical framework, but rather a combination of Transaction Cost Economics, Schumpeterian innovation, Resource-Based View and Strategic Networks concepts could give a wider and more complete explanation of the phenomenon.

A considerable part of the study by Amit and Zott has concerned the interdependencies between value drivers, as summarized in Figure 8. We remind that the findings of this study are focused on e-business, but still they offer important insights into the broader category of offline yet innovative businesses exhibiting some online elements.

Figure 8: Interdependencies among the sources of value creation



Source: Personal elaboration on Amit and Zott (2001)

First, efficiency contributes to the exploitation of complementarities: a company needs low transaction costs and low risks of opportunistic behaviors to enact the integration of complementary resources and capabilities or the offer of bundles of goods with other actors. Complementarities can in turn enhance efficiency, since the company can reduce the customer's search and bargaining cost by directly offering product or services that are complementary to the good she is interested in.

Efficiency and complementarities can contribute to lock-in, since they can work as tools for customer and partner attraction and retention. Indeed, cost reduction and integrated offerings represent a benefit for these stakeholders, and consequently an incentive to stick to their relationship with the company. Lock-in can help efficiency gains and complementarities too. For example, partners are likely to be discouraged from engaging in opportunistic behaviors when they are "locked" in a long-lasting relationship with the company, or when some engagement in the provision of complementary products determines the perspective of repeated transactions with the company. The avoidance of opportunistic behaviors contributes to reduce transaction costs and to boost efficiency.

Complementarity can help enhancing novelty. In fact, the company's ability to uniquely combine complementary elements like its resources and capabilities (Schumpeter, 1934), or to offer a brand new bundle of goods, can determine the emergence of novel solutions that the customer is likely to appreciate.

Novelty, in turn, is an important driver for lock-in. Indeed, innovators have an advantageous position in attracting customers and consequently in retaining them, especially if they operate in a novel field and can exploit a first mover advantage. Being the first in the market helps to reach the critical mass necessary to generate positive network externalities before others, thus gaining a significant competitive advantage over rivals and making it unappealing for customers to switch to competitors.

Novelty can bring efficiency gains too. The lever of novelty can be used at the level of transaction structures in order to minimize search and bargaining costs, as well as information asymmetries, for example between the firm and its customers, but also in order to improve the transaction speed and simplicity. All of these aspects lead to lower transaction costs and improved transaction efficiency.

Let us consider the OnePlus case, exhibited in Box 4. The company's Business Model novelty has enhanced efficiency through allowing the company to speed up communications and transactions with its direct and internet-only distribution, as well as to cut inventory costs thanks to the "invitation only" system enabling the company to produce on a make-to-order basis. It has also helped lock-in, thanks to the network effect of the invitation system and thanks to the customer engagement driven by the user community.

The study by Amit and Zott shows the reciprocal influences among the Business Model themes, but still it exhibits some shortcomings in the definition of the precise relationship between such drivers and the Business Model performance. In other words, we know how the value drivers influence each other, but we do not know which combinations of value drivers bring to superior performance. A step further in this sense has been made in another article by Zott and Amit (2007), in which the authors investigated the effects of efficiency-centered and novelty-centered Business Models on the performance of entrepreneurial firms. The results of this study show that novelty-centered designs are associated with higher performance, both in periods of environmental munificence and in periods characterized by resource scarcity. Data provided mixed support for the hypothesis of relationship between efficiency-based Business Models and firm performance, suggesting that efficiency-based ventures perform better in periods of resource scarcity. Moreover, there is no evidence that a combination of novelty-centered and efficiency-centered designs yields high performance; on the contrary, data suggest that trying to foster both efficiency and novelty may negatively affect performance, maybe due to the development of diseconomies of scope in design (Zott and Amit, 2007). Although these findings give significant insights on the effect of value drivers on performance, they are still narrow since they do not look into possible

configurations given by two or more design themes combined. Moreover, no study has been undertaken yet to investigate whether also negative interactions exist, i.e. whether focusing on one value driver might hamper the development of another one.
Thus, it would be interesting for future research to address the issues of the interdependencies among value drivers and Business Model performance, the configurations that lead to most successful innovations, and the eventual existence of negative interdependencies.

Bringing Business Model Innovation into the framework

It is important to underline that the framework discussed above is not strictly about Business Model Innovation, but rather it seeks to identify which features of e-business' transactions create value. However, it can be further developed to study its implications for innovation and to broaden it to businesses other than web-based ones.
As a matter of fact, it is reasonable to think that managers are interested to know which value drivers and which combination of value drivers they should accent to enhance value creation. To increase the chances to develop the proper Business Model for each situation, a company should try to pursue one or more of the four value drivers according to its specific needs. To do so, it must necessarily operate some changes to its Business Model content, structure or governance (Amit and Zott, 2012), and this *de facto* implies to engage in Business Model Innovation. Therefore, value drivers can be useful to Business Model Innovation because they can help managers to understand in which direction (i.e. improving efficiency, novelty, complementarities or lock-in) they should innovate their firm's Business Model to maximize value creation and appropriation. This is in line with one of the central findings of the study discussed above, namely that a company's Business Model is a fundamental locus of innovation, as well as of value creation (Amit and Zott, 2001).
Moreover, the study by Amit and Zott is focused specifically on e-businesses. However, it is important to underline that it was carried out in the early 2000s, when web-based companies were considered utmost innovation and when Business Models were starting to gain popularity linked to the spreading of the Internet. Nowadays, about 15 years later, it is almost unconceivable for a company to neglect to include some online items in its Business Model, be it the possibility to buy on the website or online customer service. Hence, if we shift this framework to the contemporary setting, it is possible to broaden it to offline businesses and to their value creation potential in the context of Business Model Innovation.

2.3 Organizational elements

Once illustrated the directions along which Business Model Innovation can be conducted in order to drive value creation, it is useful to look into which factors stand at the basis of Business Model Innovation.

Among the factors that explain a company's predisposition for Business Model Innovation and its success potential, several studies refer to elements residing in the organization, such as its resource and capability set, its structure and design, its management. Typically, a new Business Model is not planned *ex ante*, but rather it emerges from a process of design linked to the exploration of the environment, as suggested by Stieglitz and Foss (2015). Therefore, the authors argue that it is fundamental to focus on issues such as the structuring and the management of the Business Model Innovation process at the organizational level.

Several studies, especially in most recent times, focus on such organizational subjects linked to the themes of Business Model and Business Model Innovation. One relevant source is given by the handbook "Business Model Innovation – The organizational dimension", edited by Saebi and Foss in 2015, exhibiting a collection of articles by major strategy and organization authors specialized in the issues of Business Model design and innovation.

In general, literature about Business Model Innovation focusing on its organizational side call into question the fact that it is fundamental for an innovative company to have an organization akin to an exploratory environment. In order to guarantee this, leadership and organizational design are key aspects, along with the transversal issue of the dynamic capabilities that drive such process.

Dynamic capabilities

A pretty shared view in extant literature sustains the idea that firms are internally equipped with different abilities to change Business Models effectively. To this regard, authors often refer to the fact that resources and capabilities, together with existing organizational design, are elements that impact the firm's ability to change its Business Model (Saebi, 2015), thereby calling upon the dynamic capability theory.

Capabilities are those abilities emerging from the assembly and deployment of the company's assets, be they physical or human assets, in a way to foster the organization's collective learning (Leih, Linden and Teece, 2015). A company can have ordinary and dynamic capabilities. Ordinary (or operational) capabilities are related to the ability to produce and to

market a given set of goods. According to Eisenhardt and Martin (see Leih, Linden and Teece, 2015), ordinary capabilities concern organizational elements such as governance and administration, manufacturing, distribution and so on; they are based on routines and standard operating procedures, and so they are a static type of capabilities. Dynamic capabilities have the role of managing and deploying the resources on which ordinary capabilities are based, and therefore they can be defined as high-order capabilities. They are not as static as ordinary capabilities because they intervene in the search for evolutionary fitness, namely the process of alignment of the organization with the environment, as reported in Leih, Linden and Teece (2015). As reported by the authors, Teece (2012) argues that dynamic capabilities are based both on organizational learning as well as on top management skills and anchored in the organizational culture. Thanks to dynamic capabilities, an organization can shape and manage its resource base by seizing market and technological opportunities, in a way that fits the needs of consumers. The authors observe that such capabilities can be found mainly at the management level, but this doesn't prevent them from pervading the whole organization.

This article attributes to dynamic capabilities the capacity to enable companies to seize opportunities in the business environment effectively, by modifying and adapting their Business Model in face of environmental shifts. They enhance the firm's ability to survive longer term, or, as suggested by Helfat et al. (2007), to achieve evolutionary fitness, rather than simple temporary fit with the environment. Hence, it is reasonable to assume that resources and capabilities shape a company's Business Model change ability.

There is a link between Business Model change and dynamic capabilities: they both involve continuous alterations to the firm's legacy of operating capabilities and resources. Moreover, the process of Business Model change needs to be institutionalized to be effective, and this is possible through the use of routines, through a proper organizational structure, and through the use of incentives to stimulate the process. In the same way, dynamic capabilities need to be integrated in the organization through these or similar systematization tools. To this regard, Saebi (2015) suggests that companies need to acquire and develop a particular type of capability called "*business model change capability*": the ability to change its Business Model in response to environmental opportunities and threats, including both the phase of opportunity sensing and the Business Model re-engineering phase (Leih, Linden and Teece, 2015). This way, the firm can grasp the rigidities inherent in its Business Model and overcome them by pursuing change as a wise and structured process.

Dynamic capabilities alone are not enough to drive successful change; they must be deployed at the management level and throughout the organization. Indeed, they need to be anchored in

transformational leadership and in a flexible organization (Leih, Linden and Teece, 2015). It is possible to identify three sets of processes involving dynamic capabilities (Teece, 2007): *sensing*, *seizing* and *transforming*. Each of these groups is linked to Business Model innovation, development, and implementation (Leih, Linden and Teece, 2015). Sensing refers to the identification and assessment of opportunities, manifesting itself in technological discoveries and in the exploration of markets. Seizing involves the deployment of resources to address opportunities in order to capture value; it requires the capability to identify, control and coordinate assets, especially complementary ones, in order to detect market evolutions and eventual unmet needs. Transforming refers to the actual renovation of the organization, and requires capabilities for selectively cutting the product offering, improving communication, and adjusting the organizational structure and culture along with the Business Model. These capabilities are needed especially in case of environmental threats and opportunities that are new to the company and potentially disruptive, but they are also useful on a continuous basis to smoothen the rigidities due to asset accumulation and the systematization of standard operating procedures (Leih, Linden and Teece, 2015).

From the dynamic capabilities framework, it emerges that the successful inter-temporal management of the processes of value creation, value delivery, and value capture represents a critical dynamic capability to the firm. As a consequence, organizational design is key: the company must arrange proper organizational structures and mechanisms to foster value creation and capture (Leih, Linden and Teece, 2015).

As pointed out by Teece in many articles (2010, 2014), other important dynamic capabilities are linked to leadership. For Business Model implementation to be effective, entrepreneurship at the management level is key: managers must not only define the boundaries of the firm, but also articulate vision, mission and objectives, build a coherent culture and create the proper organizational mechanisms to support and stimulate employees. Strong dynamic capabilities allow managers to quickly detect internal problems and external threats, possibly even anticipating them.

Another key dynamic capability resides in the organization internal functioning. What is fundamental for the Business Model change efficiency and effectiveness is internal cooperation, properly coupled with collaboration with external partners. To this end, recalling the capabilities residing in leadership, a strong and well-organized asset orchestration from the top is needed, though collaboration from the lower organizational levels is fundamental.

More detailed considerations about the roles of management and of organizational design will be provided in the following paragraphs.

In order to have an organization akin to Business Model Innovation, a company is required to be equipped with the following sets of dynamic capabilities:

- *Business Model change capability*
- *Sensing, seizing and transforming*
- *Successful inter-temporal management of value creation, delivery and capture*

The role of management and leadership

Since Business Model Innovation is a process that consumes time, effort and organizational resources, the guiding role of management is fundamental for its effectiveness (Stieglitz and Foss, 2015). The issue of leadership is particularly problematic for organizations. Many Business Model Innovations fail or do not even take place because organizations incur into a "business model innovation leadership gap" (Chersbrough, 2007). In other words, it is often hard for companies to identify a figure with the necessary authority or capabilities to take this process in her hands, or simply willing to assume such a responsibility. That is why it is key to understand what the particular competences implied in the specific innovation, and which is consequently the most appropriate figure to carry it out.

Business Model Innovations are different: some may involve changes in some functions only, while others may encompass the whole organization. Hence, the leadership requirements emerging in the change process depend on the type and extent of the Business Model Innovation at issue. On the basis of this consideration, Stieglitz and Foss (2015) came up with a theory according to which a company should match different top management roles with different types of Business Model Innovation, consequently foreseeing different organization design elements and motivation mechanisms.

As from Table 4, this theory articulates Business Model changes on two dimensions (based on Henderson and Clark, 1990): depth (incremental or radical), representing the extent to which innovations are radical, and breadth (modular or architectural), representing the strength of the complementarities between the Business Model elements that are being transformed. Note that the authors refer to depth and breadth of Business Model *change*, but ultimately the description of this change well fits with our initial definition of Business Model Innovation. Hence, in this particular framework, Business Model change can be interpreted as a synonym for Business Model Innovation.

Table 4: Top management role according to the different Business Model change types

Depth of BM changes Breadth of BM changes	Incremental	Radical
Modular	TM as monitor Decentralization—very limited role for top management intervention	TM as sponsor Decentralization—but sponsor in top management team Top management pays attention to organizational externalities
Architectural	TM as moderator Strategic intent—top management provides roadmap and active participation in mutual adjustment	TM as architect Active involvement—in everyday decision making, attention to detail, centralized decisions, highly aligned top management team

Source: Stieglitz and Foss (2015)

Incremental and modular changes yield Continuous Business Model Innovation, associated with incremental process innovations, basically involving a fine-tuning of an existing model. This type of change entails improvement activities that are pretty simple and impact on the Business Model only to a limited extent, so they can easily be decentralized to subordinates. Management is required to intervene limitedly in the process and to act more as a *monitor*, checking the correct development of the change process without directly intervening in the daily activities, and aligning efforts to the innovation without contradicting the existing Business Model. Moreover, top management should continuously check the viability of the innovation in comparison with the environmental conditions, since the risk of this type of innovation is that it may be overwhelmed by the advent of more disruptive changes in the market environment (Stieglitz and Foss, 2015).

Incremental and architectural changes lead to a gradual transformation, or Evolutionary Business Model Innovation. The innovation is more pervasive since it involves the entire Business Model, instead of limiting changes to a single business unit. The role of top management is the one of a *moderator*. Mentioning Lovas and Ghoshal (2000) and Levinthal and March (1993), the authors argue that management is required to create an intervention plan, in order to drive the search for Business Model Innovations and its evolution, and to motivate and engage employees through role modelling. Moreover, the manager must intervene into any eventual conflict occurring in the change process in order to guarantee coherence within the Business Model. This requires a centralized intervention and mutual adjustment tools allowing for formal and informal communication and coordination, to guarantee a unified long-term vision and concerted efforts (Stieglitz and Foss, 2015).

Radical changes matched with modular transformations bring to an Ambidextrous Business Model Innovation, where the manager is required to act as a *sponsor*. The management of the change process is entrusted to a new business unit, which must have the necessary independence to effectively carry out experiments for a radically innovative organizational structure. Thus, decision-making is decentralized and delegated to the new unit, so that it can be fully focused on the new Business Model, rather than on its integration with the existing one, as underlined by the authors. However, links with the extant business units exist and they are loose and managed by standardized or infrequent mutual adjustments. Management uses a hands-off approach by sponsoring the new initiative, though with huge responsibilities. It must deal with a high level of uncertainty, given the exploratory nature of this kind of innovations, which directly impacts on its choices about performance metrics and rewards, and make sure that the direction taken by the new business unit doesn't impair the complementarities existing with the rest of the organization.

Radical and architectural changes generate Revolutionary Business Model Innovation. It is the one entailing the highest level of risk, since it leads the firm to give up the old standards to embrace a whole new system of activities. The manager must act as an *architect*, using entrepreneurial judgment and good communication capabilities for spreading the innovation to the organization. She must actively intervene in the daily processes of experimentation and in decision-making, as well as foster exploration, collaboration and communication.

Similarly, also Birkinshaw and Ansari (2015) elaborated a framework aimed at linking a company's management model and management model innovations with Business Model Innovation. Management can be viewed as a set of four basic activities: coordinating actions, taking decisions, defining objectives, and motivating effort, as suggested by the authors citing Drucker (2008), Fayol (1967), Gulick and Urwick (1937) and Mintzberg (2009). A firm's management model is constituted by the choices about how these four activities are carried out. Coherently, management model innovation occurs when some changes are applied to one or more of these management dimensions. The link between management model and Business Model can be found in that it is can be used as a tool for operationalizing some Business Model choices through the analysis of the internal workings of the company. Management model innovation, in turn, is useful for studying the dynamics of Business Model Innovation at the intra-organizational level. Changes in management model do not make sense by themselves, since they are often coupled with underlying changes occurring in the organization, such as Business Model changes. Thus, management model innovations must be considered together with Business Model changes. Indeed, for innovative Business Models to

take hold, they must be coupled with suitable management models that allow for a smooth and proactive implementation of the change.

Some authors emphasize the need for manager to have mind-sets akin to innovation, based on explorative and creative approaches (Baden-Fuller and Haefliger, 2013; Chesbrough, 2010). Even though rationality is surely useful in the implementation of the innovation, creativity is a key aspect in managerial decision-making. According to Chesbrough (2010), and drawing from Rindova, Barry and Ketchen (2009) and Spinosa, Flores and Dreyfus (1997), what drive innovation are typically not rationality, but rather passion, sensitivity and the yearning for discovery. Such attitudes are useful in entrepreneurial acts such as pioneering new markets or sensing unsatisfied customer needs. Indeed, as suggested by the author, in the processes of Business Model Innovation managers are required to lead the change first through an experimentation phase, and then through an effectuation phase. Experimentation consists in actually trying out the new Business Model with accurate experiments in conditions that are representative of the real market. It is important to understand that this phase can bring to failures; this does not mean that the experiment should be abandoned, but rather it is useful for learning and it should lead management to adjust the Business Model to a viable alternative. Effectuation refers to the actual enactment of actions to create information that discloses latent opportunities in the market. Ultimately, management is in charge of leading change at the organizational level. Coherently, McGrath (2010) suggests the adoption of a "discovery driven strategic thinking", based on learning mechanisms focused on experimentation, claiming the need for management to engage into critical conversations for fostering the questioning of the Business Model viability constructively.

Not only the quality of management actions can affect the effectiveness of the Business Model and of its innovations, but the influence runs also the other way. Indeed, the Business Model can work as a "focusing device" that can help increasing the focus of managerial efforts and the engagement of employees (Morris, Schindehutte and Allen, 2005). This is especially true when a set of rules (rules level) is adopted to ensure that the decisions made at the foundation and at the proprietary level are reflected in the implementation of the strategy[8].

[8] See Chapter 1, Paragraph 1.2, for a brief illustration of the theory about foundation and proprietary levels (Morris, Schindehutte and Allen, 2005)

In order to foster an organization's predisposition for Business Model Innovation, the role of top management is essential. It is required to guarantee:

- *Fit between Business Model change type and management role*
- *Fit between management model innovation and Business Model Innovation*
- *Explorative and creative approach at top management level ("discovery driven strategic thinking")*

Organizational design

According to Teece (see Leih, Linden and Teece, 2015), the organization must support management efforts by being able and disposed first to sense the need for change, and then to collaborate in implementing and executing the new Business Model. This process can be facilitated by a proper organizational design. In particular, Business Model viability requires smart business logic spread from the top and adopted throughout the organization, along with an organizational structure that concretely enables value creation, delivery, and capture (Leih, Linden and Teece, 2015).

Leih, Linden and Teece (2015) define organizational design based on Hart (1995) and Williamson (1996). Organizational design encompasses the definition of firm boundaries, namely the degree of ownership and control that a firm has on its assets. In practical terms, such concept refers to the definition of which activities the company carries out internally and which ones it manages by means of contractual governance structures. Firm boundaries are particularly important to Business Model Innovation. Reminding the ecosystem perspective assumed by a major steam in Business Model literature (Zott, Amit and Massa, 2013), Business Models embed backstream and upstream vertical relationships spanning the firm boundaries (Stieglitz and Foss, 2015). The company chooses which activities, assets and transactions to manage inside such boundaries to the extent that this grants to the organization control over critical or complementary assets, from which the firm's ability to derive gains from the innovation ultimately depends, as argued by Teece (see Leih, Linden and Teece, 2015). Hence, firm boundaries are as essential to the concept of Business Model and to its design as they are to Business Model Innovation. That is why Business Model Innovation must often be conceived along with organization design changes.

Organizational design, Business Model Innovation and dynamic capabilities are intertwined: the ability to enact Business Model Innovation is part of a firm's dynamic capability set, but in turn such dynamic capabilities are impacted by the firm's organizational design (Leih, Linden and Teece, 2015). This process is affected also by the cognitive activities of sense making and sense giving, as well as of organizational learning, typically associated with the innovation processes (Bogers, Sund and Villaroel, 2015). Indeed, Business Model Innovation requires people to frame or re-frame the business as is and create a new shared meaning in turn, engaging in a sense making effort, as suggested by Weick (see Bogers, Sund and Villarroel, 2015). The new shared meaning that emerges is the new Business Model, which must then be communicated throughout the organization through sense giving activities, like internal communication. To this end, structures with extensive vertical communication and high delegation in decision-making often reveal effective in sensing threats and opportunities, since delegation allows interaction with external stakeholders to be intense at the employee level, and the flow of communication and information is more open and streamlined (Leih, Linden and Teece, 2015). Business Model Innovation requires also prolific and creative decision-making. Some organizational design features, like shallow hierarchies, a design favouring entrepreneurial incentive and high levels of internal cooperation are helpful to this end (Leih, Linden and Teece, 2015). It is also critical to guarantee an organizational culture based on openness, creative and innovative values and knowledge sharing (Bogers, Sund and Villaroel, 2015). This is particularly important considering that many of the decisions contextual to Business Model Innovation are based on experimentation, where trial and error processes are the order of the day.

As mentioned above, designing the proper organizational structure for the Business Model Innovation process implies also to define what is managed in-house and what is outsourced. Such process might require internalizing some critical functions that represent the co-specialized complements for deriving value from the innovation (Teece, 2010). According to Teece (see Leih, Linden and Teece, 2015), this decision depends on the status of the appropriability regime, namely the set of tools used to protect the knowledge embedded in a specific innovation and allow the company to appropriate the returns on investment made contextually to this innovation. The appropriability regime is affected by the availability of legal protections and on the degree of inimitability of the innovation, increasing the more such innovation is complex or based on tacit elements. The internalization decision manifests itself as a make-or-buy choice based on the following trade-off: the company loses in terms of flexibility, which is best achieved through contractual arrangements, but it gains in terms of

sustainable competitive advantage, since the firm would make internally a resource that it would be costly for competitors to imitate or acquire. For this purpose, it must create a suitable culture for strategic acquisitions, which are critical for the acquirement of capabilities (Bogers, Sund and Villaroel, 2015), and foresee a structure allowing for speedy processes. Indeed, if the organization is prompt and reactive, it is easier to identify the company's core capabilities and consequently the complementary ones to source externally or to build internally, as well as to enable effective linkages and integration mechanisms, as from Chesbrough and Bogers (see Bogers, Sund and Villarroel, 2015).

In some cases, the Business Model Innovation implies the introduction of a new business unit that is separate from the core business, like in the event of an Ambidextrous Business Model (Stieglitz and Foss, 2015). According to the study conducted by Bogers, Sund and Villaroel (2015), tensions between the extant core business and the developing business units could emerge. Such tensions are influenced by organizational design elements such as the reporting relationship between the new business units and the core business, their power relationships, the decision-making decentralization, the degree of vertical integration and the degree of separation between the sub-cultures emerging. It is critical to establish the proper communication and coordination mechanisms in order to smooth tensions and foster integration while preserving the separate identities of the businesses. The possible tensions are as much accented as the new business represents a complementary or substitutive solution with respect to the existing one.

Business Model Innovation requires an organizational design suitable for a speedy and reactive change process. Some elements are particularly helpful for this purpose:

- *Extensive vertical communication and high delegation*
- *Shallow hierarchies, internal cooperation and culture based on knowledge sharing*
- *Internalization of critical functions representing the co-specialized complements for deriving value from the innovation*
- *In case of the introduction of a new BU, communication and coordination mechanisms*

2.4 Strategic elements

Although strategy and Business Model are two different concepts (Magretta, 2002; Zott and Amit, 2008), they are strongly linked with one another: the firm's strategy is integral to its Business Model (Leih, Linden and Teece, 2015). Business Model Innovation can potentially be boosted or hampered by the firm's strategic approach and its fit with the innovation at issue (Zott and Amit, 2008; Saebi, 2016). Hence, in order to foster the achievement of competitive advantage in the context of Business Model Innovation, the firm needs a strategy that is consistent with innovation and that facilitates its inception and implementation. If such a proper strategy is ensured, it can guide the company in the most effective way to deploy its scarce assets for a good Business Model implementation (Leih, Linden and Teece, 2015). Hence, it is important to make sure that the strategic choices undertaken by the company foster the Business Model's effectiveness and are suitable for Business Model Innovation.

In this sense, it is important to investigate how strategic decisions impact the potential of value creation that Business Model design and Innovation entail. An important study about this is the one by Zott and Amit (2008), who developed an interesting framework to analyze the fit between a company's product market strategy and the value drivers of its Business Model. The product market strategies studied by the authors are prevailingly based on Poter's (1985) generic strategies, that is to say the company's choices on how it approaches the market in order to pursue competitive advantage. A Business Model creating more value with respect to the ones of competitors is likely to be source of competitive advantage, since it has the potential to capture superior value for its own shareholders (Zott and Amit, 2008). As seen also previously in the present work, this means that a Business Model is likely to influence a company's performance. The same holds for a firm's product market strategy, which is a strategic choice, and as such it is aimed at driving performance. That is why the interdependencies between these two elements in the value creation process need to be considered (Zott and Amit, 2008).

In particular, the authors studied the fit between three product market strategy choices, cost leadership and product differentiation, as from Porter (1980, 1985), along with the timing of market entry, and two Business Model design themes, efficiency and novelty.

The first important thing to understand is that even though both Business Model and product market position can be a source of competitive advantage, the two are clearly distinct elements, as suggested by Christensen (see Zott and Amit, 2008). Companies could seek to satisfy the same customer needs through similar product-market strategies while adopting

highly diverse Business Models (Zott and Amit, 2008). Moreover, neither Business Model themes nor product market strategies are mutually exclusive, nor they are exhaustive; on the contrary, a company can chose to focus on more than one at once.

Through hierarchical OLS techniques, the authors found the interaction of the Business Model construct with the product market strategies to have significant effects on firm performance. The key finding is that positive interactions exist between novelty-centered Business Models and product market strategies, while the same does not hold for efficiency-centered Business Models. Indeed, data analysis fully supports the hypothesis that good fit can be found linking a novelty-centered Business Model with a differentiation strategy, and results support the existence of good interactions also with a cost leadership strategy and with early market entry. As for the efficiency-centered Business Models, its fit with product market strategies is not supported by the analysis, which suggested statistically insignificant interaction, that is to say neither good nor bad fit was found. Ultimately, the findings of the study support the idea that novelty-centered and differentiation-based are complementary concepts rather than substitutes. Therefore, if a company wants to have positive effects on its performance, the best thing to do is to match a differentiation strategy with a novelty-centered Business Model, but also cost leadership and early market entry strategies can work; on the contrary, matching any of these strategies with an efficiency-centered Business Model is likely to have insignificant impact on performance. Hence, in case of Business Model Innovation, the best choice is to undertake a change based on novelty as a value driver, and such change is likely to be most successful if the company uses a differentiation strategy.

Another strategic aspect to consider is the approach that a firm has with respect to the market. As a matter of fact, a company's strategic orientation is likely to affect its Business Model adaptability vis-à-vis threats and opportunities residing in the external environment, as suggested by the study by Saebi, Lien and Foss. (2016). A firm's strategic orientation is represented by the combination of actions that the firm believes will drive superior performance, as the authors assert mentioning Gatignon and Xuereb (1997). Saebi, Lien and Foss (2016) distinguish two basic types of strategic orientation: market development and domain defence. The former is the approach by which the company thoroughly exploits new market opportunities, accumulating practices that make it suitable to change reactively in the face of environmental changes (Chattopadhyay et al., 2001); the latter is based on the protection of the firm's own position, through tools like competitive pricing and technology cost-efficiency (Miles et al., 1978). Since Business Model change is largely based on a firm's reaction to external stimuli (Saebi, 2015), it is important to understand how differently these

two strategic orientations perform in the face of environmental shifts. In the face of external threats, while a domain defence strategy risks being unable to adapt to market shifts, market development is more likely to provide the firm with the assets and practices necessary for its adaptability (Saebi, Lien and Foss, 2016). If the firm is to exploit an environmental opportunity, a risk-seeking approach is more helpful, hence once again firms with a market development strategic orientation are likely to adapt better. In this case, domain defenders could consider catching the opportunity, but actually doing it without having the proper routines and resource sets in place would be costly, strenuous and time-consuming, so the efforts to exploit the opportunity are less likely to be effective, or even less likely to be undertaken, as suggested by Chattopadhyay et al. (see Saebi, Lien and Foss, 2016). Indeed, as supported by the results of the analysis by Saebi, Lien and Foss, "the more a firm's strategic orientation emphasizes market development over domain defence, the more it is likely to adapt its business model to external threats and opportunities" (Saebi, Lien and Foss, 2016, p.5), and in addition "The more a firm's strategic orientation emphasizes domain defence over market development, the more it is likely to uphold the status quo in lieu of threats or opportunities (Saebi, Lien and Foss, 2016, p.6). Thus, in order to actively adapt its Business Model to environmental threats and opportunities, it is preferable for the firm to adopt an aggressive rather than a defensive approach, so that reactions are more quick and befitting to the specific environmental stimulus.

If we match the findings presented above, we can assert that the best way to bring a company's Business Model Innovation to superior performance is to pursue a strategy based on novelty and on an aggressive, discovery-driven strategic approach. This way, the firm is more likely to profitably catch environmental opportunities. However, it is fundamental first to make sure that the company disposes of the core resources and capabilities, and in particular dynamic capabilities, which enable it to approach opportunities and to effectively enact the most suitable innovation.

If the company lacks such resources and capabilities internally, it can source them externally. Many authors emphasize the importance for the company to engage in boundary-spanning relationships, with partners, suppliers and customers. Indeed, novelty in Business Model can be achieved not only by recombining the assets directly controlled by the firm, but also by matching them with the resources of the stakeholders with whom they interact (Zott and Amit, 2007). In this regard, IBM's Global CEO Study (2006) reports that business partners and customers were among the top sources CEOs relied on for innovation. The same study shows that outperformers resorted to external sources to a larger extent with respect to

underperformers, suggesting that external collaboration not only helps Business Model Innovation, but also yields higher returns.

The strategic elements that foster Business Model Innovation are the following:

- *Fit between product market strategy and Business Model value drivers*
- *Strategic orientation focusing on market development rather than on a defensive approach*
- *Strategic interactions with partners, suppliers and customers*

2.5 Environmental elements

As mentioned in the first chapter, the Business Model is to be conceived as a flux, rather than in a static way. Once articulated, the Business Model logic needs to be revised in the face of the market test, that is to say that it needs to be adjusted according to the environmental changes (Teece, 2010), in terms both of external threats and of opportunities. Given the strong interactions that link the Business Model construct with the environment, when investigating the drivers of performance in Business Model Innovation it is important to take into account also the environmental conditions that contribute to the success of the change process. It is interesting to study the link between the environmental conditions and the effectiveness of Business Model Innovation because, according to a quite diffused contingency perspective, the fit between a company's Business Model and the environment in which it is set, as well as the timing of the firm's response to environmental changes, may influence profitability (Saebi, Lien and Foss, 2016).

As a matter of fact, a company's organizational features need to fit the existing environmental conditions, as suggested by Saebi (2015) mentioning Venkatraman and Prescott (1990) and Zahra and Bogner (2000). Therefore, in the context of Business Model Innovation, the adjustments that a firm brings to its Business Model must be appropriate for the environment in which it operates; this means that different types of Business Model change are driven by different environmental conditions (Saebi, 2015).

In the present paragraph, we are focusing mainly on the article by Saebi (2015) included in the book "Business Model Innovation – The organizational dimension", edited by Saebi and Foss (2015), where the author mainly speaks of "Business Model change". Reminding our

definition of Business Model Innovation as from Chapter 1, Business Model Innovation is a change process as a change process involving the company's Business Model, whereby the firm makes purposeful changes to its core elements and to its business logic (Bucherer, Eisert and Gassmann, 2012; Birkinshaw and Ansari, 2015). If we adopt this meaning, we can assert that any change process involving modifications to Business Model elements and to the company's business logic is a Business Model Innovation, regardless of its potential to disrupt competition. In the article by Saebi (2015) at issue, what the author means by Business Model change matches our definition of Business Model Innovation, and what she calls "Business Model Innovation" corresponds to what we initially identified as *disruptive* Business Model Innovation. Hence, using this less stringent view, Business Model evolution, adaptation and "disruptive" innovation can be viewed as three types of Business Model Innovation.

The author identifies three different types of Business Model change, which have the following characteristics, briefly summarized in Table 5.

- **Business Model *evolution*** refers to changes applied to an existing Business Model for standardizing, replying or implementing it. The change process occurs by bringing incremental and continuous adjustments to a limited part of the overall system of activities, without significantly overturning routines and standard processes. Business Model evolution is basically a "fine tuning process involving voluntary and emergent changes in and between permanently linked core components" (Demil and Lecocq, 2010, p. 239).
- **Business Model *adaptation*** indicates those changes geared to align the company's Business Model with the surrounding environment, without necessary requiring novelty. Business Model adaptation can occur on a periodic basis, that is to say only when the environment requires it, rather than on a continuative basis. This kind of change can involve more Business Model components at once, and it can affect the extant practices in a more or less radical way, depending on what the environment requires.
- **Business Model *innovation*** is a transformation of the Business Model aimed at shaping markets through disruptive improvements, hence necessarily embodying some elements of novelty. Such improvements have the potential to disrupt the competitive dynamics by introducing new elements that influence the configuration of the existing transactions within the industry. Business Model innovation often involves

reconfiguration or creation of new activities or processes, by intervening in more activities simultaneously and in a quite radical way.

Table 5: Business Model Evolution, Adaptation and Innovation

	Business Model Evolution	Business Model Adaptation	Business Model Innovation
Planned outcome	Natural, minor adjustments	Align with the environment	Disrupt market conditions
Scope of change (areas affected)	Narrow	Narrow–wide	Wide
Degree of radicalness	Incremental	Incremental–radical	Radical
Frequency of change	Continuous, gradual changes	Periodically	Infrequently
Degree of novelty	Not applicable	Novelty is not a requirement	Must be novel to the industry

Source: Saebi (2015)

While Business Model innovation entails disruptions, Business Model adaptation and evolution involve rather limited adjustments (Saebi, 2015). However, the latter are different to the extent that Business Model adaptation is implemented intentionally to react to environmental stimuli, while Business Model evolution entails progressive changes occurring prevailingly in a natural way. Hence, if we consider only the Business Model change types implying purposeful actions by management (namely Business Model adaptation and Business Model innovation), it is possible to assert that, in the face of dynamic environmental conditions, firms can react either by bringing adjustments to its activities and processes through Business Model adaptation or by introducing disruptive novelties through Business Model innovation (Saebi, 2015). Hence, it is important to investigate the environmental factors at the basis of the Business Model change in order to figure out how the firm is led to opt for one type of change rather than the other.

According to Saebi (2015), although the relationship between the environment and the organization has already been studied in several literature streams (Burns and Stalker, 1961; Perrow, 1967; Harvey, 1968; Galbraith, 1973; Hannan and Freeman, 1977; Chakravarthy, 1982; Nelson and Winter, 1982; Hrebiniak and Joyce, 1985; Teece, Pisano, and Shuen, 1997), such studies have proven to be too generic in the descriptions of the environment and to have paid too little attention to the drivers of Business Model change. Therefore, the author proposed a more detailed classification of environmental dynamics, distinguishing among three main categories.

- **Regular environmental change** describes stable conditions exhibiting low-intensity gradual changes, as from Suarez and Oliva (see Saebi, 2015). Such transformations are irregular, yet predictable, characterized by slow pace and low variance. The type of Business Model change that best fits this type of environment is Business Model evolution, where the Business Model follows its natural evolutionary path and is subject to progressive and not disruptive adjustments.
- **Environmental shifts** represent dramatic and typically one-off changes to the environment, which appears unpredictable and unstable; Saebi (2015) argues that the drivers for such shifts can be identified in disruptive technologies (Tushman and Anderson, 1986; Christensen, 1992), new competitors (Sirmon, Hitt, and Ireland, 2007), or developments in the regulatory or political background (Suarez and Oliva, 2005; Dixon, Meyer and Day, 2014). Firms typically respond to environmental shifts through radical transformations, affecting various Business Model components and organizational elements. These transformations are best enabled by the use of Business Model innovation rather than more gradual and less pervasive types of Business Model change. Indeed, Business Model Innovation allows the company to come up with new ways to create, deliver and appropriate value, which possibly puts it in an advantageous position with respect to competitors, for instance through unlocking first mover advantage, or through targeting premium or new market segments, as reported by Saebi (2015) calling upon Levinthal and March (1993) and Lumpkin and Dess (2001).
- **Environmental competitiveness**, called also hypercompetition or environmental turbulence, describes settings characterized by high velocity and intense competition. The author highlights that such environments are associated with intensive pressures for higher efficiency, lower prices and rapid innovations. In these conditions, companies need to constantly review the assets at the basis of their competitive advantage, as claimed by Burgelman (see Saebi, 2015). Disruptive forms of innovation in these cases are pointless, since continuous, massive and one-off innovations would end up being too costly and resource-consuming. Instead, Business Model adaptation seems suitable for this type of environment, since it enables the company to reach temporary alignment with the external setting and consequently to be more prompt to respond quickly and properly to upcoming market demands.

The author proposes a contingency framework linking environmental conditions, Business Model change and dynamic capabilities, as reported in Table 6. The author highlights the need for each of the Business Model change types to be linked to the respective set of capabilities, namely evolutionary change capability, adaptive change capability and innovative change capability. Ultimately, what explains superior performance is the firm's ability to match the type of Business Model change with the extant environmental contingency through the development of the befitting dynamic capabilities. As the author asserts, "the contingency between environmental dynamics, Business Model change, and dynamic capabilities is likely to be an important antecedent to firm performance" (Saebi, 2015, p. 147).

Table 6: Contingency framework linking Business Model change, environmental dynamics and dynamic capabilities

	Environmental Dynamics		
	Regular change	Environmental competitiveness	Environmental shift
Type of business model change	Business model evolution	Business model adaptation	Business model innovation
Type of dynamic capability	Evolutionary change capability	Adaptive change capability	Innovative change capability
Underlying capability dimensions	• Dynamic consistency (Doz and Kosonen, 2010)	• Customer agility (Roberts and Grover, 2012), • Strategic flexibility (Wang and Ahmed, 2007), • Exploitation (March, 1991; Jansen et al., 2006; Dixon et al., 2014)	• Exploration (March, 1991; Jansen et al., 2006; Dixon et al., 2014) • Business model know-how • Dedicated org. units and functions for business model innovation

Source: Saebi (2015)

Another relevant factor linked to the environment is managerial cognition, specifically in the ability of the manager to interpret environmental changes. Such element not only can trigger the process of Business Model change (in particular Business Model adaptation), but also is also likely to determine the success or failure of the process, as argued by Saebi, Lien and Foss (2016). In this regard, the authors theorize that the propensity to adapt a firm's Business Models depends on whether a particular environmental condition is perceived as a threat or as an opportunity, as well as on the firm's strategic orientation, as explained in the previous paragraph. In particular, findings showed that firms are more likely to engage in Business Model adaptation when they perceive the external environment as characterized by serious

threats rather than when they detect an opportunity in the environment. These findings concern specifically Business Model adaptation, but they could be broadened to all the types of Business Model change, although empirical studies on this regard do not exist yet. For instance, as from Saebi (2015), Business Model (disruptive) innovation best fits settings characterized by environmental shifts, and it is reasonable to think that such shifts can be interpreted by management as threats or opportunities. However, it has not been supported by empirical analyses yet, but it could be an interesting issue for future research to address.

Therefore, we can assert that a contingency is to be found between environmental changes and Business Model changes, and that the firm's dynamic capability set has the potential to affect the relationships between these two elements. Moreover, what drive Business Model change, as well as its likelihood of success, are not only the environmental contingencies, but also the management's perceptions of such contingencies.

Environmental fit is key in order to perform Business Model Innovation properly:

- *Choose the right type of Business Model change for the environmental conditions; Business Model Innovation should be chosen in the face of dramatic environmental shifts*
- *Business Model change is driven by management's perception of threats and opportunities*

2.6 Barriers to Business Model Innovation

Once illustrated the factors that enable a company to undertake Business Model Innovation, it is interesting to grasp also which ones hamper it.

Innovating existing Business Models is a process that requires exploration and experimentation (Chesbrough, 2010), and as such it presents major challenges that can deter companies from abandoning the status quo.

One of the major barriers resides in the company's underlying asset configuration, especially in the case of established firms that are trying to introduce a new Business Model in parallel with an underlying traditional one (Berends et al., 2016). This can lead the company to enact relevant cost savings and create valuable synergies with the existing assets, but it can also be counter-productive if the firm is unable to create fit between the old and the new models. This indirectly emerges from the study by Amit and Zott (2001) that has already been discussed

above, focused on the idea that the Business Model construct is the central locus of innovation, based on efficiency, lock-in complementarities and novelty, the four value drivers. Although these four factors are conceived as sources of value creation, they can hide potential risks, since they could run into conflicts with the underlying system of activities, processes and relationships, and thereby they might run into resistance by managers (Amit and Zott, 2001; Chesbrough, 2010).

On this line of reasoning, Stieglitz and Foss (2015) identified a set of challenges linked to the complementary relationship present between Business Model elements. First, the existing system of complementary elements might hinder innovation because of emerging inertial forces, coherently with what said above about the underlying asset configuration. Indeed, an organization might be resistant to change if its Business Model is well-established and has proven to be effective in past times, especially considering that it is based on long-living and tight interactions among Business Model elements. This does not prevent incremental and modular innovations, like continuous Business Model Innovation[9], but it makes it difficult to undertake more radical improvements.

Often the interactions among complementary elements are complex and make it difficult to plan Business Model Innovation *ex ante*. Especially in turbulent markets characterized by high levels of uncertainty, it is hard to forecast the performance implications of internal changes, as suggested by Rivkin (see Stieglitz and Foss, 2015), all the more so if changes are architectural and radical. Indeed, calling upon Levinthal and March (1993), the authors observe that architectural changes make interactions complex as they affect many elements simultaneously, and radical changes boost unpredictability because they require a more marked push for exploration, far from the ascertained solutions.

Another challenge identified by Stieglitz and Foss (2015) lays in the efforts for establishment and maintenance of coherence among Business Model elements. These two functions are difficult to conciliate: establishing coherence entails search and learning processes geared toward exploring the possible complementary relationships among elements, while maintaining coherence requires efforts oriented to the stabilization and systematization of such relationships. The challenge here is mainly on management, who needs to balance such tension and establish a proactive feedback loop based on search and coordination, which becomes more difficult with increasing depth and breadth of Business Model Innovation.

[9] See Table 4 for more details about the Business Model Innovation dimensions proposed in the framework by Stieglitz and Foss (2015)

Christensen (see Chesbrough, 2010) identifies major barriers in conflicts on daily organizational issues between the existing Business Model and the new one. The extant model is typically centered on an existing, well-known technology, while the new one addresses what the author calls "disruptive technology" or "disruptive innovation". When it comes to allocating resources to different projects or areas, emerging models and disruptive technologies are likely to be neglected in the face of established technologies, typically exhibiting greater returns in the short run.

The views described above assume that managers recognize the proper Business Model, but show resistance in actuating it because of emerging clashes with the extant one. According to Chesbrough (2010), instead, managers do not even acknowledge the right Business Model because they are hampered by cognitive barriers. Such barriers are driven by a "dominant logic", as observed by Chesbrough (2010) using the words by Prahalad and Bettis (1995), an approach that leads the organization to collect only information that is consistent with its logic and to avoid conflicting information. This logic can be positive because it facilitates companies in operating in uncertain and unpredictable settings, such as the ones characterizing early stage R&D (Chesbrough, 2010). However, the downside of this logic is that it might lead companies to stick to the status quo, avoiding Business Model experimentation and therefore missing potential opportunities only because they span the current Business Model.

According to Chesbrough, such barriers (be they based on underlying assets or on dominant logic) can be overcome by enhancing experimentation efforts by management, driven by the exploration of emerging markets and by the willingness to recombine and reconfigure the elements of the firm's Business Model. The author suggests also that such efforts should be helped by the creation of roadmaps of present and potential Business Models, as well as by specific figures within the organization with the role and the authority of driving experimentation.

Companies can face many challenges and barriers in the process of Business Model Innovation:

- *Inertial forces due to the existing asset configuration and system of complementarities between Business Model elements*
- *Difficulties in ex ante planning*
- *Problems of establishing and maintaining coherence among Business Model elements*
- *Organizational conflicts between old and new Business Models*
- *Cognitive barriers driven by dominant logic*

2.7 Conclusion

The main purpose of this chapter is to illustrate how Business Model Innovation can be driven and in which ways it can be carried out. The main highlights of this chapter are the following.

- Value creation in business transactions can be attained through four main drivers (efficiency, novelty, lock-in and complementarity). Such elements can be intended also as the four main directions along which a company can innovate its Business Model in order to create value.
- In order to foster value-creating Business Model Innovation, a company needs to work on several fronts: organizational elements (dynamic capabilities, top management role and organizational design), strategic elements (product market strategy fit, strategic orientation and strategic collaborations) and environmental fit.
- Companies can face many challenges and barriers in the process of Business Model Innovation, due to the existing asset configuration and system of complementarities between Business Model elements, possible organizational conflicts between old and new Business Models, and cognitive barriers driven by dominant logic

CHAPTER 3

YOUNG VENTURES AND BUSINESS MODEL INNOVATION

3.1 Introduction

In the previous chapters, we analyzed the topic of Business Model Innovation, its facilitating factors and the drivers for its success, broadly speaking about companies in general. In this chapter, we will narrow the focus to only a category of companies, namely young firms, with a particular attention to medium/high-tech ventures. This will pave the way for the empirical analysis based on a sample of firms belonging to this category, which will be developed in the next chapter. The present chapter will first present the main features of young companies, including their role in the economy and their major challenges. Then, it will focus on the importance of innovating the Business Model in the first years of a firm's lifecycle, highlighting the pros and cons of young firms as opposed to established ones in carrying out innovation.

3.2 New ventures in today's economy

Our main focus is on new or young ventures. The discriminating factor determining whether a company falls within this category or not is its age, determined considering its establishment date as year 0. The definition of the borders of such category is mostly a semantic issue: it depends on how we interpret the concept of "young". Many scholars have conducted studies having as objects "start-ups", "new" or "young" firms, without calling upon a unique

framework. Therefore, it is frequent to find different terms and different definitions across strategic management literature. According to some sources, the discriminating age is around 5 years old. For instance, Pickernell et al. (2013) refer to firm aged 4 or less, defined as "new and young firms". A conventional definition proposed by the U.S. Census Bureau's Business Dynamics Statistics rises the maximum age for "young" firms to 5 years old. However, Damodaran (2009) dealt with valuation issues in "young, start-up and growth companies" without really defining such terms; however, he referred to Knaup and Piazza's (2005, 2008) survival statistics across firms, studying the number of firms that made it through years from 1 to 7. Therefore, although he provides no indication about the age of young firms, it is reasonable to assume that they should be no more than 7 years old. McDougall (1996) instead used samples of companies up to 8 (and later to 10) years old, based on prior research by Biggadike (1979) and Miller and Camp (1985). Assuming that there is no substantially wrong definition, it is just a matter of picking one and being coherent thereafter. For the sake of this work, we are adopting the definition proposed by McDougall (1996), coherently with Damodaran (2009), fixing the age of young ventures to less than 8 years old. It makes sense to us to focus on a larger period of time rather than on younger-aged firms because we are studying a change dynamic like Business Model Innovation, which is not immediate and requires a certain time frame for the company to sense the need for the innovation, conceive it and implement it. For this reason, not only we are considering firms aged no more than 8 years, but also we are narrowing our focus to firms not younger than 4 years, a period of time that seems suitable for a company to undertake a process like the one described above.

Characteristics of young firms

Firms at the early stage of their life cycle share some key characteristics. Damodaran (2009) identified a set of features that mainly characterize the financial profile of young companies, the most salient of which are the following ones.

- **Small or no revenues**. Since young companies are typically small-sized and involved in few business deals, they collect limited or even zero revenues. Additionally, they sustain significant expenses linked with the establishment of the business, often determining operating losses.
- **Low survival rate**. Most companies don't make it through the early years of their lives, because for example they fail in commercializing their good or service. Several studies have been conducted to compute survival rates for young firms. According to a

study of 5196 start-ups in Australia, 64% of the businesses failed within the 10th year, while a study conducted by Knaup and Piazza (2005, 2008) based on data from the Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW) on 8.9 million U.S. businesses showed that 44% of businesses survived 4 years and only 31% managed to survive to the 7th year.

- **Multiple claims on equity**. Companies in their first years typically rely on equity from private sources, starting from the entrepreneur's family and friends and then passing to venture capitalists. Since young companies generally source equity in repeated stages, equity is subject to a plurality of claims from different actors. Thus, equity investors may seek to protect their interests by means of first claims on cash flows from operations and control or veto rights.

Apart from the financial characteristics listed above, young firm share peculiar **resource requirements**. Pickernell et al. (2013) argue that, since new and young firms tend to be small, they have high development and expansion needs, requiring a considerable amount of resources. Such resources mainly consist in capital, knowledge and skills, but also physical assets, organisational processes, information, and routines that enable efficiency and effectiveness improvements are needed. Moreover, reporting the view of Shepherd et al. (2000), the author highlight the fact that resources particularly matter because most companies are subject to resource constraints in their initial stages, in particular venture creation, although resource constraints can affect companies also during venture growth.

As reported by Pickernell et al. (2013), many scholars (Sirmon and Hitt, 2003; Liao and Welsch, 2004; Hanlon and Saunders, 2007) suggest that informal relationships and network are particularly relevant to the firm's ability to access resources. Indeed, particularly in the face of resource constraints, the authors argue that entrepreneurs often rely on more or less formal support from friends, relatives and other previous business relationships. The authors observe also how networked approach seems to have positive effects on new and young firms' performance, as suggested by Brüderl and Preisendörfer (1998). In fact, networks can enable firms to access a wide range of resources from multiple external sources, expanding the resource set that the firm would enjoy as a stand-alone unit.

In general, new and young firms are more likely to be in need of external resources, such as professional advice, with respect to older ones, since they are more sustained growth-oriented. This is due to the fact that young firms' business-related knowledge is mainly anchored to factors such as previous work experience and intellectual property (Pickernell et al., 2013),

which might be not enough to guarantee a proper set of resources for performing competitively on the marketplace. The authors discussed with particular attention the role of government as a source of external resources for young firms, building in particular on the views of Brooksbank (2008), Massey (2006) and McQuaid (2002). Government can offer important resources, for example in the form of advice and consultancy services and promotion of business growth, providing support in areas such as skills development, resource sourcing, and pinpointing business opportunities, or provide resources through means of public procurement (Pickernell et al., 2013). However, governmental advice and support are more likely to be appreciated by more mature firms, which might need specialized and qualified advice more than younger firms. On the other hand, firms at the beginning of their life cycle might be concerned about the risk of losing control over their own business, as well as about the complicated processes and the bureaucratic characters of governmental policies, and thus might prefer to count on their informal network for getting advice and support.

Pickernell et al. (2013) argue that access to external resources seems to have positive effects on growth. For instance, they report that seeking business support has a positive relationship with employment growth, as found by Johnson et al. (2007), and with revenue growth, as suggested by Chrisman et al. (2005). In general, research shows that positive relationships exist between sustained growth orientation and different sets of external resources, including external advice sources (both government and non-government).

Challenges for new and young venture management

The management of new and young companies entails several challenges deriving from the key characteristics illustrated above.

The failure rate of early-stage businesses is particularly high: start-ups can exhibit discontinuance rates of about 70% within the 5th year in some industries (Gruber and Henkel, 2004). This largely depends on the difficulties related to the size limits of new companies and on their resource constraints.

One of the major challenges faced by entrepreneurial and young ventures is represented by what Gruber and Henkel (2004) term **liability of newness**. They report that, according to Stinchcombe (1965), new organizational entities suffer substantial liabilities linked to the fact that they are new to the market. Although it entails some advantages, such as the ability to plan “on the green field” independently from eventual path-dependencies, and the flexibility

enacted by the lower level of standardization with respect to older competitors, newness can expose companies to higher risks of failure. At the organizational level, the main problem linked to newness is the absence of organizational structure and of roles, tasks and capabilities that are befitting with the specific organization (Gruber and Henkel, 2004). In order to bridge such gaps, management needs to exert enhanced efforts and to deploy scarce resources, in addition to introduce structures, practices and learning processes. This can create inefficiencies and sometimes can have negative impact on employees' motivation. Another difficulty determined by newness lies in the system of relationships in which the company is enclosed. Typically, the more a company is young, the weaker are its ties with external stakeholders, like customers, suppliers, business partners, banks, governmental structures and so on. Such relationships and the legitimacy deriving from them grow with time, as the company gains experience and enhanced reputation, but new firms typically lack these factors.

Another limit of new and young firms is represented by **smallness** (Gruber and Henkel, 2004): firms in their early stages typically can count on small organizations an on limited resources, personnel and finance above all. Strategic management and entrepreneurship literature usually recognizes lack of and difficult access to financial resources as major challenges for young firms (Pickernell et al., 2013). On the personnel side, smallness can be positive to the extent that it enables all the employees to have "the big picture" about the processes going on internally and the overall direction of the business, and that it allows streamlined communications and procedures Gruber and Henkel (2004), reporting what sustained by Pleitner (1995), argue that these factors have the potential to boost employee motivation and satisfaction. However, small organizations are characterized by scarcely defined roles. This leads people in the organization to develop generalist competences rather than specialized ones, which can generate significant skill gaps (McGrath, 1996). Moreover, the few people available are typically needed internally for dealing with daily activities; thus, only little slack is available for external training or innovative purposes.

A visible effect of small firm size on the marketplace is the limited market presence and market power, which puts small firms in an unfavourable position in negotiations with other actors in their network (Gruber and Henkel, 2004).

Another challenge that new ventures are likely to face is represented by **market entry barriers** (Gruber and Henkel, 2004). The existence of barriers to entry gives a substantial advantage to big incumbent firms, who can enjoy a higher market share and higher profitability, while young firms' ability to enter and establish in the market can be limited.

Among the major entry barriers listed by the authors, who combined the ones proposed by Porter (1980) with the ones suggested by Karakaya and Stahl (1989), it is worth mentioning cost advantages enjoyed by incumbents, product differentiation of incumbents, capital requirements, customer switching costs, access to distribution channels, government policy, advertising and R&D investments by incumbents, brand names and trademarks.

The role of young firms in the economy

Entrepreneurial ventures are characterized by peculiar features, as discussed above, and they are subject to some limits as well; but still they are an important driver for growth in an economy (Damodaran, 2009).

As explained above, young companies tend to be characterized by small size, and therefore they supposedly represent only a small portion of the overall economy. Despite this, young firms have a massive impact on the economy, contributing to its growth under several profiles. However, not all firm start-ups give equal contributions to an economy (Pickernell et al., 2013). The most significant contributions seem to come from fast-growing, high potential firms rather than from less promising ones, as suggested by Birch (1987) and Acs (2008) and reported by Pickernell et al. (2013). The authors also observe that research has identified a number of potential signals of high growth outcomes, such as opportunity (Davidsson, 1991), education and experience (Cooper et al., 1994), technology and innovativeness (Allen and Stearns, 2004), firm origins (Davidsson, 1991; Shepherd et al., 2000), growth intentions (Covin and Slevin, 1991; Bird, 1988; Katz and Gartner, 1988; Dennis and Solomon, 2001; Wiklund and Shepherd, 2003). This last factor is particularly relevant because it influences the entrepreneurial process, shaping the interactions between resources, environment and opportunity (Davidsson et al., 2008).

Rapid growth firms can be found in all types of industry, with different degrees of labour intensity and with different characteristics. However, according to Pickernell et al. (2013), research sows that the firms that contribute most in inventing and marketing new technologies are research-based, generally knowledge-intensive, medium/high-technology companies, as claimed in particular by Heirman and Clarysse (2004) and Christensen (1997).

The relative importance of high-growth, tech-based companies is one of the main reasons why our research focuses on young ventures characterized by medium/high levels of technology content.

Young companies, especially the above-mentioned ones, impact on multiple sides of the economy. First, there is evidence that new ventures largely contribute to **employment**. Small businesses, and start-ups in particular, account for the greatest part of the new jobs created in the economy, as reported by the National Federation of Independent Businesses (Damodaran, 2009). This is probably due to this kind of companies' dynamism and growth orientation, which makes it necessary to hire workforce at a high rate.

Second, new and young companies have a strong impact on **innovation**. "Disruptive innovation", a concept introduced by Christensen (see Damodaran, 2009), is often based on novel ideas or on new technologies, and it is more likely to come from start-up companies rather than from established ones. This is due to the fact that the latter have long been operating with their usual procedures, standards and technologies, and they have accumulated knowledge and assets strictly intertwined with such procedures; thus, they have too much to lose from a disruptive innovation, which could be either successful or detrimental for the company. On the other hand, new firms are more prone to experiment and come up with innovations because they have more flexible structures and, ultimately, have little to lose.

Moreover, strong impact seems to exist on **economic growth**. Research shows that the fastest growing economies are the ones exhibiting a high rate of new business establishment, as observed by Damodaran (2009). The author reports the example of the US in the 1990s: the US economy grew faster than the European one as an effect of the growing number of small, technology companies newly established in those years. These days, a good example is given by the increasing expansion of developing economies like China, with a GDP growth rate of almost 7% in the second quarter of 2016[10], which are typically characterized by a tremendous spread of new tech-based businesses.

3.3 The importance of Business Model Innovation in young firms

It is quite ascertained now that Business Models are an important source of innovation and, as such, they can play a central role in business transformation and renewal (Amit and Zott, 2001). High-tech entrepreneurial ventures in particular have gained increased relevance to the eye of academic literature on Business Model and Business Model Innovation, like in the works by Amit and Zott (2001) and Zott and Amit (2007), where the importance of Business Model Innovation in ventures' ability to catch opportunities and in the consequent

[10] http://www.tradingeconomics.com/china/gdp-growth-annual

performance effects emerges (Colombo, Muhammadi and Rossi-Lamastra, 2015). The relevance of this issue for young firms is due to the fact that the earliest stages of a business' life are typically critical to Business Model Innovation, since they are the ones in which the firm is required to test and possibly reconsider its Business Model (Amit and Zott, 2001; Zott and Amit, 2007, 2008). As a consequence, it is important to understand how the issues related to Business Model Innovation manifest themselves in the context of new ventures.

The Business Model construct in new ventures

As already pointed out in the previous chapters, the Business Model concept has spread in conjunction with an increasingly turbulent and complex competitive environment. The importance of the Business Model construct for new ventures has been emphasized since the earliest studies in the strategic management field, highlighting that strategic design and business modelling are key for the survival and success of young firms (Onetti et al., 2012). The topic became more and more popular thanks to the development of internet-based companies in the end of the 1990s. In that period, when speaking of Business Models, strategic management scholars tended to tailor their frameworks on new, technology- and internet-based companies, which were more topical than established ones. Many new ventures were coming up with offers largely grounded in the Internet, which provided them with a marked ability to promptly ride the rapidly evolving technological trends (Onetti et al., 2012). By contrast, established companies based on traditional Business Models were less prepared to face technological and environmental shifts.

Since the very beginning of their business, entrepreneurs have to face the challenge of designing from scratch their business' set of transactions and relations with suppliers, customers, business partners and so on, as claimed by Zott and Amit (2007). As a consequence, mentioning the study by Hite and Hesterly (2001), the authors suggest that boundary-spanning organizational arrangements are generally critical to the performance of new and young ventures. Business Model design plays a central role in the performance of entrepreneurial firms, as proposed by the study by Zott and Amit at issue. This is due to the fact that the survival and success of a new firm are largely influenced by the choices made at the Business Model design stage, whereby the entrepreneur is required to effectively match decisions about core activities with decisions about organizational boundaries, and consequently about inward and outward relationships with the various stakeholders with whom they get in touch (Onetti et al., 2012). The 2007 research by Zott and Amit concerns

the process of Business Model design specifically in entrepreneurial ventures; the authors observe how entrepreneurship and organization literature has been focusing more and more on the centrality of the Business Model construct in start-ups and entrepreneurial ventures, starting from Van de Ven et al. (1984) until the more recent works by Hargadorn and Douglas (2001) and Romme (2003). Zott and Amit (2007) make a step forward in this sense by pointing out the importance of the peculiar trade-offs involved in Business Model design and by studying its impact on the performance of new companies.

The need for Business Model Innovation in the firm's early stages

As reported by Onetti et al. (2012), March (1991) argues that entrepreneurship can be viewed as a process enabling firms to explore and exploit opportunities. This can be done by trying to leverage on the environmental conditions, namely by turning settings characterized by uncertainty into stimuli. In order to do so, companies need to adopt an innovative and entrepreneurial perspective, anchored on originality and strategic vision (Onetti et al., 2012; Chesbrough and Rosenbloom, 2002). New and young ventures as defined in the present work are not exactly firms starting from scratch, but rather companies that are coming from few years of activity. However, they are still to some extent "entrepreneurial" ventures, since they are in a phase of their life cycle in which they are not established yet, and therefore they still need to explore the environmental conditions to catch signals and opportunities, if they want to survive (Damodaran, 2009; Pickernell et al., 2013), and possibly to outperform competitors.

New ventures' Business Models are significantly challenged by the competitive environment. If Business Model design is key in the earliest phase of the business, Business Model Innovation becomes a critical issue in the first years, when the Business Model is actually put in practice on a continuative basis. The difficulty here lays in the fact that new Business Models need to be concretely tested on the market (Leih, Linden and Teece, 2015). The initial phase of Business Model design is generally anchored on assumptions made on an abstract basis and on observations of the environment at a given point in time. Nevertheless, such assumptions might be wrong and the environmental conditions are likely to change rapidly (Davidsson and Honig, 2003; Dimov, 2010). As a consequence, the first years of ongoing activity work as a test, whereby the company is required to assess the validity of its initial assumptions, to reconsider its initial plans and to adapt its Business Model to the actual competitive conditions (Amit and Zott, 2001; Zott and Amit, 2007, 2008). In the start-up

phase of a business, or soon thereafter, firms may even experiment multiple Business Models at once (Brown and Gioia 2002; Baden-Fuller and Morgan, 2010), in order to optimize the phase of experimentation and to be able to assess quickly which model suits the environment best.

To this regard, some scholars highlight the importance for new firms of focusing on good Business Model design, rather than on product innovation (Teece, 2010). Firms need to conceive their initial Business Model design in a dynamic and flexible way, so that it is possible to adjust it along the way. With a flexible model, management can quickly test its original assumptions, detect and anticipate problems and adjust deviances from its goals (Delmar and Shane 2003), without incurring in excessive losses and inefficiencies.

Coherently, many scholars suggest the need for an exploratory approach, arguing that Business Models are shaped through a process of experimentation (Chesbrough, 2007, 2010; McGrath, 2010; Bogers, Sund and Villarroel, 2015; Berends et al., 2016). In particular, Chesbrough (2010) underlines the need to ground Business Model Innovation in processes based first on experimentation, and then on effectuation, highlighting the importance of active action in the market rather than analysis of its conditions. This view builds on McGrath's (2010) "discovery-driven approach": the author highlights that companies should follow an experimental approach in deciding the practices to adopt and the funding tools. This means that new Business Models should be implemented with small investments and through many repeated experiments, within a continuative trial-and-error process (McGrath, 2010). Ultimately, the goal of discovery-driven practices is to achieve extensive learning incurring in the lowest possible costs, through the use of experiments.

Of course, this approach is desirable for all businesses in any phase of their life. However, it is particularly important for young firms because early years are likely to be the ones characterized by the most intense changes (Zott and Amit, 2007, 2008). Moreover, as we will explain further on, young firms are equipped with certain features that potentially facilitate the process of Business Model Innovation and that older firms do not enjoy.

It is interesting to wonder whether it is makes sense to speak about Business Model Innovation if we are focusing on firms that are relatively new to the market. In other words, can changes in new firms' Business Model actually be defined innovations, or are they more identifiable in fine-tunings of the model, still imputable to the design phase? The answer largely depends on how we intend Business Model Innovation: it is basically a matter of being clear in the definition and in being coherent with it. Reminding our definition of Business Model Innovation as from Chapter 1, paragraph 1.2, and the considerations about

the different types of Business Model change made in Chapter 2, paragraph 2.4, Business Model Innovation is a change process deliberately modifying Business Model elements, and it can be declined in Business model evolution, adaptation and disruptive innovation. This latter partition is based on our interpretation of Saebi (2015), and allows us to give a more detailed characterization of the Business Model Innovation process for new and young ventures. This framework helps us asserting that Business Model changes undertaken by new ventures can reasonably fall within the category of "Business Model adaptation". Business Model adaptation refers to those changes conducted with the goal of aligning the company's Business Model to the environmental requirements, and is typically driven by intentional choices taken by the company (Saebi, 2015). This type of Business Model change seems to suit the setting of new and young ventures, since their flexible Business Models needs to be tested and adjusted in order to adapt to the environment. Such adjustments are not modifications made on a continuous and incremental basis, but rather they are periodical actions undertaken for fine-tuning the Business Model, only if the market test reveals the necessity to improve the fit with the environment. By contrast, Business Model evolution involves progressive and continuous transformations, manifested as natural adjustments rather than as deliberate choices (Saebi, 2015). This kind of change appears more suitable for firms having an already tested Business Model, characterized by a system of components interconnected in a pretty stable way (Demil and Lecocq, 2010), which needs to adjust its external fit in a long-term perspective. It is unlikely that new companies engage in Business Model evolution, since their Business Model is still at a trial stage; their structure is more suitable to one-off, periodic changes occurring in a deliberate rather than in a natural way. Business Model Innovations in young firms can also manifest themselves in the form of disruptive innovations, that is to say those changes corresponding to Business Model Innovation in the strict sense, as it is intended in Saebi (2015). As suggested by Saebi, Lien and Foss (2016), the disruptive novelty embodied in the concept of Business Model innovation might be a potential outcome of Business Model adaptation, although Business Model adaptation can occur also without being innovative in that sense. Moreover, new Business Models can be source of competitive advantage themselves (Magretta, 2002; Massa and Tucci, 2013), if their design inherently introducs breakthrough improvements in the industry dynamics and changes the rules of the game within the competition.

In its framework, Saebi (2015) suggests that Business Model change types should match different types of environmental conditions: Business Model adaptation is suitable for settings characterized by environmental competitiveness, while Business Model evolution fits best

evolutionary changes and Business Model innovation applies to environmental shifts. This further sustains our suggestion that new ventures are likely to be involved in Business Model adaptation, or at most in Business Model (disruptive) innovation. *Evolutionary changes* are characterized by slow-paced, gradual changes in the environment, which is typically not the case for new venture, especially technology-based ones; therefore, once again we can assert that Business Model evolution is not suitable for them. Conversely, new, technology-based companies usually operate in environments characterized by high levels of complexity and competition (Gruber and Henkel, 2004; Onetti et al., 2012), whereby companies are required to keep up with rapid innovation paces. This is well aligned with Saebi's (2015) description of *environmental competitiveness*, with whom companies can seek temporary alignment through quick and flexible actions, enabled exactly by Business Model adaptation. These conditions are exacerbated in the situation of *environmental shifts*, typical of an unstable and unpredictable settings characterized by dramatic changes, requiring to companies more radical transformations, such as disruptive innovations.

In the light of these considerations, we can assert that new ventures are highly likely to engage in Business Model adaptation at least once during their "experimental" phase. Additionally, they can also be involved in Business Model disruptive innovation, either if their Business Model design is novel by and for itself, or if their Business Model adaptation efforts yield innovative outcomes. These possible manifestations of Business Model Innovation are summarized in Table 7.

Table 7: Types of Business Model Innovation that can affect young ventures

	Business Model evolution	**Business Model adaptation**	**Business model *disruptive* innovation**
New and young ventures	Not applicable	Experimentation leading to one-off, periodic changes for adjusting the Business Model to the external environment	- The Business Model can be novel to the industry since its establishment - Business Model adaptation can yield disruptively innovative outcomes

Source: Personal elaboration on Saebi (2015)

If we adopt Stieglitz and Foss' (2015) framework, dividing Business Model Innovation into four sub-categories, we can further characterize this process in the context of new and young ventures. Reminding what we said in Chapter 2, paragraph 2.3, such framework foresees four different Business Model change possibilities, differentiated in terms of depth and breadth of

the change: Continuous Business Model Innovation (modular and incremental changes), Evolutionary Business Model Innovation (architectural and incremental changes), Ambidextrous Business Model Innovation (modular and radical changes) and Revolutionary Business Model Innovation (architectural and radical changes). Business Model Innovation in young firms is likely assume the form of a Continuous Business Model Innovation, where few elements at a time are adjusted with respect to the environmental needs, and in particular situations it can also assume a Revolutionary connotation, if the innovation is disruptive.

Business Model Innovation: challenges and opportunities for new firms

In the light of all the considerations made above, Business Model transformations are particularly critical to new and young ventures. Nevertheless, the major studies dealing with the challenges hidden in Business Model change have been focused on large established companies (Gerasymenko, De Clercq and Sapienza, 2015). As a matter of fact, transformation is typically easier for start-ups and young firms than for large and older ones. This is mainly due to the fact that new and young ventures are more flexible and less subject to path-dependency (Stieglitz and Foss, 2015). Indeed, being at an early stage of their life cycle, new ventures' organization is less anchored on the underlying asset system and their route is less defined, in terms of strategy, value proposition, relationships with external actors and so on (Leih, Linden and Teece, 2015). Conversely, large firms are often characterized by organizational inertias, which make the barriers illustrated in the previous chapter, paragraph 2.5 – Barriers to Business Model Innovation – generally enhanced with respect to small and young firms. Indeed, large firms' dependence on the underlying system of assets is more marked (Berends et al., 2016), since assets tend to be long-lived, strongly interrelated and idiosyncratic; for these reasons, they are scarcely adaptable to organizational changes. On the other hand, new ventures have a lower volume of fixed assets and less defined processes, which are relatively easier to redeploy or reorganize (Leih, Linden and Teece, 2015). Difficulties arise especially when it comes to developing a new Business Model in parallel to an existing one (Berends et al., 2016), for example through the introduction of a separate business unit, which is much more likely for established firms than for new ones. Indeed, in established firms it is harder to challenge the extant Business Model and to conciliate it with a new one, which can cause the emergence of conflicts. New ventures instead can more easily flank and substitute old solutions with new ones, being the extant Business Model less rooted in the organization (Bogers, Sund and Villarroel, 2015).

From this point of view, challenges like newness and smallness can become opportunities for young firms. Since Business Model Innovation requires extensive coordination activities, implementing the process in a big and complex organization could be challenging to the extent that coordination among the multiple interested parties might be demanding (Gerasymenko, De Clercq and Sapienza, 2015). Conversely, the lean and small-sized organizational structure that characterizes young ventures ensures that only a narrow group of people is in charge of the implementation of the Business Model Innovation, thereby enabling enhanced flexibility (Chesbrough and Rosenbloom, 2002).

Moreover, management of established firms tends to be more subject to cognitive barriers, dominant logic above all, which manifest themselves in a stricter adherence to existing practices and a lower predisposition for change (Amit and Zott, 2012; Chesbrough, 2010; Gerasymenko, De Clercq and Sapienza, 2015). Young firms' flexibility emerges also from the management's mind-set, which is less anchored on established standards and more prone to change and exploration. The fact that new firms have nearly no history might facilitate them in exploring and trying new solutions. According to Leih, Linden and Teece (2015), especially in the current competitive environment, it is fundamental for a firm to be able to quickly test, discard and replace Business Models that reveal ineffective. Reporting the views by Ries (2011) and Greiner (1998), the authors argue that it is not only about designing and implementing a Business Model: a company is also required to continuously re-assess it in the face of the market test, which is highly likely to reveal the necessity to modify some Business Model elements. This is especially important considering the aforementioned need for an explorative and experimental approach, as suggested by many scholars (Chesbrough, 2007, 2010; McGrath, 2010; Bogers, Sund and Villarroel, 2015; Berends et al., 2016). Such approach is based on trial-and-error processes and should entail a planning perspective that foresees the inherent uncertainty of the environment and of the experiments undertaken. Incumbents, and established companies in general, might lack the incentives to adopt this approach since they typically work on the base of a more traditional logic: they assume that successful solutions are the ones that function as outlined by plans (McGrath, 2010). On the same line of reasoning, Chesbrough (2010) suggests that a major hurdle is represented by cognitive barriers and dominant logic. This is inconsistent with the idea that experimentation is key while planning is secondary, as suggested by the exploratory approach described above. On the other hand, young firms might be more prone to adopt an open and innovative mind-set and therefore to embrace this experimental perspective. As a matter of fact, they have less to lose: not only they have fewer assets, but also they would not see an experimental

approach as a way of questioning their traditional modus operandi.

Although new firms' features can reveal sources of advantage, they still hide many difficulties. The main problems lay in the resource constraints that generally characterize young firms (Chesbrough, 2007). The lack of resources and capabilities due to smallness and newness imply a certain degree of inexperience, which can lead to the inability to successfully modify the Business Model (Zott and Amit, 2008). Indeed, change processes like Business Model Innovation imply short-term inefficiencies. Change processes typically show performance improvements only in the medium-long term, since in the short-term the organization is likely to focus more on the internal change than on its external performance. In order to manage such inefficiencies, companies are required to leverage on slack resources and buffers, which young firms are less likely to have (Gerasymenko, De Clercq and Sapienza, 2015). Moreover, as we observed above, Business Model Innovation requires experimentation. Experimentation of course requires an experimental approach, but it also requires investment. Hence, companies need to be equipped with resources to invest and deploy quickly, as well as to be able to use financial tools to sustain their experimental orientation (McGrath, 2010); this might be a problem for younger and less prepared firms. Moreover, trial-and-error processes are often characterized by high levels of unpredictability and risk, which require skills and resources that young companies might lack (Gerasymenko, De Clercq and Sapienza, 2015).

Another challenge for young firms is represented by inertial forces driven by the strong emotional involvement of entrepreneurs, as suggested by Cardon et al. and by Parker (see Gerasymenko, De Clercq and Sapienza, 2015). Entrepreneurs are likely to be deeply attached to the business idea and to the original vision, since they are typically the ones who launched it and the first ones to believe in it. This could prevent them from engaging in Business Model changes, although they could be profitable for the firm.

Furthermore, changing the company's Business Model in the first years of activity might signal to the market the inability of the firm to preserve a consistent image, possibly resulting in a loss of credibility in the marketplace and of legitimacy among external stakeholders (Gerasymenko, De Clercq and Sapienza, 2015).

Table 8 summarizes the above-mentioned advantages and disadvantages of young firms as opposed to established ones in the context of Business Model Innovation.

Table 8: Young firms' strong and weak points in Business Model Innovation compared to established firms

	Advantages	Disadvantages
Young firms	- Higher flexibility due to lower fixed assets and less defined processes - Lower path dependency - Exploratory and experimental mind-set - They have less to lose	- Inexperience in implementing change process - Fewer buffers and slack resources to deal with inefficiencies - Fewer financial resources to invest in experiments - Emotional attachment to the original business idea - Signal of inconsistency and loss of legitimacy
Established firms	- More familiar with financial tools - More prompt to deal with inefficiencies and unpredictable events	- Inertias due to the underlying asset system - Conflicts between old and new BM - Cognitive barriers and dominant logic;

Source: Personal elaboration on on Chesbrough (2007, 2010); Zott and Amit (2008); Bogers, Sund and Villarroel (2015); Gerasymenko. De Clercq and Sapienza (2015)

Overall, in the face of Business Model Innovation, new and young firms exhibit both benefits and limits. However, we can assert that they are advantaged by their enhanced flexibility and exploratory mind-set, which can help them detecting problems ad potential failures in advance and possibly changing direction.

3.4 Conclusion

Chapter 3 narrows the focus of Business Model Innovation on new and young firms. As seen in this chapter, this specific category of firms is particularly interesting contextually to the issue of Business Model Innovation for several reasons.

- The first years of a firm's life cycle are critical for its Business Model, since what was projected only abstractly in the previous phase of Business Model design has to be tested in the face of the actual competitive environment through a Business Model adaptation process
- Young ventures are subject to peculiar resource constraints that may make organizational changes difficult for them
- The flexibility and exploratory mind-set typically characterizing young firm can put them in an advantageous position with respect to more established firms when it comes to Business Model Innovation.

CHAPTER 4

EMPIRICAL ANALYSIS

4.1 Introduction

After scrutinizing the theoretical background regarding Business Model Innovation, its drivers for success and its implications contextually to young firms, it is important to further investigate the issue through an empirical analysis. Our goal is not only to check whether the theories analyzed do actually reflect into empirical reality, but also to build a framework whereby the theoretical insights studied so far can be combined together. For this purpose, we will use a fuzzy set, qualitative method of analysis, based on a configurational approach. Hence, this chapter will first illustrate the rationale for such approach and the purpose of our study. Then, we will go through the method adopted for the analysis, briefly explaining the theoretical anchors of the method and the basics of the software used. We will then describe our data collection method and our sample, explain the variables chosen for the analysis and illustrate the steps followed for the analysis. Finally, we will present the main results of the analysis and provide an acknowledged, in-depth interpretation, along with some useful insights for managers.

4.2 The rationale of the present analysis

On the need for a configurational perspective on causality

As observed by Fiss (2011), calling upon the studies by Ford (1985), Huff (1990) and Huff and Jenkins (2001), firm dynamics can be understood mainly if they are framed in cause-effect terms. This means that the managerial reasoning behind decisions about strategy and organizational structures is largely based on cause-effect relationships. However, such relationships rarely follow a straightforward, linear path, but rather they are characterized by what can be defined as complex causality (Fiss, 2007). That is why it becomes important to adopt a perspective whereby all of these underlying causally complex relationships are considered together. We will call this approach a configurational approach, recalling the major role of *configurations* of elements in such causal relationships (Fiss, 2011).

The central topic of this work well suits this view on the causal relationships underlying strategy and organization of the firm. If we consider the Business Model concept as discussed in Chapters 1 and 2, we can observe that it is a complex construct defined by the interactions among the multiple elements that constitute it. This makes it necessary to adopt a systemic perspective when dealing with the Business Model as unit of analysis (Amit and Zott, 2001, 2012) and with the causality relationships in which it is involved. The key point to understand is that the Business Model is not simply a collection of elements, but rather it is based on an outright configuration of interdependent components (Baden-Fuller and Mangematin, 2013; Klang et al., 2014). We cannot simply study Business Model components in isolation, leaving the other factors untouched. Rather, they need to be studied as a configuration, since their possible interactions affect the number of effects to consider (Gavetti and Levinthal, 2000). This is especially true under conditions of uncertainty, in which these interactions are harder to recognize (Berends, 2016), and complex causality is emphasized. In each of the possible configurations of elements, lie a potentially infinite number of underlying organizational choices, strongly interdependent on one another and with consequences that can be more or less flexible (Casadesus-Masanell and Ricart, 2007). Indeed, only those companies that are able to create external and internal fit among Business Model elements will manage not only to create value, but also to capture it.

This is certainly true for Business Model components, but the same can be said with regards to Business Model Innovation drivers. Indeed, it is reasonable to assume that a firm's background elements, such as strategic choices, organizational features or environmental fit do not influence the occurrence of Business Model Innovation in an isolated way, but rather

they supposedly interact with one another and concur in the determination of the Business Model Innovation outcome. Similarly, sources of value creation are strongly intertwined and they exert reciprocal influences on one another. This means that a company is unlikely to pursue one value driver alone, or in other words to innovate its Business Model along one only direction, but rather it is likely to integrate multiple innovative solutions.

This opens to the possibility that there might be more than one recipe for success, depending on the interactions of the drivers with one another and with other elements characterizing the company.

This is exactly why this type of study requires adopting a configurational approach. A possible tool for framing and organizing the complex relationships underlying organizational and strategic configurations is given by typologies, as from the paper by Fiss (2011). Typologies are basically tools that simplify configurations by fitting them into typified profiles (Fiss, 2011). However, as suggested by the author, when embracing a configurational approach, it is important to avoid anchoring it on a fully holistic perspective, that is to say seeking to explain a certain outcome by searching fit between all the elements of the configuration, which is the risk hidden in recurring to typologies. Rather, the author suggests adopting a critical attitude, whereby the researcher should discern essential and nonessential elements of the causal recipe, focusing on the aspects that most relevantly characterize the causal relationships at issue. For this purpose, for a given causal recipe, it is important to distinguish between core and periphery elements (Fiss, 2011), where the former are essential to the recipe while the latter are of secondary importance, depending on the strength of their relationship with the outcome of interest. More detailed technical information on this particular issue will be given in the following paragraphs.

The innovative content of the study

Many studies have already been conducted on the conditions for Business Model Innovation and on its success drivers. However, a configurational and contingency perspective unifying drivers and outcomes is still missing.

The study by Zott and Amit (2007) might have a similar purpose to ours. Nevertheless, it is substantially different. As a matter of fact, both our work and the study by Zott and Amit focus on relatively young firms, exhibiting the features, the potentialities and the limits explained in the previous chapter. However, Zott and Amit analyzed the issue of Business Model *design* in entrepreneurial firms, referring more to the process of setting up a new

Business Model in the initial phases of a firm's life, rather than to the process of updating and innovating an already existing Business Model. Conversely, we focus on young firms having already been on the market for a while, and hence having a Business Model already in place, yet still unstable and highly subject to change. Moreover, the analysis by the authors considered only two out of the four value drivers as independent variables. Conversely, we argue that adopting a configurational perspective it is fundamental to consider all the value drivers jointly. Indeed, as from Amit and Zott (2001), the four sources of value creation affect each other in many different ways and are linked by strong and sometimes complex interdependencies. Hence, neglecting one or more of the value drivers when studying the causal relationships in which they are involved may be misleading because it would probably narrow the spectrum of the results and thus possibly impair their significance.

In particular, our interest is to study configurations involving strategic elements and environmental elements, as well as with Business Model Innovation, and leading to high performance. As explained in Chapter 2, many contingency frameworks involving the aforementioned elements exist in literature. Amit and Zott (2001) studied the interdependencies among value drivers; the effects on performance of such value drivers were later studied by Zott and Amit (2007); the same authors (2008) analyzed the interactions between a firm's product market strategy and the value driver it focuses on; Saebi, Lien and Foss (2016) argue that strategic orientation can affect the ability of the Business Models to adapt to the environment; Saebi (2015) proposed a contingency framework linking environmental conditions, Business Model change and dynamic capabilities. Yet, no study unifying the aforementioned issues exists. Our purpose is to bring the insights coming from these theories together, and to empirically study how these elements interact in the complex causal relationships affecting strategy and management.

4.3 Data and methods

In the light of the considerations made above, classical analytic techniques like multiple regression through OLS or cluster analysis are not suitable for the purpose of the present analysis, since they typically lead to the identification of a single causal path towards the outcome, as reported by George and Bennett (see Legewie, 2013). Such tools are more befitting to a study where factors are analyzed in isolation, that is to say where the effect of the independent variable on the dependent variable is studied independently from the effect of

the other variables in the model. When the phenomenon of interest is determined by a combination of elements, these analytical tools enhance the risk of misunderstanding the real causal relationships linking such elements with the phenomenon. On the other hand, also qualitative tools like case studies are unsuitable for our purpose: although they are based on some kind of configurational perspective, they cannot be generalized to wider sets of cases. On the contrary, our interest is to identify causality patterns leading to the outcome, for which tools involving qualitative analysis are more suitable.

The present study has been conducted through the use of a particular type of analysis, called Qualitative Comparative Analysis (QCA), with the support of fuzzy set qualitative comparative analysis (fs/QCA)[11]. This method allows the study of the configurations of the Business Model and its dynamics in a sample of companies, through investigating the pattern of factors that yield a given outcome, namely superior performance.

The fuzzy set approach

The present study has been conducted through the use of a particular type of analytic approach, called Qualitative Comparative Analysis (QCA). QCA is a set of research tools that combines detailed within-case analysis and formalized cross-case comparisons.

Its original application field is represented by comparative sociology and comparative politics, anchored in a where there is a robust tradition of case-oriented research together with a nourished body of quantitative cross-national research (Ragin, 2008).

One of the salient characteristics of QCA is that it is based on the underlying assumption of **causal complexity**, for whose analysis it seeks to provide powerful tools.

For causal complexity, we mean a setting where causal factors interact with each other in a multifaceted way. Specifically, causal complexity is characterized by the fact that causal factors combine in a way to determine the occurrence of an event or phenomenon, although a given event can be driven by different combinations of causal factors; moreover, causal factors can have divergent effects according to how they interact with other factors, as argued by Wagemann and Schneider (see Legewie, 2013). The main aim of QCA is to give an exhaustive explanation of a phenomenon in settings characterized by the features described above, making it possible to explain how a given outcome is produced. In other words, QCA

[11] Ragin, Charles C., Kriss A. Drass and Sean Davey. 2006. *Fuzzy-Set/Qualitative Comparative Analysis 2.0*. Tucson, Arizona: Department of Sociology, University of Arizona.

allows studying very complex causal relationships involving different combinations of causal conditions that can potentially lead to the same outcome (Ragin, 2008).

This focus contrasts with the regression analyses typically used in conventional quantitative social science: while QCA seeks to give an exhaustive explanation of a phenomenon exploring different combinations of causal conditions, regression-type analyses are in turn based on "net effects", that is to say that they investigate the influence of a given causal factor on some other variable, *net* other causal factors (Ragin, 2008).

Wile in classical analytical tools the effect of the independent variable on the dependent one is analyzed independently from the other variables, in QCA the effect of a single element varies across cases exactly because of the presence or absence of the other variables in the combinations. Hence, in QCA causality is anchored on a configurational logic, whereby the outcome depends on the interactions among variables.

QCA is based on a method that **bridges qualitative and quantitative analysis** (Ragin, 2008): its *modus operandi* consists in a combination of detailed within-case analyses and formalized, systematic cross-case comparisons. The research process conducted through this type of analysis is iterative, meaning that it might involve multiple rounds of within-case analysis and cross-case comparisons (Legewie, 2013). As a matter of fact, QCA gives a fundamental role to the researcher, who needs to actively intervene in the research process with its knowledge on the topic that is being analyzed. Indeed, deep familiarity with cases is required in the "within-case" side of the analysis. At the same time, the analysis leads to identify "cross-case" patterns, based on the diversity among cases with regard to the causally relevant conditions identified by the researcher. The link between these two sides of the analysis lies in the fact that cross-case analysis can bring to results suggesting, but not proving, causal relations; as suggested by George and Bennett (see Legewie, 2013), only through the understandings derived from within-case analysis, as well as from the knowledge about the event under investigation, the researcher can interpret associations emerging from cross-case analysis as causal links or other types of relation. Thus, an important part of the analytic work is represented by an intensive within-case analysis, whereby in-depth understanding of the cases in a basic requirement.

This type of analysis is most appropriate when studying social phenomena characterized by causal complexity, in particular when their formulation can be expressed in **set-theoretic** terms, i.e. based on the investigation of necessary and sufficient conditions (Ragin, 2008). Indeed, the goal of QCA is the analysis of set relations, not of correlations. The features of this type of analysis make it possible to establish tighter links with theory if compared to

conventional quantitative methods (Ragin, 2008), since social theory is typically based on verbal terms, which in turn are mostly set-theoretic.

Our analysis has been conducted through a software called fs/QCA, i.e. fuzzy set Qualitative Comparative Analysis. Such tool is based on the concepts of fuzzy set theory and Boolean algebra, and its goal is to formally analyze the presence or absence of given factors or combinations (*conditions*) when the phenomenon under investigation (*outcome*) takes place or does not take place (Legewie, 2013). It is also able to determine whether the relation that links conditions and outcome is necessary or sufficient.

Every aspect to be mapped is defined in terms of its membership to a set, which is a formalized representation of a concept (for instance, the set of companies with a certain level of revenues). Sets can be defined in terms of absence or presence of an attribute (crisp approach) or in terms of the degree of membership (fuzzy set approach). Fuzzy set scores describe differences in degree and in kind of membership of a case in a set, and they can assume values ranging from 0 to 1. A set is defined by three substantively meaningful anchor points: full membership (score 1), crossover (score 0,5) and full non-membership (score 0), where the crossover point represents the point of maximum ambiguity in determining whether a case falls in the set or out of the set (Ragin, 2008, in Fiss, 2011). The table below illustrates some cases of fuzzy set membership scores compared with the crisp scores.

Table 9: Crisp vs fuzzy sets

Crisp set	**Three-value fuzzy set**	**Four-value fuzzy set**	**Six-value fuzzy set**	**"Continuous" fuzzy set**
1 = fully in	1 = fully in	1 = fully in	1 = fully in	1 = fully in
			0.8 = mostly but not fully in	Degree of membership is more "in" than "out": $0.5 < x_i < 1$
		0.75 = more in than out	0.6 = more or less in	
	0.5 = neither fully in nor fully out			.5 = cross-over: neither in nor out
			0.4 = more or less out	
		0.25 = more out than in	0.2 = mostly but not fully out	Degree of membership is more "out" than "in": $0 < x_i < .5$
0 = fully out	0 = fully out	0 = fully out	0 = fully out	0 = fully out

Source: Ragin, 2008

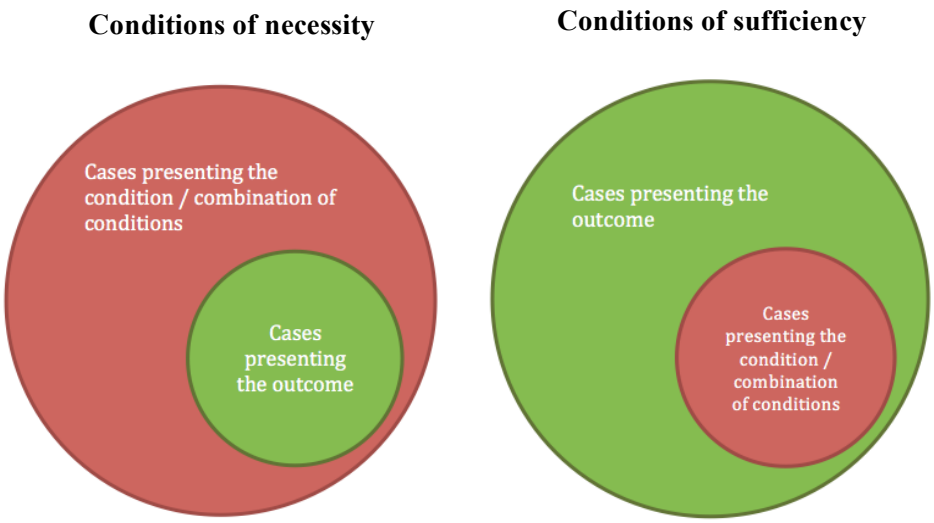
The process of assigning membership scores to cases requires in-depth knowledge of the phenomenon and of the cases under investigation. As a matter of fact, the user needs first to outline criteria for assigning the scores, and then to get a deep understanding of the cases in order to assign membership scores in an informed way.

A configuration is a collection of sets; therefore, the membership of a case to a configuration is given by the combination of levels of memberships of the case to the individual sets making up the configuration. The combination depends on the relationship that the researcher has identified among causal factors.

These relationships, and in general the data analysis based on the membership scores, are anchored in Boolean algebra. QCA uses three basic operations: intersection, union and negation. **Set intersection** is represented by the logical operator *and* (*); the combination given by the intersection of the sets X, Y and Z is X*Y*Z, and the membership of one case to such combination is given by the minimum membership score of the case in the three sets. It is used when the goal is to define the membership of a case to a combination of conditions that concur in determining the outcome. **Set union** is represented by the logical operator *or* (+); the combination given by the union of the three sets mentioned above is X+Y+Z, and the membership score of a case is given by the maximum membership score of the same case in the sets. Union is used when the different causal factors are considered alternative conditions for the outcome. Lastly, **set negation**, represented by *not* (~), is obtained through subtracting the membership score in one set (for instance X) to 1. It is used to consider the absence of a condition or of an outcome in the analysis.

As mentioned above, the relationships that link factors to an outcome can be identified by necessary or sufficient conditions, which are reflected in QCA through the corresponding set-theoretic relations of supersets and subsets (Figure 9). A causal condition (or a combination of conditions) is **necessary** for the outcome if such outcome cannot take place without the occurrence of the condition, but the condition alone is not said to produce the outcome; this means that the condition is present in every observation of the outcome (Ragin, 2000). In this case, it is possible to say that the outcome is a subset of the causal condition, thus the membership score of all cases in the outcome is not higher than their membership in the condition. On the other hand, a condition (or a combination of conditions) is **sufficient** if the outcome is always verified in presence of the condition; this means that the presence of the condition implies the occurrence of the outcome (Ragin, 2008). In this case, the condition is a subset of the outcome: the degree of membership of all cases in the condition is not higher than their membership in the outcome.

Figure 9: Graphical representation of logical relationships



Source: Personal elaboration on on Ragin (2008)

In empirical situations, and especially in settings characterized by causal complexity, it is uncommon to find single conditions that are sufficient by themselves for an outcome, but rather it is probable to find combinations of conditions that are sufficient for an outcome (Goertz and Levy, 2007). QCA is a helpful tool in this sense: it allows to analyse conditions that are defined "INUS", that is to say causal conditions that are neither sufficient nor necessary by themselves, but they are insufficient but necessary part of causal recipes, which in turn are sufficient, yet unnecessary, for the outcome (Mackie, 1974, in Ragin, 2008). These conditions typically characterize causally complex situations, where interactions between causal factors are complex and different combinations of conditions can produce the same outcome. In presence of INUS conditions, cases with a certain combination of conditions constitute a subset of the cases where the outcome is present.

In empirical reality, it is common to find conditions or combinations of conditions where some cases deviate from the overall pattern, characterized by a necessary or sufficient relation. Conditions or combinations of conditions are often "quasi-necessary" or "quasi-sufficient", meaning that the causal relation is normally verified, but some cases represent a deviation. In order for the researcher to evaluate how well the cases fit with the general pattern, she can use QCA's measures of fit, namely consistency and coverage.

Consistency reflects the proportion of cases exhibiting both the causal condition and the outcome on the total number of cases exhibiting the causal condition (Ragin, 2008).

In other words, it measures the level of conformity of the relation between a causal condition and the outcome in a certain data set. Consistency can assume values ranging from 0 (no consistency) and 1 (full consistency). **Coverage** instead is a metric measuring empirical relevance, that is to say what proportion of cases displaying the outcome has been explained by the solution, and it can again assume values from 0 to 1.

Cases need to be understood and represented as configurations of conditions; for this purpose, QCA provides the tool of the truth table analysis. The goal of such analysis is to find causal patterns of sufficiency, that is to say causal recipes that are sufficient for the outcome. The truth table shows 2k columns, where k is the number of causal conditions, displaying the conditions and the outcome. Moreover, there is a column showing the number of cases presenting a particular configuration and the relative consistency. Rows, in turn, represent all the possible configurations: the cases are sorted into the truth table rows based on their value on the various conditions. Therefore, some rows will contain a high number of cases, some others only a few, and some rows will be empty (in case no empirical case presents a particular combination of attributes). By looking at the truth table rows, the fs/QCA software checks whether cases from the same configuration present the outcome of interest, with the support of the "consistency" row; thereby, such tool enables the researcher to assess whether a relation of sufficiency between the configuration and the outcome exists or not.

As observed by Ragin (2000) and reported by Fiss (2011), one of the challenges hidden in configurational approaches is the one of *limited diversity*, namely the problem given by the fact that empirical cases typically do not cover all the logically possible configurations. This problem manifests itself in that a large number of truth table rows are empty, that is to say many configurations are not represented by any case at all (Fiss, 2011). QCA offers a tool to reduce the problems linked to limited diversity, *counterfactual analysis*, allowing for the formulation of simplifying assumptions (Ragin, 2008). Depending on the approach to simplifying assumptions, the truth table analysis conducted through fs/QCA allows for the distinction between two different solutions: the parsimonious solution, reducing the causal recipes to the lowest number of conditions possible, and the intermediate solution, which is more complex but embeds selected simplifying assumptions (Fiss, 2011; Legewie, 2013). These two solutions allow for the distinction between core and peripheral conditions: core conditions are the ones appearing both in the parsimonious and in the intermediate solution, and hence exhibiting strongest evidence relatively to the outcome, while peripheral ones are shown only in the intermediate solution.

Data and sample

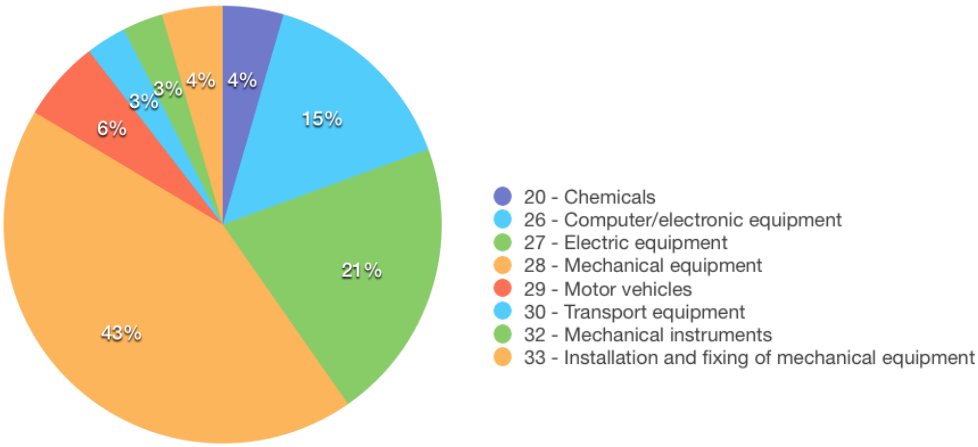
Our analysis has been conducted on data collected by MPS Evolving Marketing Research, a scientific and statistical research institute, in 2015, within a project financed by the Italian governmental office of university and research (MIUR) and promoted by 11 Italian universities. Such project is focused on the growth of new ventures and on the factors hindering or facilitating it. Our dataset consists in the answers to a survey including questions about general information, issues linked to entrepreneurship and innovation, the Business Model and its evolutions, as well as strategic and organizational aspects. The sample is composed by 67 Italian firms, aged 5-8. The sample only involves manufacturing companies, belonging to medium/high-technology industries.

The choice of focusing on this type of companies was driven by some considerations made in the previous chapters. As seen in Chapter 1, the major characteristics of the current business environment are increasing complexity, hyper-competition (D'Aveni and Gunther, 1994) and globalization (Knight 2000). In such setting, innovation and entrepreneurship are key factors in order to have a flexible and proactive management of activities and processes (Onetti and Zucchella, 2010). Such characteristics are intensely emphasized in industries where companies invest massively in R&D and growth is particularly accented, like medium/high-tech industries (Autio 1997; Storey and Tether 1998). For medium-high tech we mean those companies with a marked push for incremental innovation, competing in industries like electrical machinery, motor vehicles, chemicals (excluding pharmaceutical), transport equipment and machinery equipment. That is why we are focusing mainly on this type of companies, and on the young ones in particular.

The firms in the sample belong to various industry segments, labelled according to the ATECO 2007 classification[12], spanning from chemical, electrical and mechanical material to automotive and transportation equipment. Figure 10 shows the distribution of the sample units (i.e. the firms) across the specific ATECO sectors involved. The most represented industry is the mechanical one, with the mechanical equipment sector accounting for 29 firms, but also electric equipment and computer/electronic equipment have a relevant share.

[12] http://www3.istat.it/strumenti/definizioni/ateco/ateco.html?versione=2007.3&codice=C

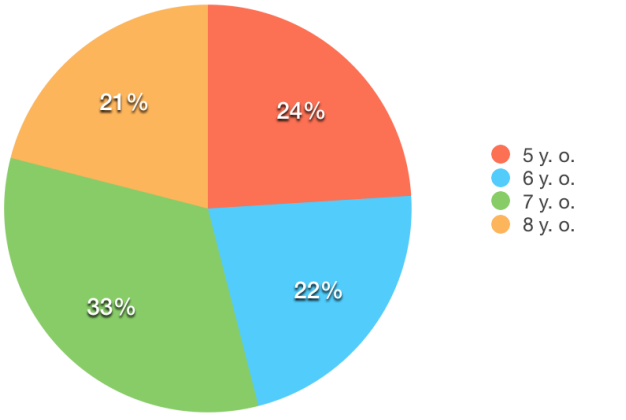
Figure 10: Distribution of the sample units across different ATECO sectors



Source: Personal elaboration

The sample units are more or less evenly distributed across the ages. In particular, as displayed in Figure 11, the sample is made up by 16 firms established in 2010 (24%), and hence aged 5, 15 established in 2009 (22%), 22 in 2008 (33%) and 14 in 2007 (21%).

Figure 11: Ages of the firms in the sample



Source: Personal elaboration

One of the parts of the survey that are most interesting for our analysis is the one about the evolution of the Business Model. Respondents were asked to which degree their current Business Model exhibits certain characteristics pertaining Business Model efficiency, novelty, lock-in and complementarity, and then the same questions but with reference to their initial Business Model. The survey foresaw three questions about efficiency, three about novelty, one about lock-in and one about complementarity. The answers consisted in a score ranging

from 1 (totally disagree) to 7 (totally agree). For each firm, we compared the answers to the questions about the current Business Model and the ones about the original Business Model, to derive an intertemporal change of each of the value drivers. The difference between the two values on each item represents the delta, that is to say the extent of the intertemporal variation. For instance, question T1 is configured as follows:

T1a: Does our CURRENT Business Model enable a rapid execution of transactions?

T1b: And the INITIAL one?

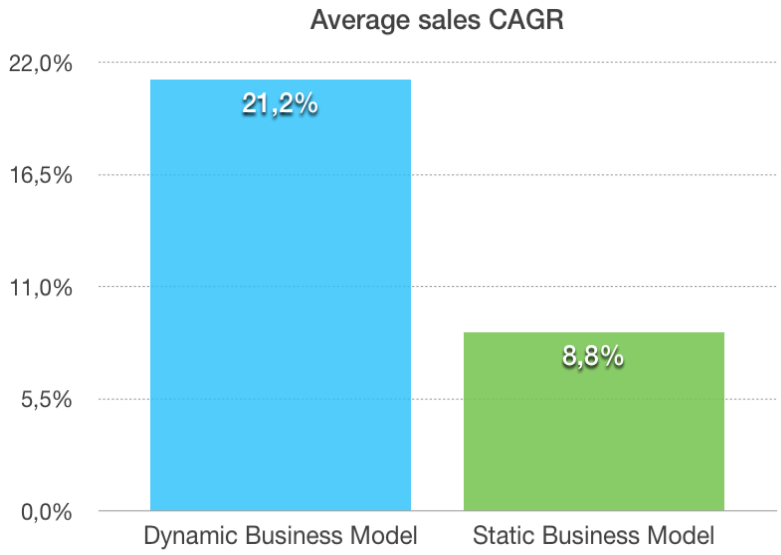
$\Delta T1 = ans(T1a) - ans(T1b)$

A positive delta reflects an improvement in that specific item. In the example above, a positive delta means that the current Business Model enables a more rapid execution of the transactions with respect to the initial ones, and thus that the transaction rapidity has been improved over the first years of activity.

We assumed that Business Model change requires a positive delta (in absolute value) in at least one of the items describing the value drivers. Thus, a firm exhibiting 0 delta in all of the answers at issue can be said not to have changed its Business Model in any direction, or in other words its Business Model has remained at its initial state. Conversely, a positive (or negative) delta in at least one indicator denotes some evolution in the Business Model design themes, and therefore a change in the Business Model. We refer to the former as "static Business Models" and the latter as "dynamic Business Models". Of the 67 firms represented in the sample, 56 have a dynamic Business Model and 11 have a static Business Model.

According to our analysis, firms exhibiting a dynamic Business Model seem to perform better than firms with a static one on average (Figure 12). This result has been obtained through comparing our performance indicator, sales CAGR, for the two groups, namely firms with dynamic Business Models and firms with static Business Models. The average sales CAGR for the former group is significantly higher than the one for the latter, with mean values of respectively 21.2% and 8.8%. The difference in mean between the two groups has been tested using a Student's T-Test, which presented a p-value of 0.057. Therefore, we can reasonably reject the null hypothesis (i.e. the two groups are equal in mean) and accept the alternative hypothesis (i.e. the difference in mean is greater than zero) at a significance level of 0.1.

Figure 12: Average sales CAGR for firm with a dynamic Business Model and firms with a static Business Model compared



Source: Personal elaboration

Choice of the variables and calibration

The goal of our analysis is to find the causal patterns leading to the outcome of high performance. For this purpose, we identified a measure of performance plus three different sets of variables: Business Model value drivers, strategy and environment.

- **Performance**

We decided to identify our outcome with a performance indicator. Ultimately, we need to study whether different configurations of firm and environmental elements, as well as what we called "sources of value creation", can actually explain the process of value creation in Business Model Innovation. Originally, Amit and Zott (2001) intended value creation as the generation of value regardless of which participants in the transaction appropriate such value. A further study by the authors (2007), focused on entrepreneurial ventures, studies more specifically the effects of the value drivers on firm performance, thus narrowing the focus from the network level to the firm level. In the present study, we are adopting a method more akin to this latter approach: we want to understand what firms need to do and/or to have in order to create value for themselves, that is to say in order to achieve superior performance.
As a performance indicator, we chose a summary indicator of sales growth, the Cumulative Annual Growth Rate (CAGR) of revenues. Among the many possible performance metrics,

sales growth is reasonably the most suitable one for young firms. Indeed, at their early stages, firms' true prospects are highly unpredictable, since young companies are typically subject to huge investments and to highly variable profits, possibly being still in a product development stage (Lee, Lee and Pennings, 2001); consequently, it is better to pick an evaluation measure that captures their actual ability to perform on the market rather than, for instance, their profitability. To this regard, Zott and Amit (2007) argue that it is unadvisable to adopt measures of realized performance like ROI, ROA or Tobin's q ratio, since they inherently consider elements like earnings, tangible assets and book value, which are typically very low (or even negative) in young, high-growth companies. Therefore, they are not reliable indicators of performance under such dynamic and uncertain conditions (Zott and Amit, 2007; Feeser and Willard, 1990). Conversely, sales growth seems a good performance metric for young businesses, as many scholars have experimented (Lee, Lee and Pennings, 2001; Dess and Robinson, 1984; Feeser and Willard, 1990). According to these authors, growth in sales is a good performance metric because it represents the firm's ability to interact with the environment and to expand its product-market scope, by reflecting both product or service quality and acceptance by the market. Since these elements are key, especially for new, high-growth firms that are trying to establish themselves in dynamic markets, it is reasonable to assert that growth in revenues (and sales CAGR in our case) provides a good measure for business success.

In particular, we computed the CAGR of revenues from the first year of recorded activity of the firm until 2014. Every firm's CAGR has been calibrated using metrics related to its own ATECO sector (second ATECO digit). Data were extracted from the AIDA database, from which we obtained information about each of the ATECO sectors involved in our analysis.

We determined our fuzzy set measure of superior firm performance following a reasoning analogous to the one used by Fiss (2011). Namely, membership in the set of firms exhibiting high performance has been rated 1 (fully in the set of high-performance firms) if the CAGR of revenues resulted equal or higher than the sector's 75^{th} percentile, while firms having sales CAGR equal or lower than the 50^{th} percentile got score 0 (fully out of the set of high-performance firms). The crossover point is the halfway mark between the value corresponding to the 50^{th} percentile and the one corresponding to the 75^{th} percentile. Note that we used different values (50^{th} and 75^{th} percentile and halfway point) according to the specific sector because performance trends vary across industries.

- **Value drivers improvement**

As explained above, we computed an intertemporal change in each of the value drivers by comparing, for each item, the answers about the current Business Model and the ones about the original Business Model. Efficiency improvement was measured by the improvement in three items (i.e. the answers, in terms of degree of agreement, to three questions of the survey): rapid execution of the transactions, cost reduction for the participants in the transaction and improved overall efficiency. Similarly, novelty improvement was measured by the ability of the Business Model to provide participants with novel functionalities, the level of new connections between participants, and the overall novelty of the business. Lock-in improvement was measured by the improvement in the ability of the business to retain customers and partners and complementarity was measured by the improvement in the ability to create synergies.

Table 10: Survey indicators for the four value drivers

Efficiency	- Speed in the execution of the transactions - Cost reduction for participants in the transaction (firm, customers, distributors, suppliers) - Overall high degree of efficiency
Novelty	- Provision to participants of functions that are new or different from competitors - New connections among participants - Overall high degree of newness
Lock-in	- Ability to retain customers or partners in the long run
Complementarity	- Synergies among a bundle of complementary products/services

Source: Personal elaboration

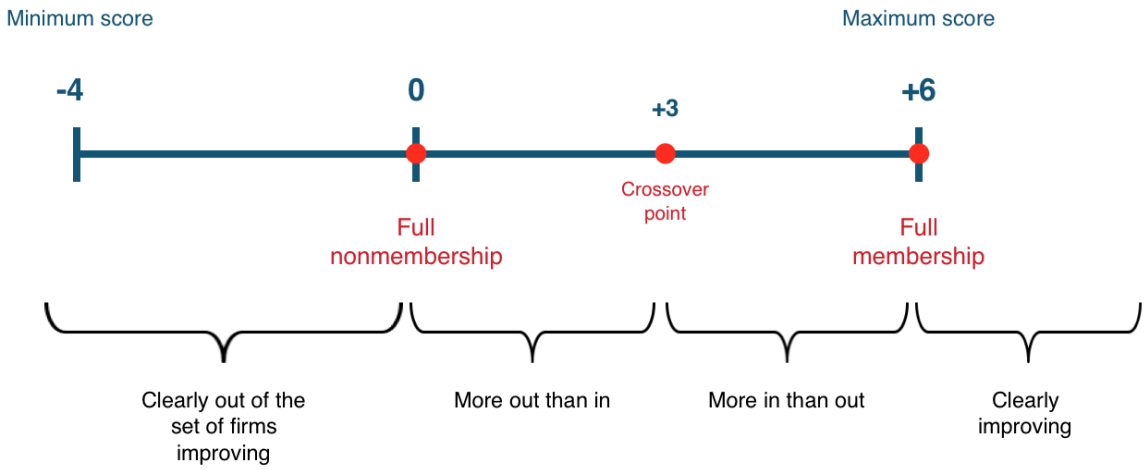
To verify whether different items measure the same construct, we computed the Cronbach Alpha for the three items related to efficiency and for the three items related to novelty.
With values of 0.74 and 0.76 for efficiency and novelty respectively (both above the acceptable level of 0.7), it is possible to assert that the three items identified in the survey as indicators of efficiency actually measure efficiency, and that the three items for novelty actually measure novelty, in a pretty reliable way.
The calibration of these variables resembles the calibration of a likert scale as from Fiss (2011), but it is slightly different. Indeed, we are not working exactly on a Likert scale, but rather on the variation between two Likert scales. This means that the values of our scale can assume positive values as well as negative values. From this point of view, for a specific

value driver, the maximum scale value reflects a substantial improvement; hence, it makes sense to rate it as fully in the set of firms that improved that specific value driver. On the other hand, 0 assumes a very clear and important meaning: it means that the firm has not changed its Business Model on that specific front (i.e. acting on that specific value driver). Hence, it is reasonable to rate as fully out of the set all the case exhibiting scores of 0 or less in the scale relative to the variation of a specific value driver. This way, all the cases recording zero or negative scores (i.e. not changing or even worsening their efficiency, novelty, complementarity or lock-in) are identified as out of the set of firms that improved.

Thus, for each value driver, the maximum observed value was rated 1 (fully in the set), 0 was rated 0 (fully out), and the crossover point was set at the observed midpoint of the positive scale (between zero and the maximum value).

Let us consider for example one of the indicators for novelty improvement, "improvement in the provision of new or different functions to participants". The maximum score recorded for this item, that is to say the greatest positive variation in this particular aspect of novelty, is 6; the minimum score, corresponding to the greatest negative variation, is -4. Thus, firms scoring 6 were rated 1, firms scored 3 were rated 0,5 and firms scoring 0 or lower were rated 0, as showed in Figure 13.

Figure 13: Fuzzy membership in the set of firms improving the provision of new or different functions



Source: Personal elaboration

Ultimately, the variables corresponding to the indicators for efficiency and for novelty (the only value drivers identified by more than one item) were combined through the logical operator "or".

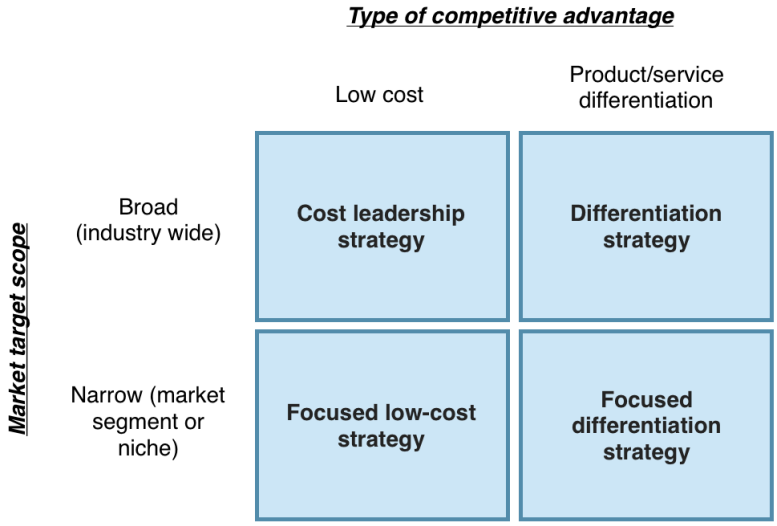
- **Strategy**

Among the independent measures (i.e. the causal conditions) for our analysis, we chose to include some indicator of the firms' strategic choices. In particular, we assessed strategy using two variables corresponding to two dimensions of the firm's strategy:

- The **type of competitive advantage** (differentiation/low cost) indicates the extent to which a firm choses to compete pursuing a differentiation advantage rather than a low cost advantage.
- The **market scope** (niche/industry) indicates the extent to which a firm adopts a niche strategy as opposed to an industry-wide strategy.

These two sides can be combined according to Porter's (1980) framework, defining three generic competitive strategies: cost leadership, differentiation and focus (which in turn can be distinguished in focused cost leadership and focused differentiation), as from Figure 14.

Figure 14: Porter's generic strategies



Source: Personal elaboration on Porter (1980)

For the sake of our analysis, we kept the two dimensions separate because we wanted to investigate their individual role in the occurrence of the outcome, but eventually we will make some considerations about the possible generic strategies emerging in the causal recipes leading to high performance. Each of the two variables was measured based on a survey questions: one asking whether the firm competes in its market through innovations or through new or different products/services (indicating the type of competitive advantage) and one asking whether the firm focuses on narrow market segments or niches (for the market scope).

Both questions foresaw answer expressing the degree of agreement of respondents on a scale from 1 to 7. We calibrated the two variables applying the method used by Fiss (2011) for Likert scales, attributing full membership score to the maximum observed value (i.e. 7), full nonmembership score to the minimum value (i.e. 1) and identifying the crossover point as the observed midpoint of the scale (i.e. 4).

- **Environment**

When studying configurations, it is interesting to bring the environmental dimension into the analysis. For this purpose, we introduced an environmental variable representing the level of environmental turbulence faced by the firms in their industry, bringing together two elements: the mortality rate and a synthetic index of industry competitiveness (Indice Sintetico di Competitività ISTAT). The overall environmental variable resulting reasonably reflects the degree of what Saebi (2015) calls environmental competitiveness, also termed hypercompetition or, indeed, environmental turbulence. It is important to study the role of this type of environment in the configurations leading to high-performance Business Model Innovation because our main object of analysis (Business Model Innovation in young firms) best reflect Saebi's (2015) category of Business Model Adaptation, and according to the author this type of change matches environment characterized by environmental competitiveness.

This variable brings together two relevant aspects of a firm's competitive environment:

- The ***mortality rate*** indicates the number of firms that terminate their activities in a certain time unit with respect to the total firms in the industry; this value was computed for each sub-sector, that is to say to the third ATECO digit, and averaged from the year of birth of the firm until 2013.
- "***Indice Sintetico di Competitività***" ISTAT is a competitive index summarizing several structural indicators representing different dimensions of the firms' performance, including cost competitiveness, profitability, export and innovation[13]; this index was computed at the industry level, that is to say at the second ATECO digit, and averaged from the year of birth of the firm until 2014[14].

Although it is generally preferable to use benchmark measures for the calibration, in the absence of commonly agreed upon external values, it is possible to resort to sample-dependent criteria driven by reasonable justifications by the researcher (Fiss, 2007, 2011).

[13] http://www.istat.it/competitivita/files/Informazioni-schede-settoriali.pdf

[14] For both mortality rate and ISCo, data for each ATECO sector were extracted from http://www.istat.it/it/archivio/180542

Hence, since we were not able to find a univocal benchmark for defining environmental turbulence with respect to these two indicators, we used anchors internal to the sample. In particular, we chose to give full membership score (equal to 1) to firms exhibiting maximum value for the specific variable (12.5 for mortality rate and 123.8 for ISCo) while full nonmembership was set to the minimum value (3 for mortality rate and 55.9 for ISCo); we chose the mean value as the crossover point (7.75 for mortality rate and 89.85 for ISCo). After the calibration, the two indicators were combined through the logical operator *and*. Thus, we obtained a synthetic indicator reflecting that the simultaneous membership of a case in the set of firms belonging to high mortality rate industries and in the set of firms belonging to highly competitive industries reflects high environmental turbulence.

Analysis

For all the conditions identified as well as for the outcome, as explained above, a process of calibration was undertaken in order to transform the variables into sets (Fiss, 2011). Such process was followed on the basis of the direct method of calibration suggested by Ragin (2008) and adopted by Fiss (2011), in a completely automated way through the computational tools provided by the fs/QCA software. As suggested by Fiss (2011), we adopted an expedient to avoid ambiguities in the determination of the membership in fuzzy sets: a constant 0.001 was added to each fuzzy membership score ranging from 0 to 0.99, so that no case got a score of exactly 0.5, since the complex rules of fuzzy set intersections make cases positioned exactly on the crossover point difficult to analyze.

After inputting and computing the calibrated values for the outcome (sales CAGR) and for our 7 conditions (efficiency improvement, novelty improvement, lock-in improvement, complementarity improvement, degree of differentiation, narrowness of the market scope and environmental turbulence) we proceeded to the fuzzy truth table algorithm analysis. We set the *consistency threshold* to 0.80, as in Fiss (2011) and coherently with what suggested by Ragin (2008), who recommends a minimum threshold of 0.75. This means that the minimum acceptable level of consistency for the configurations displayed in the truth table was set to 0.80, hence all the configurations exhibiting lower consistency values were assumed not to lead to the outcome to a substantial extent. As for the *frequency threshold*, we set the minimum acceptable solution frequency at 2, as suggested by Ragin (2008) for relatively small-N datasets. This way, all the configurations covering less than 2 cases were considered

as logical remainders, meaning that the empirical evidence they contain was not considered relevant enough.

We conducted a standard analysis, whereby the software should provide three solutions: complex, parsimonious and intermediate solution. The software simplifies the truth table thorugh a minimization algorithm based on the logic of implication, until truth table terms cannot be reduced any further; these essential terms are the *prime implicants*. Sometimes, the result of the minimization process consists in more prime implicants than what is needed to cover all the truth table rows, and thus some prime implicants are logically redundant. When the minimization algorithm cannot fully reduce the truth table, the researcher is required to select which prime implicants identified as redundant by the software to include in the analysis. We selected both improvement in novelty and improvement in complementarity, since they are both part of the value drivers framework, and as such they are theoretically equally interesting solutions to us.

As an assumption for the intermediate solution, we inputted novelty improvements as expected to be present for the occurrence in the outcome, whereas we did not make any assumption about the other conditions. Our assumption was driven by acknowledged considerations based on our theoretical knowledge about the issue. Indeed, according to Zott and Amit (2007), novelty-centered Business Models appear to lead to higher firm performance, while there is no strong evidence of the link of efficiency with high performance and the relationship of lock-in and complementarity with performance was not scrutinized. As for elements like strategic choices and environment, they are surely likely to impact performance somehow, but usually in a contingent way and in interaction with some other element. Thus, no assumption on their individual expected contribution to performance could be made. It is true that the research by Zott and Amit (2007) used a different performance metric than ours, and that it linked performance to novelty as a design theme, while the condition we are studying is the *improvement* in novelty. Nevertheless, if novelty by itself leads to high performance, it is reasonable to assume that improvement in novelty is likely to positively affect performance as well. However, we conducted the same analysis without including the assumption of presence of novelty and we found that results were not substantially different.

4.4 Empirical results

The following table summarizes the main descriptive statistics for each of the variables considered in the analysis. Mean and standard deviation were computed for the uncalibrated measures.

Table 11: Descriptive statistics

		Variable	Mean	S. D.
Performance		Sales CAGR	0,19	0,30
Value drivers variation	*Efficiency*	Transaction speed	1,10	1,48
		Cost reduction	1,00	1,39
		Overall efficiency	1,22	1,39
	Novelty	New/different functions	0,87	1,49
		New connections	0,85	1,27
		Overall newness	0,93	1,32
	Lock-in	Retention	1,00	1,40
	Complementarity	Synergies	0,88	1,08
Strategy		Degree of differentiation	5,36	1,69
		Narrowness of the market scope	5,55	1,81
Environment		Mortality rate	4,98	1,62
		Competitiveness (ISCo)	111,26	13,97

Source: Personal elaboration

The results of our fs/QCA analysis are summarized in Table 12. The table was constructed following the template proposed by Fiss[15] and used in his 2011 article. Bigger circles indicate core conditions, that is to say conditions present both in the parsimonious and in the intermediate solution, thus the most relevant ones, while smaller circles indicate peripheral conditions, namely conditions displayed only in the intermediate solution. Full circles indicate the presence of the corresponding condition, while empty ones indicate absence.

[15] http://www-bcf.usc.edu/~fiss/stm%20links.html

Table 12: Configurations for achieving high performance

Configuration	Solution 1	Solution 2	Solution 3
Value drivers			
Improvement efficiency	●		●
Improvement novelty		●	●
Improvement lock-in	⊗	⊗	
Improvement complementarity		●	●
Strategy			
Niche strategy	●	●	●
Differentiation strategy	●	●	●
Environment			
Turbulent environment	⊗	⊗	⊗
Consistency	0.899010	0.943710	0.890419
Raw coverage	0.276997	0.087714	0.101377
Unique coverage	0.204533	0.015251	0.028913
Overall solution coverage		0,321161	
Overall solution consistency		0,89225	

Source: Personal elaboration

The solution identified by our analysis is given by three possible configurations for achieving high performance, with an overall coverage of about 0.32 and an overall consistency of about 0.89. The coverage value indicates that about one third of the cases showing membership in the outcome exhibits membership in the causal recipes, that is to say that the complete solution identified describes nearly one third of the cases exhibiting high performance. On the other hand, the consistency value means that these combinations of causal conditions lead to high performance in almost 90% of the cases.

The first solution identified includes the presence of a value driver improvement, namely in efficiency, and the absence of an improvement in lock-in, along with the presence of both strategic elements and the absence of environmental turbulence. In this configuration, the conditions related to the two value drivers are core conditions, while the other three are peripheral. The second solution foresees the presence of two value driver improvements, namely novelty and complementarity, and again the presence of both strategic elements. The core condition here is the presence of novelty improvements, while the peripheral ones are

absence of lock-in improvements, presence of complementarity improvements, presence of niche and differentiated strategy and absence of environmental turbulence. The third solution includes the presence of complementarity improvements as a core condition and the presence of efficiency and novelty improvements as peripheral conditions, together with the presence of a niche and differentiated strategy and the absence of environmental turbulence. It is important to notice that all the three solutions are characterized by the presence of a niche and differentiated strategy as two common conditions, and that all of the solutions display the absence of environmental turbulence, although these conditions are only peripheral. The highest raw coverage (0.28) is observed in the first solution, which means that, explaining about 28% of the cases with the outcome, the first configuration represents the causal recipe exhibiting highest empirical relevance.

4.5 Discussion of the results

Before discussing in depth each of the three configurations identified, it is worth mentioning some general considerations about the overall solution. First, we notice that configurations leading to high performance seem to leverage on different conditions in terms of value drivers improvement, but that they are characterized in general by non-turbulent environment and by a focused differentiation strategy (as from Figure 14, Paragraph 4.3), combining focus on a market niche with product differentiation. The strategic side can be partially explained by the characterization of our sample. Indeed, for new technology-based firms, it makes sense to assume that leveraging on innovative and different features, rather than on lower costs, and focusing on a market niche, compatible with the creation of new market opportunities (Abernathy and Clark, 1984), is likely to yield higher market success. This somehow supports what observed in Chapter 2 regarding the strategic elements facilitating Business Model Innovation, with particular reference to Business Model adaptation: in order to be able to actively adapt its Business Model to environmental threats and opportunities, it is better for a firm to adopt an aggressive approach, based on market development, rather than a defensive one (Saebi, Lien and Foss, 2016). A market development approach, based on the exploration and exploitation of new market opportunities, well fits a focused differentiated strategy. The contextual absence of environmental turbulence runs in the same direction: it is possible that competing in niches allows firms to face a lower competition and thus a less unstable and risky environment. However, interactions with other factors need to be considered too.

Another common feature of the three configurations identified in our solution is the irrelevant or even negative role played by lock-in improvements. Reminding the framework by Amit and Zott (2001), lock-in often entails increased switching costs, and switching costs might have the effect of amplifying resistance to change. In high-tech industries, rapidly evolving innovations are likely to emerge repeatedly, asking the customer to change and to adapt to new standards every time; thus, resistance to change is highly likely to be rejected by customers, who might not value (or value negatively) lock-in attempts by new firms.

- The **first configuration** of our solution is characterized by two primarily relevant conditions on the value drivers side: presence of improvements in efficiency and absence of improvements in lock-in. Hence, good performance can be achieved by firms focusing on features that boost efficiency, without engaging in efforts geared towards customer retention. A possible interpretation is that the market values those firms that do not try to trap customers, but rather propose themselves as a low-risk solution, leaving them free to change while providing other valuable features (i.e. efficiency gains). It is true that, if a customer is satisfied, lock-in might be a likely outcome. However, with efficiency boosts, it is likely to come by itself: as argued by Amit and Zott (2001), by allowing for quicker and cheaper exchanges, efficiency ultimately leads to an increased number of transactions. This means that customers are likely to engage again in relationships with the company, but the choice is up to the customer rather than inducted by customer retention initiatives actively undertaken by the company.
- The **second configuration** exhibits novelty improvement as a core condition. This result is in line with the findings by Zott and Amit (2007) according to which novelty-centered Business Models lead to higher firm performance. As observed in Chapter 2, novelty allows the company to create new connections among participants, new markets and new ways to generate and capture revenues, which is likely to enlarge the customer base and enhance customers' willingness to pay. However, especially for the firm category we are focusing on, it is reasonable to hypothesize that novelty alone is not enough to drive revenue growth. Let us consider that novelty as a value driver constitutes some kind of disruptive innovation, because it entails the introduction of new elements with respect to the standards of competitors. Innovative firms in market niches, like the ones belonging to this configurations, are likely to be first movers, which does not always entail advantages, but sometimes can even be detrimental for the firm (Suarez and Lanzolla, 2005). As a matter of fact, innovative firms often introduce disruptive novelties as a

response to new customer needs that customer themselves may not even have articulated (Paap and Katz, 2004). Hence, customers are unlikely to understand that they need something new, because what they have and what the old industry standards provide is just good enough. This is true for new technologies, but it can be enlarged to Business Model-related novelties as well. When this happens, customers are unlikely to suddenly switch to the innovation, but they rather need to be encouraged with other incentives. An incentive can be, for instance, the provision of complementary products or services along with the innovative firm's product. This can explain the integration of novelty improvements with complementarity improvements in this configuration. It is also possible that the firms represented in this configuration introduced complementary elements as an integral part of their novelty improvements, anchoring their Business Model on new combinations of resources and capabilities, or on the offer of a new bundle of complementary products, which might represent themselves the novelty in the company's offer. Once again, no lock-in improvement is observed. This further corroborates our suggestion according to which novelties are unlikely to be accepted if matched with lock-in efforts. Novelties, in terms both of new technologies (which are probably part of the young, medium/high-tech firms offer) and of novel transaction tools, are likely to impose a change to the customer; lock-in efforts, enhancing switching costs, increase the customer's perception that this change is permanent, and this is likely to discourage her to choose the firm's product over a competitor.

- Lastly, in the **third configuration**, the only core condition is represented by complementarity improvement, combined with improvements in novelty and efficiency as peripheral conditions, and with niche and differentiated strategy, as in the other configurations. The coreness of complementarity can be explained by the fact that the likely outcome of providing a bundle of complementary products is the enhancement of the overall benefit for the customer compared to the benefit she would derive from getting the products separately (Amit and Zott, 2001), and thus the customer's willingness to pay is likely to increase. Coherently, Stieglitz and Heine (2007) claim the key role of complementarities in revenue generation, arguing that taking complementarities into account helps realizing the full potential of the firm. According to the authors, in the exploratory and growth stage in particular, complementarities can foster sustainable competitive advantage because they constitute an important barrier to imitation. Therefore, the firms belonging to this configuration have probably innovated their Business Model leveraging on complementarities with the goal of providing a more

complete and articulated offer in a way to defeat early-stage competition; this ultimately helps to maintain a strong competitive positioning, but in the short term can translate into a boost in revenues. Furthermore, in high-tech settings, bundling strategies can be used as a tool to reduce the risk perception associated with the risk of purchasing a technological good (Sarin, Sego and Chanvarasuth, 2003), which for young, technological firms is particularly high, as observed above. This could explain the successful performance of firms choosing to leverage on synergies within the company offer. Complementarities can sometimes involve also co-development of products or services. According to Lau, Tang and Yam (2010), co-development is likely to contribute to boost performance, especially if mediated by innovation, for instance when exchanging ideas with external stakeholders results in an increase of the innovative content of the offer. This is consistent with our findings, according to which high performance is not explained by the improvement in complementarities alone, but by a combination of complementarity improvement with novelty and efficiency improvements, although less strongly related to the outcome. In general, we could say that the firms belonging to this configuration are the ones who leveraged on the offer of complementary products and/or services, contextually increasing their Business Model's efficiency and novelty in order to foster the creation of synergies within their offer that could be valued in their market niche.

It is interesting to notice that none of the configurations leading to high performance exhibits a mix of all of the four value driver improvements together. Nevertheless, Amit and Zott (2011) argue that interdependencies among the value drivers exist, each one of them positively influencing at least one of the others, and hence we would theoretically expect all of the value drivers to be subject to a positive change when one is. Instead, we find configurations where high performance is driven by only few value drivers improving, or even configurations including the absence of one of them. A possible explanation for this can lay in the limited span of time considered in our analysis, compared to the time required for the interactions foreseen by Amit and Zott (2001) to emerge. It is possible, indeed, that high-performance firms innovated their Business Model by acting on only one, or on a couple, of the value drivers. Thus, the positive influences on other value drivers may have been triggered, but they do not appear in our configurations probably because they are still latent and they will emerge over a longer period of time. The fact these firms have focused only on one or few value drivers might be driven by the resource constraints to which young firms are typically subject, forcing them to decide to carry out innovations limited only to few

processes or parts of the organization, but also by a wit and acknowledged choice by management, aware that focusing on a narrow innovation scope would have yielded better results.

Another interpretation is that the general framework by Amit and Zott (2001), and their findings about interactions between value drivers in particular, cannot be applied in any situation. As illustrated by Amit and Zott (2001), each value driver can manifest itself in different ways. For instance, efficiency gains can reflect in lower search costs, of simpler and quicker transactions, of scale economies and so on; lock-in generally implies increased switching costs, but it can reflect also in network externalities, and so on. However, not necessarily all of these aspects show up together. The framework by Amit and Zott explains the existence of positive interactions among value drivers as an overall combination of several items, but it says nothing about the interaction between a single element of lock-in and a single element of efficiency. Thus, although in general efficiency and lock-in reciprocally influence each other in a positive way, it is possible that, for instance, lower bargaining costs are negatively influenced by higher switching costs. Hence, when firms work only on some of the aspects that constitute a value driver, also negative interactions, or no interaction at all, may emerge.

4.6 Managerial implications

Our results, along with the interpretations given in the previous paragraphs, can be potentially interesting for managers of young ventures that want to improve their firm's performance when undertaking Business Model Innovation.

First, when innovating a firm's Business Model, rather than focusing on strategy, which leaves little margins (focused differentiation strategy appears generally advisable), and on environment, on which the company can act to a very limited extent, it is worth working on the dynamics related to value drivers.

Another important insight derived from our results is that it is pointless to try to improve all the value drivers at once. Rather, it is advisable to focus on one or on a couple of value drivers at a time, since focused efforts seem to yield better results.

Moreover, it is important to understand that not all the value drivers are worth being improved. In particular, especially when the company is enhancing in parallel efficiency or novelty, it is better not to improve lock-in. One important insight that can be taken from this

is that, in the first stages of the firm's life cycle, it is better to focus first on tools geared towards customer acquisition rather than investing in customer retention.

Results suggest that, in fairly stable environments, innovating in terms of efficiency is likely to yield good results, but it needs to be coupled with a focused differentiation strategy and it should not involve any lock-in effort. Hence, managers should understand that, in technological settings, and especially in the first years of a firm's life, trying to establish a long-term, repetitive relationship with the customer is not a bold move. Rather, firms should innovate by improving efficiency, which is a feature that customers value. In this phase, when the firm is not established yet and customers do not know the brand, it is better to allow customers to maintain a certain degree of flexibility, so that they still feel free to switch to another supplier. In the mean time, the company can work for the construction of brand reputation. In this setting, a good basis for a solid brand reputation could be exactly efficiency enhancement, which is likely to improve the customer's perceived quality of the brand.

Moreover, especially in high-tech market niches, coming up with novel features is a rather important performance driver. However, it is advisable to accompany novelty with other features, like the provision of complementary products or after-sales services, in order to incentivize users to switch to the novelty.

On the same line of reasoning, focusing on complementarity is a good move because it not only enhances the customer's willingness to pay, but also reduces its perception of risk related to the purchase. This is true especially when an element of novelty is included: in high-tech innovative environments, especially when the firm is young, the risk dimension is particularly important. The company should try to reduce it through the provision of a more complete offer, for instance bundling the innovative product with an already existing one (Sarin, Sego and Chanvarasuth, 2003). This way, the perceived risk of losses related to the purchase of a new product is smoothened by the safety provided by a known product. A winning solution could be to combine an offer based on product synergies with novel and efficient solutions, which together can enhance the overall perception of quality by the customer and hence trigger purchases.

In general, it is important for managers to take into consideration all the possible outcomes of each choice regarding value drivers improvements, reminding that complex causal relationships between value drivers and performance, and among value drivers, exist. Hence, before engaging in Business Model Innovation, management should carefully scrutinize the possible implications of each value driver improvement, in a way to draw an acknowledged and complete Business Model Innovation roadmap. Coherently, also during the Business

Model Innovation process, the improvements and the interactions among Business Model elements should be monitored on a continuative basis, in order to continuously and critically assess the viability and the effectiveness of the innovation. A possible way to do this would be to set some indicators for measuring each value driver's performance, in order to continuously check whether the improvement is going on as planned and whether other value drivers are being affected.

4.7 Conclusion

The goal of this chapter is to provide an empirical framework to combine the theoretical insights about Business Model Innovation collected throughout the whole work. Evidence show that high performance can be achieved through Business Model Innovation performed along a combination of value drivers, focusing on a niche and differentiated strategy where environmental turbulence is moderate. What is noteworthy is that our results show that high performance is often the result of one primarily important value driver improvement, which can be coupled with improvements in one or two other value drivers. In particular:

- Efficiency improvements seem to pay off when no lock-in improvement attempt is undertaken;
- Novelty improvements lead to higher performance, especially if combined with complementarity improvements;
- Complementarity improvement, accompanied by minor improvements in novelty and efficiency, yields good performance results.

For managers, this means that it is worth focusing on the improvement in few value drivers at once, giving particular importance to one and especially avoiding efforts geared towards lock-in increases. Moreover, the possible interactions among value drivers must be carefully taken into consideration, before and during the Business Model Innovation process.
Our study presents some limitations, which however could represent interesting opportunities for future research. We investigated the phenomenon within a narrow sample of firms, characterized by common features and limited to an industrial area. It would be interesting for further research to address the study of the phenomenon in other industries, trying to grasp the common points and assessing whether it is possible to generalize our findings to wider areas.

Moreover, organizational aspects were intentionally left out from our analysis, in order to conduct a more focused and synthetic study. However, since Business Model Innovation largely takes place at the organizational level, it would be interesting to widen our analysis to the interactions among Business Model Innovation, strategic and organizational choices, in order to have a more complete view on Business Model Innovation dynamics.

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