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How Perceptions of the Business Environment Affect Business Model Innovation and How This Changes in an Economic Downturn

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Problem Description

This paper examines how perception of the business environment affect business model innovation (BMI) in the context of an economic downturn, and seeks to answer the following research questions:

- How is the business model innovation (BMI) focus of managers in Established Companies and entrepreneurs in New Ventures affected by their perception of the business environment?
- How does an economic downturn affect perceptions of the business environment and thus BMI?

Preface

This study is the master thesis of Hjalmar Moberg and Tord Overå, two graduate M.Sc. students at the NTNU School of Entrepreneurship. The motivation for choosing the topic is grounded in both authors' background in entrepreneurship, both academically and professionally, and more precisely their personal interest in the competitive advantage a superior business model in itself can create. Further, the authors' experience with starting New Ventures in markets where Established Companies already reside, has made the comparison of how these two types of companies approach business model innovation (BMI) especially interesting. Finally, the authors find the topic interesting in a contemporary setting to study Norwegian oil and gas companies, as this sector is experiencing an industry specific economic downturn, and wish to improve the understanding of how the business model concept can help these companies through this downturn.

The purpose of this research is to study what affects BMI actions and to provide a framework to make it easier for academics and practitioners (both entrepreneurs in New Ventures and managers in Established Companies) to understand the sources of BMI triggers. The research has provided the authors with new knowledge on sources of BMI triggers. It has become evident that triggers of BMI stem from the external environment of the firm, and that an economic downturn has profound effects on the intensity of these triggers and how these triggers are perceived. Further on, the empirical analysis allowed the authors to expand their insight into the previously undescribed phenomenon of the effect of individual perceptions on BMI action. This has given the authors valuable knowledge about the impact of subjective managerial perceptions on companies, and are confident that this study contributes to filling a previously undescribed gap in theory between perceptions of the business environment and BMI.

The authors want to thank PhD. candidate Vivek Sinha, from the Norwegian University of Science and Technology. His extensive knowledge on the topic and specific feedback during the literature review and empirical study has been a critical motivator and important part of our progress. His mentoring and inputs have been greatly appreciated.

The Authors

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Summary

Over the past decades, business models have become an increasing area of focus for both academics and practitioners to determine how to create and capture value for a company. Business Model Innovation (BMI) has been studied as a means to achieve competitive advantage and there is an increasing consensus that BMI is key to firm performance. However, literature describing what triggers BMI is scarce. The authors find the topic interesting through both authors' background in academical and professional entrepreneurship, and more precisely their personal interest in the competitive advantage a superior business model in itself can create. This master thesis is divided into two articles, where the first studies what triggers BMI through performing a literature review, and the second is an empirical case-study that seeks to investigate how decision-makers' perception of the business environment affect their focus on BMI. The motivation for writing two papers was to separate the theoretical perspective on BMI from the empirical research, to facilitate the creation of novel theory based on the empirical results. Together, these two articles aim to lay the foundation on which future research can build to understand why some companies are more successful in innovating their business model than others, and through this cause awareness among practitioners of what might limit their BMI efforts.

The first article is a literature review investigating what triggers BMI in New Ventures compared to Established Companies, and how an economic downturn affects these triggers. New Ventures and Established companies have different perceptions of their environment, and will likely perceive triggers of BMI differently, giving different implications for entrepreneurs in New Ventures and managers in Established Companies. Further, the changing environment an economic downturn causes is interesting to study, as BMI and environmental change are closely related. The findings show that most BMI triggers originate from external sources outside the focal company, changing one or more of the business model components, and that the internal composition of resources and capabilities in a firm determines how and which BMI triggers it perceives. Further more, the authors find that an economic downturn is likely to amplify these triggers, due to fluctuations in the firm's environment and changes in the value of resources and dynamic capabilities. Lastly, the literature review suggests that Established Companies are more receptive to BMI triggers in a stable economic environment, while New Ventures are more so during an economic downturn. The findings are particularly interesting for managers and entrepreneurs operating in rapidly changing markets, that require constant scanning of the environment to stay competitive through their business model.

In light of the first article, the second article empirically investigates how the BMI focus of entrepreneurs in New Ventures and managers in Established Companies is affected by their perception of the business environment, and how an economic downturn affects these perceptions. The research is performed as a comparative case study. By analysing how four metrics of perception affect three metrics of BMI, the authors conclude that perceptions have a substantial effect on BMI actions. Specifically, it is found that a high level of perceived dynamism in a firm's environment leads to a high level of BMI. It was also found that a broad position in the value chain and being positioned close to the end customer leads to more BMI, as these companies are able to perceive and respond to signals of change better. Finally, the theoretical implication that New Ventures will perform more BMI than Established Companies in an economic downturn is confirmed, though under the condition of the mentioned perceptions, as only some of the New Ventures perform a lot of BMI. This has important implications for business model practitioners, who should take into consideration how their current subjective perception affects how they navigate their company in an objective environment. From an academic standpoint, the two articles in combination lays a foundation for further research on the relation between the business environment and BMI.

Sammendrag

I løpet av de siste tiårene, har forretningsmodeller i økende grad blitt et fokusområde for i både næringsliv og akademia for å bestemme hvordan en bedrift skal kunne skape og fange verdi. Forretningsmodellinnovasjon (FMI) har blitt studert som et verktøy for å oppnå konkurransefortrinn, og det er en økende konsensus om at FMI er kritisk for en bedrifts resultater. Samtidig er det mangelfull litteratur på beskrivelser av hva som trigger FMI. Forfatterne finner emnet interessant gjennom begge forfatternes bakgrunn i både akademisk og profesjonelt entreprenørskap, og mer spesifikt deres personlige interesse i de konkurransefortrinn en overlegen forretningsmodell kan gi. Denne masteroppgaven er delt i to artikler, hvor den første studerer hva som trigger FMI, og den andre undersøker hvordan beslutningstageres oppfatning av forretningsmiljøet påvirker deres fokus på FMI. Sammen er hensikten med disse to artiklene å bygge et grunnlag for videre forskning for å forstå hvorfor noen bedrifter er lykkes bedre med å innovere forretningsmodellen sin enn andre, og gjennom dette skape oppmerksomhet rundt hva som kan begrense FMI-prosesser i ulike bedrifter.

Den første artikkelen undersøker hva som trigger FMI i nye selskaper sammenlignet med etablerte selskaper, og hvordan en økonomisk nedgang påvirker disse triggerne. Nye og etablerte selskaper har ulike oppfatninger av miljøet sitt, og vil sannsynligvis oppfatte FMI-triggere ulikt, noe som gir ulike implikasjoner for gründere i nye selskaper og ledere i etablerte selskaper. Videre er det skiftende miljøet i en økonomisk nedgang interessant å studere, ettersom FMI henger tett sammen med et skiftende miljø. Funnene viser at de fleste FMI-triggere kommer fra eksterne kilder utenfor bedriften, som endrer én eller flere av forretningsmodellkomponentene. Det er også funnet at de interne kapabilitetene og ressursene til bedriftene bestemmer hvordan og hvilke FMI-triggere som blir oppfattet. Videre finner forfatterne at en økonomisk nedgang sannsynligvis forsterker disse triggerne på grunn av endringer i ressursers verdi og dynamiske egenskaper. Avslutningsvis finner litteraturstudien at etablerte selskaper er mer mottagelige for FMI-triggere i stabile økonomiske miljøet, mens nye selskaper er bedre på dette i en økonomisk nedgang. Funnene er spesielt interessante for ledere og gründere som opererer i markeder i hurtig endring som krever konstant overvåking av miljøet for å holde seg konkurransedyktige.

I lys av den første artikkelen undersøker den andre artikkelen hvordan FMI-fokuset til gründere i nye selskaper og ledere i etablerte selskaper blir påvirket av deres oppfatning av forretningsmiljøet, og hvordan en økonomisk nedgang påvirker disse oppfatningene. Ved å analysere hvordan fire indikatorer på oppfatning av miljøet påvirker tre FMI-indikatorer, konkluderer forfatterne med at å oppfatte forretningsmiljøet som svært dynamisk fører til mye FMI. Det ble også funnet at en bred posisjon i verdikjeden og å være posisjonert nærme sluttkunden fører til mer FMI, ettersom disse selskapene klarer å oppfatte og respondere på signaler om endring bedre og raskere. Avslutningsvis ble den teoretiske implikasjonen at nye selskaper vil være bedre på FMI enn etablerte selskaper i en økonomisk nedgang bekreftet, men under forutsetningen av de nevnte oppfatningene, ettersom det bare er noen av de nye selskapene som er veldig gode på FMI. Dette har viktige implikasjoner for FMI-praktikere, som anbefales å ta med effekten av deres subjektive oppfatning i vurderingen av hvordan de skal styre selskapet i et objektivt miljø. Fra et akademisk ståsted legger de to artiklene et grunnlag for videre forskning på forholdet mellom forretningsmiljøet og FMI.

Triggers of Business Model Innovation in New Ventures versus Established Companies during an Economic Downturn: A Litterature Review

Hjalmar Moberg, Tord Overå

Abstract

In recent years business models has become the focus for both academics and practitioners to determine how to create and capture value for a company. This study investigates what triggers business model innovation (BMI) in New Ventures compared to Established Companies, and how an economic downturn affects these triggers. Business models can themselves be seen as a subject for innovation, and there is an increasing consensus that BMI is key to firm performance. As New Ventures and Established companies have different perceptions of their environment, they will likely perceive triggers of BMI differently, giving different implications for entrepreneurs in New Ventures and managers in Established Companies. The authors find the topic relevant in a contemporary setting, as there is an ongoing downturn in the oil and gas sector in Norway, which is about to spread to other industries. The literature lack theoretical discussions about how BMI is triggered, and this gap is both interesting to understand how New Ventures and Established Companies can achieve a stronger competitive advantage through BMI, and to advance the research on the effect and surroundings of BMI. In order to answer the research question, literature has been studied to provide a framework for academics and practitioners to understand the sources of BMI triggers, as the literature on the area is too scarce to define specific triggers. To develop a theoretical framework, a literature review on the areas of business models, strategy, and economic downturns was conducted. Our findings show that most BMI triggers originate from external sources changing one or more of the business model components, and that the internal composition of resources and capabilities in a firm determines how and which BMI triggers it perceives. Further, we find that an economic downturn is likely to amplify these triggers, due to fluctuations in the firm's environment and changes in its resources and dynamic capabilities. Lastly, our literature review suggests that Established Companies are more receptive to BMI triggers in a stable economic environment, while New Ventures are more so during an economic downturn. The findings are particularly interesting for managers and entrepreneurs operating in rapidly changing markets, that require constant scanning of the environment to stay competitive through their business model.

1. Introduction

Business models are a tool to create and capture value for a company, and has in recent years become a focus for both academics and practitioners (Zott, Amit, & Massa, 2011). A better business model will often beat better technology or ideas and is therefore of great economic interest in a competitive environment (Chesbrough, 2007).

Business models can themselves be seen as a subject for innovation, and there is an increasing consensus that business model innovation (BMI) is key to firm performance (Zott et al., 2011). BMI in itself can be a path to sustained competitive advantage (Teece, 2010). Innovating the business model can help you stay competitive, as a good product surrounded by a very good business model is much more robust towards competitors than a good product with a decent business model (Zott, 2010). In other words, BMI is therefore of vital importance for the long term success of the company. While BMI seems to be important for sustained success, how BMI is triggered has still not been a key topic of research. The answer may lie within the different perspectives on strategy, and its relation to BMI.

Choosing a new business model, or innovating on your current one can be seen as the primary strategic activity of a firm (Casadesus-Masanell & Ricart, 2010). In the strategy literature, there are many conflicting views on how to establish a competitive advantage. Barney (1991) claims that a company must exploit the resources and competences it possess, called the Resource-Based View (RBV) to stay competitive. Porter (1979, 2008) propose that the strategic position of a firm and the way it adapts to external market forces is what creates a competitive advantage, the authors call this the Strategic Positioning View (SPV). Leih et al. (2014) states that all business model changes are almost by definition strategic issues. Strategic frameworks can therefore give insights into what triggers BMI, but it is likely to be differences between different types of firms, and the way they perform BMI.

Designing a good business model is essential when the company is first established, but it is also likely to be an ongoing process. However, the practice in Established Companies versus New Ventures greatly differs (Chesbrough & Rosenbloom, 2002). Entrepreneurs in New Ventures show on a general basis less affection for previously successful models and are willing to try new ways of creating and capturing value, compared to Established Companies where management often feel they owe much of their success to the current model (Chesbrough, 2007). Thus, the way that BMI takes place in Established Companies is likely to differ from a New Venture. However, to understand BMI properly, the underlying triggers of it needs to be understood. This would be valuable to maintain and develop a competitive advantage. The hypothesis is that these triggers will be different depending on whether the firm is defined as a New Venture or an Established Company and that both external and internal factors will determine how and what BMI triggers are perceived. This leads us to ask the following research question:

RQ1: What triggers BMI in New Ventures compared to Established Companies?

In particular, how an economic downturn affects BMI in the two differently situated groups will be studied. Due to the lack of financial resources and buffers, smaller firms potentially possess more sensitivity to changing market needs than their larger counterparts, which may be insensitive to fluctuations in the environment (Cooper, Gimeno-Gascon, & Woo, 1994). It is likely that an economic downturn affects both the external environment of the company, and also the resource base it possess, and that both of these are drivers for BMI. In other words, both internal and external factors change during an economic downturn. The authors also anticipate that in an economic downturn, the internal and external factors affecting New Ventures and Established Companies will differ between the two. At the time of writing this paper, there is an ongoing downturn in the oil and gas sector in Norway, which is about to spread to other industries. Therefore, the authors find the topic important in a contemporary setting, and wish to provide insight on the topic for both academics and practitioners. This leads the authors to ask the following sub research question:

RQ1.1: How does an economic downturn affect BMI-triggers in New Ventures compared to Established Companies?

The purpose of this paper is not to find definite triggers of BMI, but to provide a framework to make it easier for academics and practitioners to understand the sources of BMI triggers. This has been done by studying what the business model is and how it changes and can be changed. Then two different views from the strategy school are brought in, the Strategic Positioning View and the Resource Based View, to understand how firms perceive and assess their environment and capabilities. Lastly, the context of an economic downturn is studied to investigate how this affects the way companies evaluate BMI triggers. The paper will focus on how these perspectives can show how differences in two different types of companies; New Ventures and Established Companies, affect how they identify and respond to triggers of BMI.

The research topic of business model innovation has also been highlighted by other researchers on the field. Teece (2010) writes that “The paucity of literature (both theoretical and practical) on the topic is remarkable, given the importance of business design, particularly in the context of innovation”. One of the reasons for this might be that the business models concept draws on a variety of academic and functional disciplines, and thus isn’t prominent in any one discipline (Chesbrough & Rosenbloom, 2002). Like other interdisciplinary topics, business models are frequently mentioned, but rarely analyzed, therefore they are often poorly understood (Teece, 2010). Methods are needed for understanding the business model’s fit with changing environmental conditions, and insights are needed to understand how business models emerge and evolve (Morris, Schindehutte, & Allen, 2005). This indicates that the research questions of this paper are important to answer to improve the understanding of the concept of the business model and in particular, business model innovation.

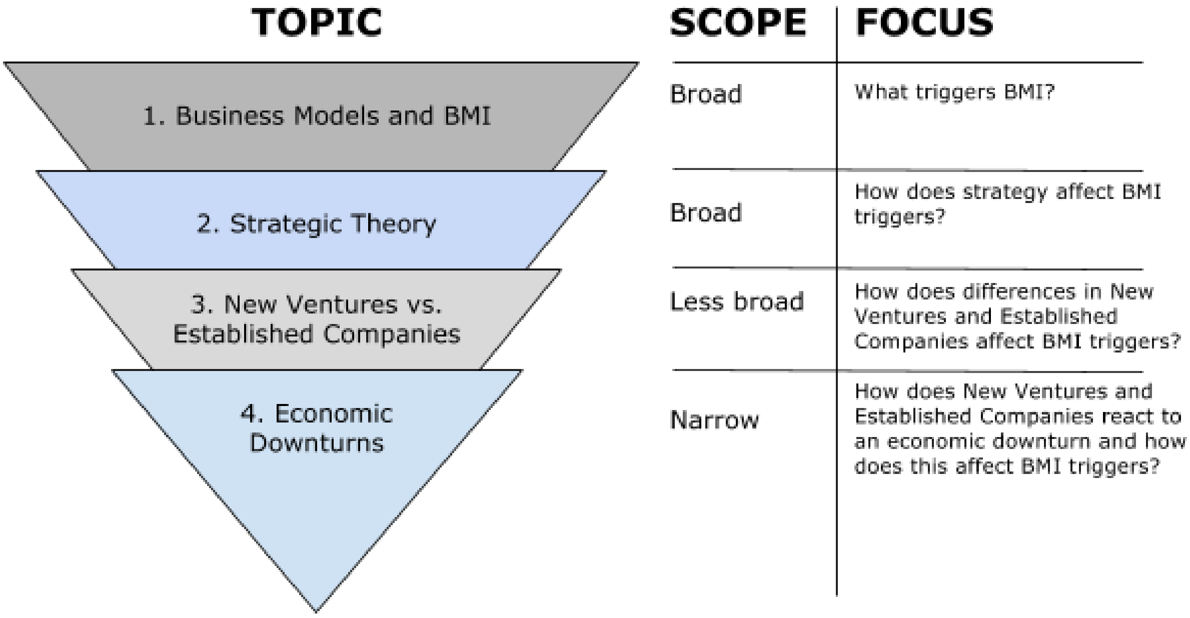

Figure 1: Funnel of research

2. Theory

In this chapter previous research on the fields related to this paper's research questions will briefly be described. This will be done in four steps. First, the scene is set by describing business model and BMI research. Secondly, how different strategic perspectives can increase the understanding of BMI will be studied. Third, it will be looked into how New Ventures and Established Companies are different and how this might affect their perception of BMI triggers. Lastly, how an economic downturn affects New Ventures and Established Companies, and its implications for BMI triggers will be presented. The purpose of the theory chapter is to discover gaps in the theory that are necessary to investigate to answer the research question. Figure 1 shows the funnel of the scope of the theory chapter, and how it leads to answering the research question. After each section some conceptual lines from each topic will be summarized, that will be used as guidelines through the rest of the literature review.

2.1 The Business Model

There has been an explosion in the number of articles published on business models, however there has been a lack of a universal definition for the term business model (Chesbrough & Rosenbloom, 2002, George & Bock, 2011, Zott et al., 2011, Morris et al., 2005, Henry, 2007). Most authors agree that a crucial part of the business model is the importance of value creation and value capture (Henry, 2007, Leih et al., 2014, Zott et al., 2011, Magretta, 2002). Chesbrough & Rosenbloom (2002) argues that why there is a variety of definitions on what a business model is, might be because the concept of the business model draws from a variety of academic and functional disciplines, and thus isn't prominent in any one discipline. This has made it difficult to compare different studies of the business model's effect on firm performance and organizational change (George & Bock, 2011, Morris et al., 2005). Zott and Amit

(2011, p.1019) performed an extensive literature review on the research of business models and found four common themes:

1. The business model is emerging as a new unit of analysis
2. Business models emphasize a system-level, holistic approach to explaining how firms "do business"
3. Firm activities play an important role in various conceptualizations of business models that have been proposed
4. Business models seek to explain how value is created, not just how it is captured

Though the literature disagrees on what the specific definition of a business model is, the essence that most seem to agree on is that "how you create and capture value" is a very important part of it. Therefore, the authors will use this notion as a starting point for studying business models and BMI. According to Chesbrough & Rosenbloom (2002), a business model is the method of turning technical potential into economic value, and by doing this sustaining the business, i.e. generating revenue. Chesbrough & Rosenbloom's (2002, p.529) definition of a business model is "A successful business model creates a heuristic logic that connects technical potential with the realization of economic value" and states that the business model contains the following six elements (Chesbrough & Rosenbloom, 2002, p.533):

- Articulate the value proposition
- Identify a market segment
- Define the structure of the value chain
- Estimate the cost structure and profit potential
- Describe the position of the firm in the value network or ecosystem
- Formulate the competitive strategy of the firm

In this paper Chesbrough & Rosenbloom's (2002) definition of the business model will be used, as this definition describes how firm's create and capture value, and has a detailed description of the elements that a business model contain. The authors find this distinct separation of the elements in the business model useful to study what triggers BMI systematically.

2.2 Business Model Innovation

A new business model can in itself create a competitive advantage (Magretta, 2002, Casadesus-Masanell & Ricart, 2010). Business model innovation relies on recombining existing resources of a firm and its partners, and does not require significant investments in R&D compared to product and process improvement investments (Zott, 2010). The choice of business model is a process of defining, adjusting and improving the design of the business model continuously (Trimi & Berbegal-Mirabent, 2012). According to Zott (2007), business model design can be split in two, efficiency centered design and novelty centered design. Efficiency centered design aims at reducing transaction costs for all parties involved in the model, while novelty centered design seeks to do business in new ways (Zott, 2007). A business model can incorporate both designs at the same time, and can also include other value creation schemes (Zott, 2007). A study of 190 entrepreneurial firms that are listed on U.S. or European stock exchanges shows that novelty centered business model design positively affects firm performance, that this influence is stable across time, and has little dependence on external factors (Zott, 2007). The authors find it likely that firms with different strategic focus, emphasize these two types of BMI differently, and that it also might differ between firms of different maturity. How this might affect the triggers of BMI will be presented in the literature analysis.

The authors define BMI as a substantial change to any of the six components of the business model mentioned before. Thus, a trigger of BMI is any factor that initiates this change. This could originate from the environment, internal events or resources, changes of policies, etc. The authors will not make a narrow definition of what a trigger is at this point, as this might restrict the authors' ability to discover important factors that might be considered to trigger BMI. However, the authors will split the triggers of BMI in two categories: external and internal triggers. Morris et al. (2005) describes a business model's sustainability as its ability to demonstrate internal and external fit, where internal fit is the coherent configuration of activities within the firm, and external fit the appropriateness of the configuration given external environmental conditions. According to this, external fit is the way the firm adapts to competitive and environmental change, while internal fit is the way the firm is structured to deliver on its value proposition (Morris et al., 2005). The authors will look at BMI triggers in a similar way, having external triggers that come from outside the firm, and internal triggers that originate within the firm.

Managers and entrepreneurs should be interested in BMI for several reasons. First of all, it represents an often underutilized source of future value and a way of increasing revenues at relatively low cost (Zott, 2010). Also, competitors may find it difficult to adapt to a very different business model, it is much easier to copy a product or process innovation. Thus, BMI can lead to sustained competitive advantage (Zott, 2010). As BMI can be such a powerful tool for gaining competitive advantage, managers need to look out for new competitors that might appear from beyond the traditional industry boundaries (Casadesus-Masanell & Ricart, 2010). Changes to the business model might not have the potential to disrupt an entire industry, but it could still increase the performance of the focal firm (Zott, 2010).

In conclusion, most authors seem to agree that BMI is important for managers and entrepreneurs as a way of achieving a competitive advantage. However, little has been said about how BMI happens, and what triggers it. This is a gap in the literature. To investigate this further, the authors studied how strategy might affect BMI, due to its close relation to business models.

2.3 The Relationship Between Business Model Innovation and Strategic Theory

All business model changes are almost by definition strategic issues (Leih et al., 2014). The issues that relates to what a good business model is comes from the core of business strategy, namely how does one build a sustainable competitive advantage and turn a super normal profit? It is not enough to excel at product innovation, you need to create an excellent business model design as well (Teece, 2010). Teece (2010) claims that coupling strategy analysis with business model analysis is necessary in order to protect whatever competitive advantage results from the design and implementation of new business models (Teece, 2010). Strategy analysis is thus an essential step in designing a competitively sustainable business model (Teece, 2010). Strategy, when developed successfully, provides the specifics of how the firm will deploy its scarce assets to implement the business model (Leih et al., 2014).

The business model as a concept can be useful, in particular because it can integrate disparate strategic perspectives such as the resource-based view (RBV) and Industrial Organization (Hedman & Kalling, 2003). The Industrial Organization perspective is closely related to the strategic positioning view (SPV), and the disparities between the RBV and the SPV will be used to analyze the differences in perception of the environment later on in this paper. Taking Chesbrough & Rosenbloom's (2002) view on the business model, where the business model is closely linked to strategy, the authors decided to look more closely on how two schools of strategy can improve the understanding of what it is that triggers BMI.

There are two opposed theories that have been proposed to explain competitive advantage of firms, one is the SPV and the other the RBV of the firm (Steininger, Huntgeburth, & Veit, 2011). The RBV has roots back to the research done by Penrose (1959) and Wernerfelt Wernerfelt (1984) and is especially valuable for explaining firms' abilities to stay ahead in a market by looking at the unique resources inside of a firm (Makhija, 2003, Miller & Shamsie, 1996). The SPV perspective studies the firm's or product's strategic market positions and competitors to explain performance and is based on research by Bain (1956), Caves and Porter (1977) and in particular Porter (1985). These two schools of strategy where chosen as they respectively emphasize internal and external factors. The authors find it likely that this can improve the understanding of BMI triggers, according to this paper's definition of BMI triggers. However, research has struggled to distinguish and integrate the roles of the two perspectives when analyzing competitive advantage (Hedman & Kalling, 2003).

2.3.1 The Resource-Based View

Understanding sources of competitive advantage for firms has become a major area of research in the field of strategic management (Porter, 2008, Rumelt, 1984). Many researchers have focused on isolating a firm's opportunities and threats (Porter, 1980, Porter, 1985), describing its strengths and weaknesses (Hofer & Schendel, 1980, Penrose, 1959) or analyzing how a combination of these affect the choice of strategy. This research has focused on identifying industries with good environmental conditions for high performance, thus assuming that all companies have access to the same resources, and that it is the environment they are in that limits higher performance (Barney, 1991). Barney (1991) claims that companies can possess heterogeneous resources, and that these resources may not be very mobile. Therefore, resources can also be a source of sustained competitive advantage.

For a resource to be able to create a sustained competitive advantage it needs to have four attributes: (1) Valuable, in the sense that it exploit an opportunity or neutralize a threat, (2) Rare, amongst a firm's current and potential competitors, (3) Imperfectly imitable, (4) Non-substitutable, in that there are no other strategically equivalent resource (Barney, 1991). Thus, from the Resource-based View, value creation comes from the combination and exploitation of the resources the firm possess, and resources are also critical for the way the firm captures parts of this value.

An important field within the RBV is dynamic capabilities (Eisenhardt, Martin, & Helfat, 2000). Dynamic capabilities encompass the entrepreneurial activities, processes, and leadership skills by which the need for innovating existing business models is recognized, and how the necessary assets are both assessed and orchestrated in the pursuit of new value creation (Leih et al., 2014). The dynamic capabilities of a firm can be split into three clusters (Leih et al., 2014): (1) sensing (the identification and assessment of opportunities), (2) seizing (the mobilization of resources internally and externally to address opportunities and capture value from them), (3) transforming (continued renewal of the organization). How New Ventures and Established Companies possess different dynamic capabilities in each of these categories will be studied in the literature review to uncover how BMI triggers are affected by these dynamic capabilities.

2.3.2 The Strategic Positioning View

The strategic positioning View (SPV) evaluates the firm's strategic positioning and competition to comment on its competitive advantage in the business environment. This school of thinking is strongly influenced by Porter's (1979, 2008) research on competitive advantage (Steininger et al., 2011).

Porter (1979) presented his "Five Forces" framework as a way to evaluate the environment that surrounds the company and how this affects its strategy. These five forces are: the power of suppliers, the power of customers, new entrants, potential substitutes, and established rivals in the industry (Porter, 2008). Porter (2008) argues that a firm should position itself in an sector where the forces are weak, but also that you should exploit changes in the forces or even try to reshape them in your favor. Awareness of the five forces can increase a firm's profitability by understanding and adapting to its environment (Porter, 2008). Thus, in the SPV, value creation is dependent on identifying opportunities in the environment and then exploiting these opportunities. In Porter's (1985) framework, the firm's position in the value chain is critical for the power the firm has over its suppliers, customers and industry actors. The external forces in the market therefore has a strong influence on how a firm interacts with its market.

Another way of positioning in the market environment is through Blue Ocean Strategy: "Imagine a market universe composed of two sorts of oceans: red oceans and blue oceans. Red oceans represent all the industries in existence today. This is the known market space. Blue oceans denote all the industries not in existence today. This is the unknown market space." (Kim & Mauborgne, 2005, p. 106). Kim and Mauborgne (2005) finds that entering a

Blue Ocean market compared to competing in a Red Ocean one, returns considerably better profits. These two different approaches to the market will have different demands for a firm's BMI process, and entering a Blue Ocean will require the firm to reconsider every element of its business model, affecting how a firm perceives its market. In addition to considering how to handle the environment, a firm needs to effectively leverage its resources in accordance with this environment.

Sirmon et al. (2007) claims that to manage resources you need to understand the environmental contingencies that you are facing. Examples of environmental contingencies are changes in industry structure that makes existing practices obsolete, changes in demand as a result of a change in the macroeconomic environment, or an environmental shock, such as the privatization of a large previously state-owned enterprise, or a new entrant disrupting the industry (Sirmon et al., 2007). Thus, to manage your resources correctly, you need to understand your environment. This can be seen as one example of how the SPV and the RBV are related.

2.3.3 Strategy and Business Models Summary

These two views on strategy are radically different, and they can be expected to provide radically different insights to how BMI is triggered. Depending on how a company perceives its environment, they might discover different opportunities, such as a Red Ocean opportunity versus a Blue Ocean opportunity. It is also likely that the resources and capabilities of a firm will have an effect on how the firm assess its environment. Different triggers might fit better with one perspective or the other, or might show a relation to both of them. It can also be expected that these two views, and their building blocks: the resources of the firm and its environment, to be affected by the type of firm that is studied, and the economic environment of that firm. To investigate this, how New Ventures and Established Companies differ in performing BMI will be studied, and how they react if they find themselves in the situation of an economic downturn.

2.4 New Ventures and Established Companies

New Ventures and Established Companies are likely to be very different. They will probably possess different resources and capabilities, have different objectives and be incentivized by different factors. Following the discussion on strategy, it will be looked at how New Ventures and Established Companies are different, what this have to say for the way the understand their environment and how this can affect what triggers BMI. First, the authors will describe how this paper views New Ventures and Established Companies.

A variety of definitions can be proposed for the definition of New Ventures and Established Companies, with criteria such as age, size, earnings, and so on could be used. For the purpose of studying Norwegian companies, size is not highly relevant, as most firms in Norway are quite small. The authors therefore prefers to use the criteria of age to define the difference between a New Venture and an Established Company. However, what is considered a New Venture from the criteria of age can greatly differ in different industries, i.e. in the medical industry the launch of a new product could take ten years, while in the IT sector a New Venture can become a global firm in less than a year. The authors will therefore make discretionary assessments to how and if the research on the field can be applied to either New Ventures or Established Companies. Some of the literature on BMI and strategy during economic recessions focus on Small and Medium-sized Enterprises (SMEs). The authors consider that the challenges New Ventures and SMEs face when it comes to BMI are quite similar, and will make assumptions from the literature based on this simplification. When this precondition is affected by obvious differences in firm structure, and thus does not hold, the authors will elaborate on the implications of this.

The authors will focus on industries that are affected by international competition, and will not consider local industries, such as most service industries, property, construction, etc. The companies considered will have an international scope. To give the findings interest outside the borders of Norway, being part of an internationally competitive environment is necessary. These definitions are also motivated by the authors interest in performing an empirical analysis of BMI in New Ventures compared to Established Companies in their master thesis, using the Norwegian industry setting with its current sector specific recession in oil and gas related industries as a focal area for the thesis.

New Ventures face unique trade-offs that Established Companies are not likely to face (Trimi & Berbegal-Mirabent, 2012). This has lead to the emergence of many new design practices used by New Ventures for discovering new business models, such as Open Business models (Chesbrough, 2013), The Business Model Canvas (Osterwalder & Pigneur, 2010), the Customer Development Model (Blank, 2006), and the lean startup philosophy (Ries, 2011). Chesbrough and Rosenbloom (2002) shows in a detailed study of Xerox that in successful spin-off ventures the search and learning for an effective business model was significantly more intense than in failed ventures. New Ventures have employed a variety of tools in recent years to develop new business models, and by doing this they can more easily identify new market opportunities.

Established Companies are in a different category. However, Kraus et al. (2012) says that entrepreneurial behavior is not only possible in New Ventures, but also in firms regardless of their size and age (Kraus et al., 2012). The entrepreneurial activities of existing and established firms have for example been described as corporate entrepreneurship (Burgelman, 1983, Zahra, 1993), entrepreneurial orientation (Lumpkin and Dess, 1996, Wiklund 1999), or intrapreneurship (Antoncic & Hisrich, 2001, 2004). In a study with over 750 corporate and public sector leaders, it was found that those companies whose operating margins had grown faster than their competitors were twice as likely to emphasize business model innovation, as opposed to product or process innovation (Pohle & Chapman, 2006). Giesen et al. (2007) found that innovation in enterprise models that focuses on external collaboration and partnerships is more effective in older companies compared to younger ones. However, Bouchikhi and Kimberly (2003) and Chesbrough (2010) have identified that in existing firms, business model innovation can be difficult due to inertia from their configuration or existing assets. Established companies are in general more conservative, and prefer to stay within the existing boundaries of their business environment (Chesbrough, 2007). This can make them less receptive to external influence.

It seems like there are critical differences between New Ventures and Established companies that will affect their perspective and ability to interpret and react to BMI triggers. This chapter has focused on describing the key differences between New Ventures and Established Companies, and in the literature review it will further be studied how these differences are affected by both the RBV and SPV perspective. Both of these strategic perspectives are affected by the environment the firm resides in. To understand how the environment influence the above mentioned topics, the specific situation of an economic downturn will be looked at.

2.5 Economic Downturn's Effect on Business Model Innovation

The literature connecting economic downturns and BMI triggers is scarce, and the theory will therefore be on a conceptual level to set the scene for the literature review on this topic. However, a short review on the research of how New Ventures and Established companies are affected by an economic downturn will be presented to study how this might affect BMI.

The authors uses the descriptions 'economic downturn' and 'economic recession' interchangeably in this paper. The boundaries for the recession will be set to industry sectors, thus the Gross Domestic Product (GDP) for a country can be growing, while still specific sectors are experiencing a recession. As indicators of an economic downturn, the authors will use the variables 'Employee Growth' and 'Sales Growth'. If both of these are negative for an industry sector as a whole, this sector will be considered to be in recession. This is motivated by the authors wish to analyze industries where the industry as a whole have dropping sales and is reducing its employee base, to investigate how specific companies still manage to grow their sales and organizations in such an environment. The authors will view the economic environment, and thus a recession, as an external factor forcing industry actors to change. The view on economic downturns will thus be a strategic positioning view as defined earlier in this paper.

Within the SME (small and medium-sized enterprises) sector there is evidence that periods of disequilibrium and economic instability are also precisely the times when some entrepreneurs are able to take advantage of new opportunities, as large firms and the public sector withdraw from markets (Acs & Storey, 2004, Grilli, 2010). New Ventures typically lack the resource pools (Cooper et al., 1994) that may allow a "wait it out" approach during environmental duress (Latham, 2009). Therefore they typically focus on revenue-generating activities to overcome this (Shama, 1993), whereas larger firms rely on cost reduction in order to improve their performance (Michael & Robbins, 1998). This may critically affect the choice of business model and how open one is to innovating on it. Interestingly, Latham (2009) found, in stark contrast to what might be expected in an economic downturn, that New Ventures did not reduce their investments in R&D, but specific to areas such as hiring new programmers and new product development, these firms actually increased their investments, whereas Established Companies decreased their investments in these areas during a downturn.

Cowling, Liu, Ledger, & Zhang (2014) finds that during the recession, it is access to financial resources, rather than more subjective measures of human capital, that are important determinants of recessionary growth, especially regarding sales. This suggests that in more stable economic environments, many more SMEs are able to take advantage of general growth in demand without having to compete vigorously with other firms and entrepreneurs (Cowling et al., 2014).

An economic downturn has a profound effect on the business environment, and any firm will at some level be affected by it. BMI is not costless, especially in terms of organizational change, but it often seems easier to overcome the barriers of BMI in times of economic stress when capital for R&D is scarce (Zott, 2010). It seems apparent that New Ventures and Established Companies will react differently to an economic downturn, and that this also will affect how they perform BMI. However, how and why these companies are triggered into responding differently to such an event is only vaguely discussed in the literature.

2.6 Summary of Theory

It has been found that the business model is an important concept for understanding how firms create and capture value, and that innovating the business model is important to stay competitive. The business model also has a strong connection to strategy, and it is likely that strategic thinking will affect how BMI is done. Two different schools in strategy has been presented, and how they differ when looking at sources of competitive advantage. These two schools have a contrasting view on what affects a firm's strategy, external or internal forces, and are likely to have different perspectives on what triggers BMI.

The theory on business models have proven to be characterized by disagreements all the way down to the definition of the business model, while the literature on BMI argues for the importance of BMI, and its effect on firm performance. As the literature on triggers of BMI is very scarce, the objective of this paper is not to find explicit triggers of BMI, but to frame the literature in a way that makes it possible to answer the research questions that has been presented. The authors will do this by providing a framework at the end of the literature review to understand the sources of BMI triggers.

The authors have presented how New Ventures and Established Companies look differently on business models, and how they react to a change in their economic environment, in this case an economic recession. This will be used as the context for further studies of BMI. In the next chapter, the method used to gather research to study these relationships further is presented.

3. Method

In this section, the method used to perform this literature review and how the review of the literature was structured will first be described. Then the different parts of the review are described in detail. Last, a brief summary of the findings is presented together with reflections on the validity of the sample of articles.

In order to answer the research questions: (1) 'What triggers BMI in New Ventures compared to Established Companies?' and (2) 'How does an economxic downturn affect BMI-triggers?', the authors performed a semi-structured literature review on three subjects: (1) Business models and business model innovation, (2) Strategic views on the business model and (3) Economic downturns' effect on the business environment (Figure 2). In all of these topics, the authors searched for particularities for New Ventures compared to Established Companies. Finding conceptual literature comparing New Ventures and Established Companies provided too general findings, and the authors instead focused on what (1), (2), and (3) had to say about the differences between them.

The authors have chosen a literature review as the method for researching this topic, to gain knowledge from the research that has been performed in the past, and to prepare for a future master thesis that will investigate the topic empirically. Comparing the emerging theory that takes form during research with existing literature enhances the internal validity, generalizability and theoretical level of the research (Eisenhardt, 1989). The literature on business models is highly dispersed and have very different areas of focus, i.e. has the business model been referred to as architecture, design, pattern, plan, method, assumption and statement (Morris et al., 2005). This makes it challenging to narrow down the search for relevant literature, as relevant research can be found in a vast variety of academic fields.

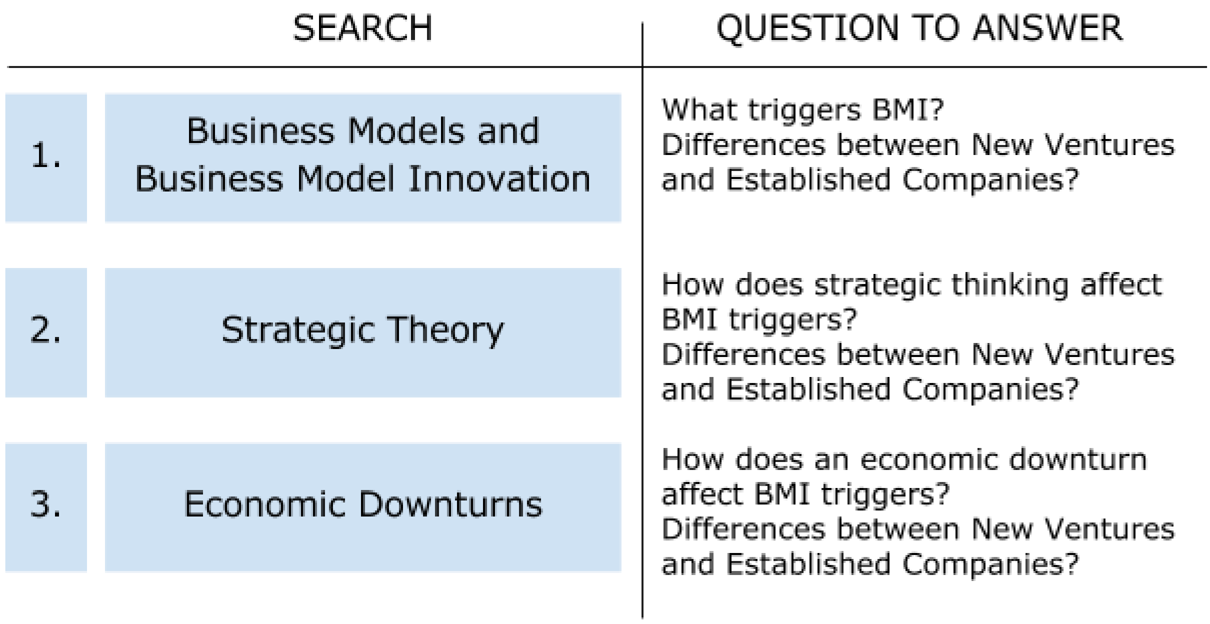

Figure 2: Literature searches and questions to be answered

3.1 Description of Method

The authors will in this section describe the method used for gathering and analyzing the literature, and then give a brief overview of the literature found in the search. The business model can be viewed as a construct that builds upon strategic positioning (Porter, 1996), resource-based theory (Barney, 1991), network theory (Jarillo, 1995), transaction cost economics (Williamson, 1981) and even other theories can be included in the business model concept (Morris et al., 2005). Business models and in particular the triggers of BMI is a field where little research has been performed and is a phenomena that is poorly understood (Teece, 2010). An exploratory research design is recommended to investigate these types of research questions (Eisenhardt, 1989), or more specifically to provide a better understanding, to examine the feasibility of further study, and to provide illumination to a process or problem (Hart, 1998). Therefore, the authors have performed an exploratory literature review.

The way of studying literature as suggested by Flick (2015) is to first get an introduction to the field of study through theoretical and conceptual literature and then later dig into specialized literature, as this an efficient way of understanding the problem and the environment it resides in. Hart (1998) backs this by saying that after building this foundation of theory, empirical research will help put findings and propositions in a practical context when analyzing the literature.

The authors performed a semi-structured literature search in three parts. First, the authors studied literature on business models to get a general understanding of the research field of business models. The authors started with renowned authors on the field of business models, and then moved into the narrower field of business model innovation. Then, strategic views on the business model were investigated. Here the researchers found many different views, some looking at the relationship between the business model and strategy, and others studying the business model from a strategic perspective. After consulting with other researchers at the NTNU the authors decided to look more closely at two specific research streams, the RBV and SPV, as these were thought to give a good analytical dimension to the research. These two research streams were chosen as they emphasize internal and external factors affecting the firm, respectively. Lastly, a search for articles discussing the effects of an economic downturn for a New Venture was performed, to understand how such a change in environment might influence the view on BMI. When searching for articles that looked at New Ventures in particular, the authors found articles that to a large extent compared how New Ventures responded to economic downturns compared to other types of companies, which was useful to answer the research question. In the next section, the method and search approach will be described in detail. This process can be seen in Figure 3.

All searches were performed with Google Scholar accessing all the databases that the NTNU has access to.

The focus of the literature review will be on previous research outcomes to identify central issues in the field, and to identify a gap in the literature on BMI to be studied further in a future master thesis.

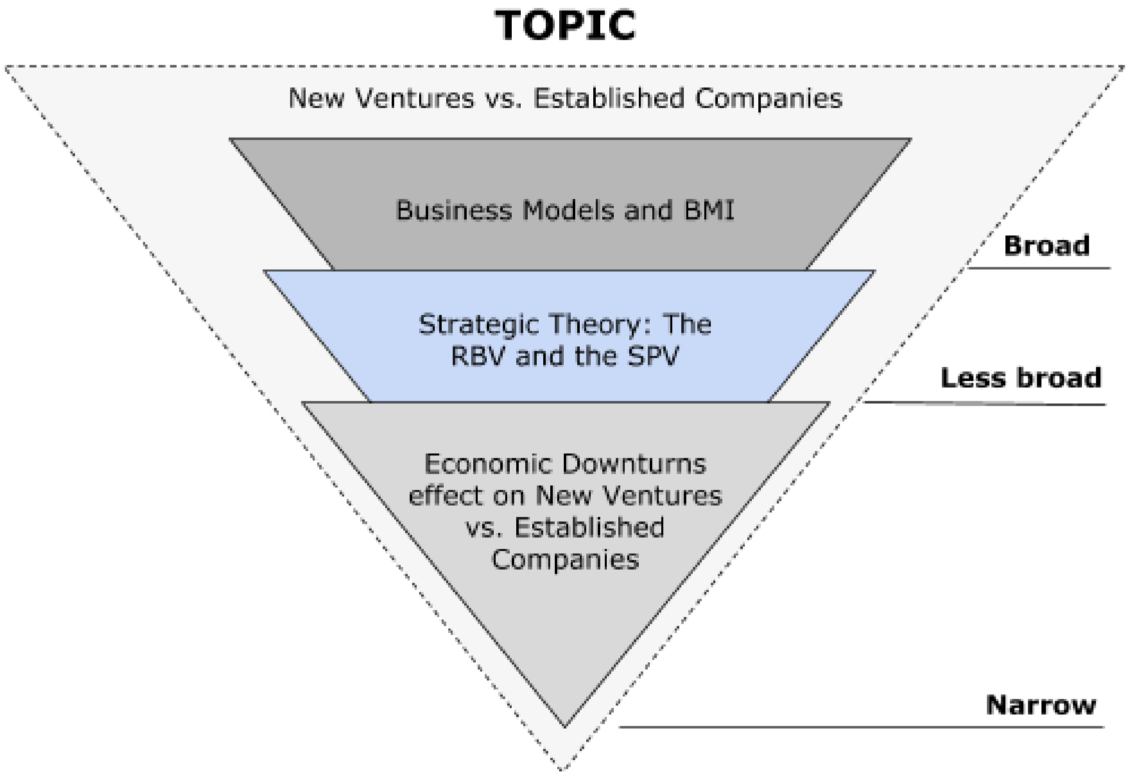

Figure 3: Structure of search

3.1.1 Semi-Structured Litterature Review

The litterature review consists of three parts: (1) business models, (2) strategy, and (3) economic recessions.

Business Models

The semi-structured search consist of two parts: familiarizing with the field of business model research and a general review of the literature on business model innovation. To quickly get an overview on the research on business models, the authors read articles (i.e. Chesbrough & Rosenbloom, 2002, Chesbrough, 2007, Magretta, 2002, Teece, 2010, Zott, 2007), books (i.e. Osterwalder & Pigneur, 2010, Chesbrough, 2006) and literature reviews (i.e. Zott et al., 2011) recommended by scholars at NTNU. The authors also studied contemporary literature on business model development (i.e. Osterwalder & Pigneur, 2010, Ries, 2011a, Blank, 2006) to gain an understanding of the recent developments in the field of business models and entrepreneurship. This was done to build a foundation for digging deeper into the more specific areas of this literature review.

These articles were then used to identify relevant articles to understand the process of business model innovation. This was done by searching for articles quoting the above-mentioned articles that contain the words "business model innovation". Backwards snowballing was then used to identify other relevant articles. The number of citations was used as a guideline for evaluating the academic importance of each article together with the academic prestige of the publishing journal. However, as much of the literature on business models is quite new, the citation criteria was ignored for articles published after 2010. The final results included acknowledged articles written by i.e. George & Bock, 2011, Trimi & Berbegal-Mirabent, 2012 and Zott, 2010.

Strategy

To better understand what triggers BMI, the authors decided to perform an additional semi-structured literature search within the field of strategy. As the field of strategy is very large, it was decided to focus on two important schools of strategy: the strategic positioning view (Porter, 1979, Porter, 2008) and the resource-based view (Barney, 1991). These schools were chosen as they represent to opposing views to what affects strategy, namely inside and outside factors. This contradiction was found interesting to show different perspectives on what can trigger BMI, and also to investigate the differences between New Ventures and Established Companies. A similar approach as for business models was used in this search, starting with articles (e.g. J. Barney, 1991, Porter, 1979, Porter, 2008, Eisenhardt et al., 2000) and a special edition of the journal Long Range Planning (2010, ed. 43) on business models and strategy recommended by scholars at NTNU. Backwards snowballing was then used to identify other relevant articles, and here also the number of citations was used as a guideline for evaluating the academic importance of each article together with the academic prestige of the publishing journal. However, number of citations was not ignored for articles written after 2010 as we did for the business model search. As the strategy field is not very new, it was considered that a higher academic quality would be achieved through this method.

Articles that did not make a connection between the business model and strategy, or where the relationship between strategy and business models had not been explicitly mentioned in previously reviewed articles, were discarded from further research. This resulted in acknowledged articles written by i.e. Casadesus-Masanell & Ricart, 2010, Demil & Lecocq, 2010, Kim & Mauborgne, 2005 and McGrath, 2010.

Economic Recessions

To answer the second research question "How does an economic downturn affect BMI-triggers in New Ventures compared to Established Companies?" the authors performed a semi-structured literature search on this topic. The purpose of this second research questions is to shed light on RQ1 in the specific setting of an economic downturn. First, the authors studied the articles from the two other searches to find statements that could relate to an economic downturn, e.g. about rapidly changing markets or market uncertainty. Here, the articles written by i.e. Leih et al. (2014) and Zott (2010) were found to provide additional insights to RQ1.1. Then, the authors searched for articles concerning New Ventures' response to economic downturns. The search strings were combinations of the words in Table 1.

Table 1: Search words economic downturns

Nature of firm	**Environmental setting**
Start-up	Economic recession
Entrepreneur	Economic downturn
Entrepreneurship	Economic crisis
Entrepreneurial	
New Venture	
Spin-off	
Spinoff	

Many relevant topics were found, such as strategies to cope with economic downturns, capabilities required to handle changing environments and attitudes towards change. The authors found the field on economic recessions to be far too general, and targeted the search towards New Ventures, which led to interesting articles comparing New Ventures and Established Companies. This was done to narrow down the search to be able to use the context of RQ1.1 to improve the understanding of RQ1.

3.2 Brief Overview of Articles

In this section, a brief overview of the articles that are included in this literature review is provided. The historical distribution of the articles is shown and the reliability of the journals where they have been published is discussed.

A total of 72 articles were included in this review. The historical distribution of these articles can be seen in Figure 4. The sample stretches from the early 1956 to 2015, and there is a sharp increase in articles published in recent years. This is not surprising considering that the majority of research on business models have been performed after the year 2000, while the field of strategy has been field of research for many decades (Trimi & Berbegal-Mirabent, 2012, Zott et al., 2011). The graph shows a sharp peak in the year 2010, this is largely due to a special edition on business models in the journal Long Range Planning from this year that has had a large influence in the research field of business models.

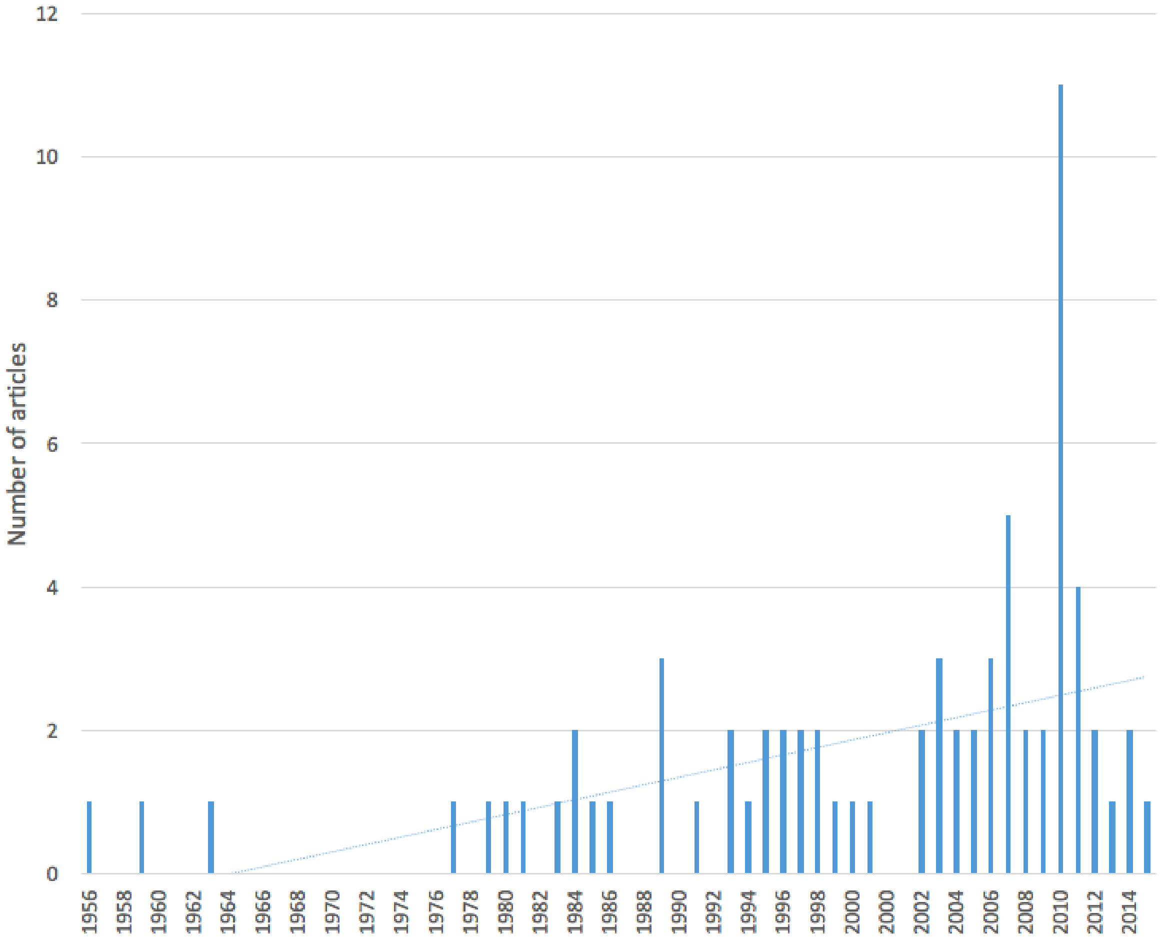

Figure 4: Distribution of articles

The journals where the articles were published can be seen in Table 2. This table contains all of the articles used in this paper. The journals' SCImago Journal Rank (SJR) indicator and Impact Factor are shown next to each journal. The indicator accounts for both the number of citations received by a journal, and the importance of the journal from where the citations came (Butler, 2008). It is evident that most of the articles are from renowned authors and publishers, and the presence of a significant number of articles from *Long Range Planning*, *Strategic Management Journal* and *Journal of Business Venturing* gives the sample validity.

Table 2: Journals and rankings

Journal	Number of articles	SJR
Long Range Planning	7	1,221
Strategic Management Journal	5	6,390
Journal of Business Venturing	4	5,560
Journal of Small Business Management	3	1,124
Harvard Business Review	3	0,580
Strategy and Leadership	3	0,250
Management Science	3	3,390
Journal of Management	2	7,232
International Small Business Journal	2	1,444
The Academy of Management Review	2	11,910
Entrepreneurship Theory and Practice	1	2,810
Journal of Business Research	1	1,180
Industrial and Corporate Change	1	1,140
International Entrepreneurship and Management Journal	1	0,610
Journal of Management Development	1	0,400
Nature News	1	-
MIT Sloan Management Review	1	0,820
The Quarterly Journal of Economics	1	22,540
European Journal of Information Systems	1	1,510
Review of Managerial Science	1	0,430
Academy of Management Journal	1	9,400
Financial Analysts Journal	1	2,120
Journal of General Management	1	0,150
American Journal of Sociology	1	3,340

4. Litterature Review

In this part of the paper, the authors present the analysis of the articles that are the foundation of this literature review. This part of the paper is split in four parts (Figure 5):

1. Sources of BMI triggers
2. A strategic perspective to BMI triggers
3. How New Ventures (NV) and Established Companies perceive BMI triggers differently
4. How and Economic Downturn affects BMI in New Ventures and Established Companies

At the end of each section, a short conclusion to the section is presented, and then the overall conclusion of the paper is presented in the Chapter 5. Conclusion.

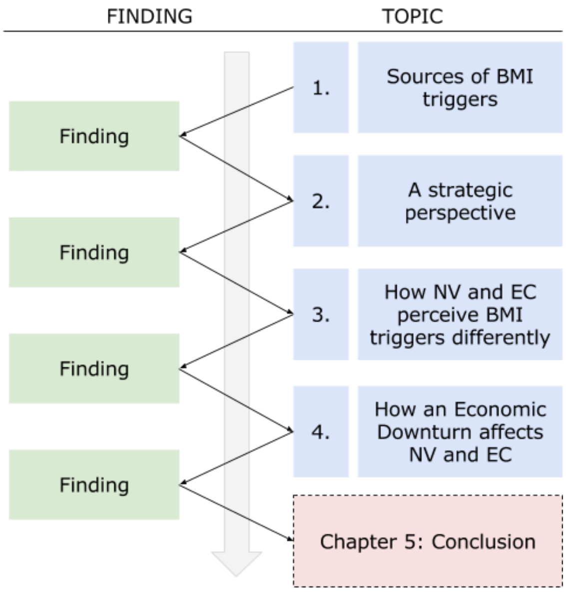

Figure 5: Structure of literature review

4.1 Sources of BMI Triggers

The great variance of definitions of what a business model is makes it challenging to discuss how you can be innovative with it. Still, as discussed in the theory chapter, most authors seem to agree that value creation and value capture are central parts of a business model. Chesbrough & Rosenblooms (2002) definition of a business model will be used in this paper to study what triggers BMI. In this paper, the triggers of BMI will be split in two categories: external and internal, and this analysis will investigate how these triggers affect BMI, and if one category is more important than the other. First, it is described how this paper will frame the notion of BMI triggers and then look more closely at different sources of triggers.

Chesbrough & Rosenblooms (2002) definition of a business model is "A successful business model creates a heuristic logic that connects technical potential with the realization of economic value" and contains the following six elements: (1) Articulate the value proposition, (2) Identify a market segment, (3) Define the structure of the value chain, (4) Estimate the cost structure and profit potential, (5) Describe the position of the firm in the value network or ecosystem, (6) Formulate the competitive strategy of the firm. Chesbrough & Rosenbloom (2002) includes both the role of value creation and value capture in the business model concept, and also connects it closely to strategy. This is evident from the above-cited elements of the business model, having the sixth as "Formulate the competitive strategy of the firm". Both value creation and value capture are important parts of the business model (Leih et al., 2014, Osterwalder & Pigneur, 2010). The authors agree with this view of the business model. However, Chesbrough & Rosenbloom (2002) claims that the business model focuses more on creating value, while strategy focuses more on capturing it. Thus, business model thinking forces a shift in thinking, one step back to how you are *creating value* in the first place, before looking at how the firm *captures value*. Using Casadesus-Masanell & Ricarts (2010) analogy of the car, the business model question would be “Which car are we going to buy?” and the strategy question “How are we going to be successful in driving the car we have bought?”. Chesbrough & Rosenbloom (2002) states that the business model contains six elements. The authors expect changes in one of the following five of them to be linked to BMI triggers, though they are not in themselves triggers of BMI:

- Value proposition
- Market segment
- Structure of value chain
- Cost structure and profit potential
- Position in value network

The last element, ‘Formulate the competitive strategy of the firm’, is considered to be a strategic issue, and will be studied later on in chapter 4. Literature Review. The authors find it likely that strategy will have a strong effect on BMI triggers, especially how the perception of the environment affects these triggers, and will therefore treat it as a separate subject. First, it is elaborated on how BMI can unfold within these five elements, and then these five elements are used as units of analysis to consider if external triggers or internal triggers are the most important.

To understand what affects the environment of the firm factors that two other researchers (Osterwalder & Pigneur, 2010 and Morris et al., 2005) and have identified as important are studied. This is done to highlight different views on the business model, and to increase the applicability of the chosen definition of the business model. How these different views relate to one another can be seen in Table 3. Osterwalder & Pigneur (2010) identifies four key factors to understand the business model’s environment:

- Industry forces
- Macroeconomic forces
- Key trends
- Market forces

First, the industry forces presented by Osterwalder & Pigneur (2010) are very similar to the five forces described by Porter (1979) being: suppliers and other value chain actors, stakeholders, competitors, new entrants, and substitute products and services. Secondly, Morris et al. (2005) have presented a definition of the business model containing six elements: (1) Value proposition, (2) customer, (3) internal processes/competencies, (4) external positioning, (5) economic model, and (6) personal/investor factors. These elements were identified after a thorough literature review on business models, and align well with our chosen units of analysis. Third, this is in line with Chesbrough & Rosenbloom’s (2002) definition of the business model, and strengthens the chosen units of analysis (Table 3). We will use these units of analysis to investigate if the triggers of BMI are internal or external, according to the definition of a BMI trigger. This is important to understand where the trigger is coming from, and the authors find this distinction crucial to the understanding of BMI triggers from both an academic and

Table 3: Units of analysis

Chesbrough & Rosenbloom (2002) (Units of analysis)	*Osterwalder & Pigneur (2010)*	*Morris et al. (2005)*
Value proposition	Key trends	Value proposition
Market segment	Market forces Key trends	Customer External positioning
Structure of value chain	Industry forces	Internal processes/competencies
Cost structure and profit potential	Macroeconomic factors Market forces	Economic model
Position in value network	Market forces	Personal/investor factors

practical point of view. (1) Value proposition, (2) customer, (3) internal processes/competencies, (4) external positioning, (5) economic model, and (6) personal/investor factors.

4.1.1 Value Proposition and Market Segment

The value proposition of the firm is essential with regards to creating value. If the customer does not recognize the value proposition as indeed valuable, the firm per definition does not create value. The customer's perception of the value proposition might change over time, with changes in demand, preferences and competing products. These changes have been intensified with technological developments, forcing managers to constantly re-evaluate their value propositions to ensure their offer matches with customer demands (Trimi & Berbegal-Mirabent, 2012). Thus, triggers of BMI could be external forces that makes the value proposition become less or more appealing. Here, the segment that the company chooses to target also play a role. Most companies have a specific group of people as their target customers, namely their market segment. This segment is not necessarily obvious, and many companies have successfully changed their market segment to increase their earnings. The market segment might change and the customers in the chosen segment might change their buying behavior or receive offerings from a new entrant or substitute product. Therefore, entrepreneurs need to design flexible business models that enable them to change rapidly according to market demands (Trimi & Berbegal-Mirabent, 2012). Changes in the market segment or the identification of a new market segment can therefore be triggers of BMI.

These two subjects can be seen to be closely related, namely who are you selling to (market segment) and what do these customers value (value proposition). Managers and entrepreneurs must also calibrate reasonably well how technologies will evolve, how quickly they will evolve, and how competitors, suppliers, and customers will respond (Leih et al., 2014).
Managers have for some time been advised to exploit their "core competencies" and to find market opportunities to deploy them. The problem with this is that it often is carried out with an inside-out focus. Business model thinking promotes an outside-in focus, and encourages the firm to be engaged with, and adapting to, changing customer values. Clearly, a business model

that doesn't create value for the customers doesn't create value for the firm. (McGrath, 2010)

It is concluded that external forces that causes changes to the market segment, or changes in the appeal of the value proposition, can be triggers of BMI.

4.1.2 Structure and Position in the Value Chain

A company's place in the value chain affects the earnings of the company (Chesbrough & Rosenbloom, 2002) and have been studied by numerous researchers (Chesbrough & Rosenbloom, 2002, Porter, 2008). A firm can also choose what value adding activities it wants to perform, and if these are going to cover small or large parts of the value chain. A firm's position in the value chain can be challenged by backwards or forwards integration of existing actors and also new entrants and competitors.

> *The way to look at the competitive landscape, and the behavior of competitors have changed in recent years. Conventionally, companies have been looking to create a 'sustainable' competitive advantage. However, more and more firms are seen to compete to achieve what might be thought of as a 'temporary' advantage, which they exploit until competition has caught up or markets have changed, at which point, you have to look for a new advantage. The business model construct is useful to help discover possible early warnings of model weakness and prompt the search for new ones. (McGrath, 2010, p. 248)*

Suppliers, customers and partners are all important actors in a firm's value network or 'ecosystem'. Managers and entrepreneurs therefore must also understand reasonably well how technologies will evolve and how quickly competitors, suppliers, and customers will respond (Leih et al., 2014). Competitors may or may not see the same opportunity, and even if they do they may calibrate it differently (Leih et al., 2014). The position of the firm in the ecosystem might be affected by new entrants, suppliers or customers going out of business, changes in government regulations, etc. Many companies are highly reliant on their ecosystem to provide and create value (Porter, 1985). Thus, changes in the value chain structure is an important factor to consider for successful BMI, and the authors see these changes in the firm's environment as possible triggers of BMI.

4.1.3 Cost Structure and Profit Potential

The cost structure and profit potential of a firm is highly affected by its business model. Both costs and profits can be affected by outside factors, such as increasing demand for a certain input factor or increased competitive pressure on margins. Changes in the cost structure or profit potential of a firm is typically a result of a new process or product innovation from the use or implementation of new technology (Zott, 2010). Chesbrough & Rosenbloom (2002) argues that the purpose of the business model is to take this improvement in technology and convert it to economic value. Technology in itself has no inherent value (Chesbrough, 2007) and a firm needs to design a business model that can realize the commercial potential of the technology (Zott, 2007). However, a new technology that represents renewal to the business, does not necessarily need to trigger a change in the business model (Trimi & Berbegal-Mirabent, 2012). Further on, most companies exploit the technology that has become available to them through their environment and do not necessarily develop this technology themselves (Zott, 2010). Thus, it is the technology or method that is found in the firm's external environment, that enables the firm to alter its business model. This technology can then lead to a process or product innovation, which might give a different cost structure or profit potential. However, this technology is usually found outside of the firm, and the authors therefore argue that process or product innovation usually is an external factor that might trigger BMI and that the environment define how it's carried out. The authors therefore argue that changes in the cost structure or profit potential of a firm might trigger BMI. Further on, as long as these changes are not the result of deliberate actions of the firms (such as hiring more employees), these are external factors affecting the firm.

4.1.4 The Nature of BMI Triggers

The business environment has a powerful influence on a firm. One needs to find out the fundamental truths about customer desires, the way customers think, the nature and likely future behavior of costs, and the capabilities of competitors when designing a commercially viable business model (Teece, 2010). A business model cannot be assessed in the abstract, its suitability can only be determined against a particular business environment or context (Teece, 2010). To understand what might trigger BMI, it is therefore crucial to understand how the environment of the firm influence the design of the business model. Thus, the company needs to have the capability to understand and *sense* what is going on in its surroundings. Leih et al. (2014) claims that in the dynamic capabilities perspective three different processes are necessary: *sensing, seizing and transforming*, and that these have to be executed in this order. Thus, it is not the seizing and transforming capabilities that are the most important to initiate the BMI in the first place, but the *sensing* of the opportunities, or in the authors' words, *sensing* of the triggers of the BMI. However, the two other dynamic capabilities are also important, but not for the identification of the trigger itself. Managers and entrepreneurs alike must excel at the scanning, learning, creative, and interpretive activities needed to sense new technological and market opportunities (Leih et al., 2014). In a dynamic capabilities perspective, the first step of BMI, would then be to sense the triggers of BMI in your environment. The authors argue that this is yet another indicator of BMI triggers originating from outside of the firm. Later on this paper will come back to how the other capabilities might affect triggers of BMI.

However, to sense the triggers of BMI can be a difficult task. According to Sosna, Trevinyo-Rodríguez & Velamuri (2010) firms begin with a business model, and then, in response to certain triggers (typically external) evolve their business models until they find the one that best suits their objectives. Numerous researchers have identified experimentation, and trial and error learning, as critical for successful BMI (McGrath, 2010, Trimi & Berbegal-Mirabent, 2012, Teece, 2010, Chesbrough, 2010). Sosna et al. (2010) found that when an established organization's business model is threatened by unforeseen external changes, experimentation is critical. This is due to the difficulty of anticipating what will be the best business model in advance of actually testing it in the business environment (McGrath, 2010). In almost every case, a new business model is successfully found only after considerable trial and error (Chesbrough, 2010). Business models must be learned over time, which emphasizes the centrality of experimentation in the discovery and development of new business models (McGrath, 2010). Experimentation is a process that occurs within the business environment, and based on the feedback and results that are obtained through this process, the company can change its business models and test again. The purpose of exposing the business model to the external environment is due to the highly complex factors affecting it, which would be hard to analytically assess. The authors find this iterative process to be performed in the company's external environment, and the factors that affects how the business model is designed are therefore external.

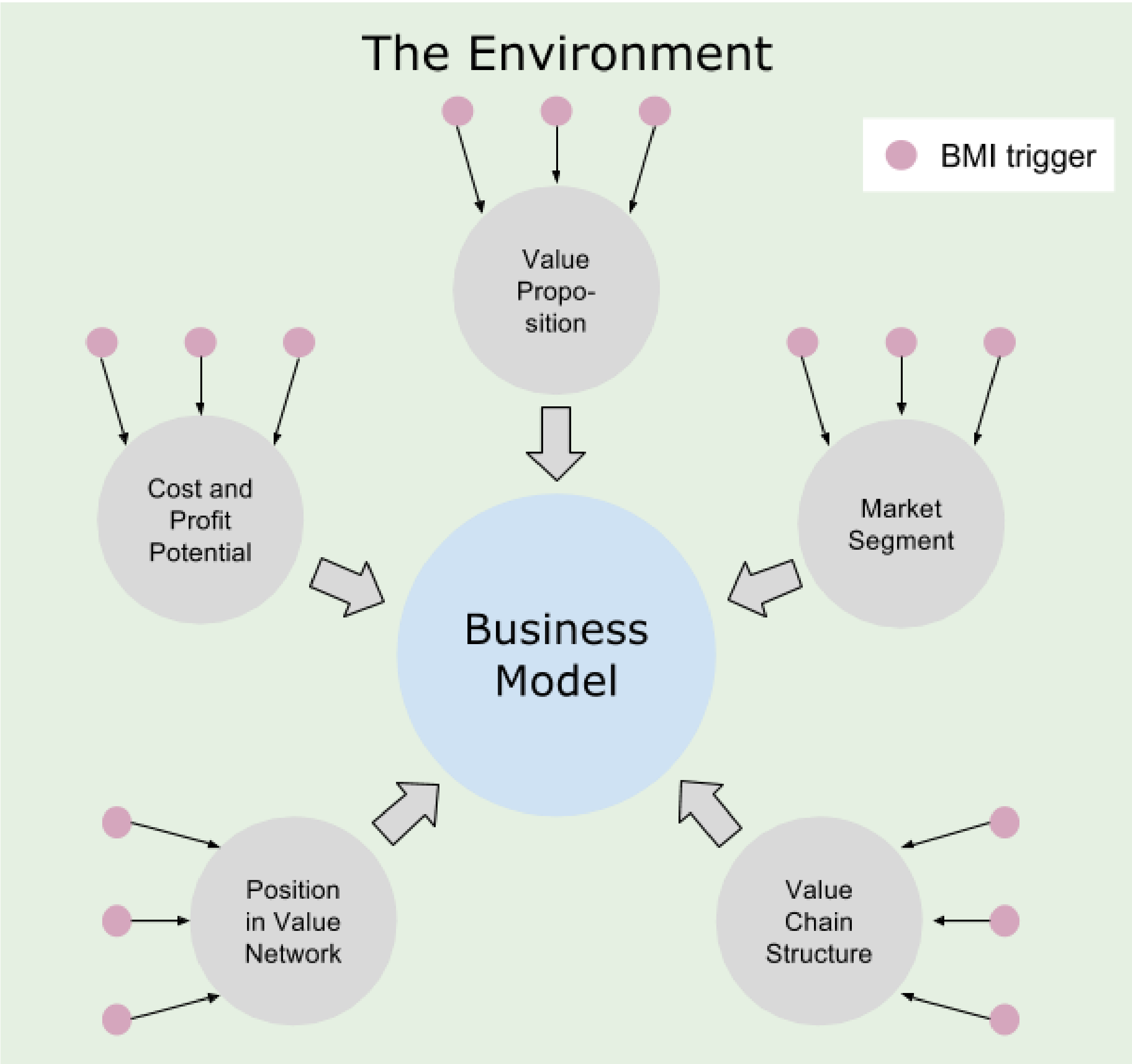

Figure 6: Triggers of BMI

BMI in all five units of analysis seem to mainly be triggered by factors outside the control of the firm, and thus most BMI triggers are external (Figure 6). Even though the authors have found this by studying business model theory, the literature on BMI mostly focus on the way it can contribute to a competitive advantage, and how BMI actually is performed is only vaguely described. The analysis of the business model has been kept on a highly conceptual level, as explicit triggers of BMI was difficult to identify in the literature. However, the authors have found a variety of different external factors that can cause changes to the five units of analysis, and find these to be likely to trigger BMI. Due to the enormous amount of factors that might influence a firm's environment, the authors have chosen not to create an exhaustive list of BMI triggers. The authors also find it likely that the triggers of BMI might change with changing environments, and vary in different types of firms. As the BMI triggers appear to be external, residing in the environment of the firm, the focal firm's perception of the environment might also play a crucial role. Explicit triggers of BMI should therefore be investigated through empirical research.

To better understand what might trigger BMI, the authors found it relevant to look more closely at how a firm perceives its environment. This introduces the next topic, strategic theory. As mentioned, the business model can be seen as a practical interpretation of the firm's strategy and a method to obtain a competitive advantage. Therefore, the way a company thinks about its business model, is highly influenced by the way it thinks about strategy. In the next part, how strategy affects the perception a firm has of its environment, and how this might affect BMI triggers, will be investigated.

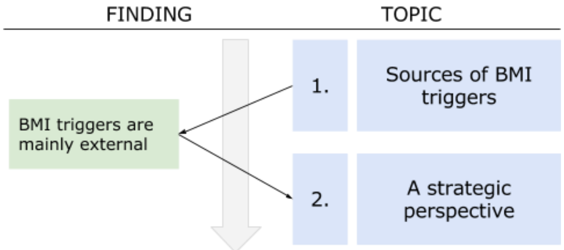

Figure 7: First finding

4.2 A Strategic Perspective

In this section, it will be taken a strategic perspective to understand how BMI is triggered due to the close relation between strategy and business models, and to study the sixth component of the business model, namely 'Formulate the competitive strategy of the firm'. As it is found that BMI triggers are likely to be external, it is needed to understand the environment that BMI is performed in. Because of this an SPV perspective is taken to analyze the environment, as this is the strategic perspective most useful to understand the external forces affecting a firm. The way a firm perceives its environment, is likely to influence how it identifies BMI triggers. Therefore, how strategic frameworks can influence how a firm evaluates its market position is investigated. It is also shortly elaborated on how the RBV can give insights into how these triggers might be perceived, as it might be that the internal composition of a company will affect their view on the environment.

The business model needs to be developed according with changes in the firm's environment (Casadesus-Masanell & Ricart, 2010), and a good understanding of your organization's environment is crucial for the creation of a strong and competitive business model. The key of a business model is to create a competitive advantage without it becoming too rigorous to change when innovating your business model is necessary (Chesbrough, 2007). Continuous scanning of the environment is more important than ever, and understanding changes in the environment helps you adapt your model more effectively to shifting external forces (Osterwalder & Pigneur, 2010). However, a business model that makes sense today, might not be the right model in the future (Osterwalder & Pigneur, 2010). Regular assessment of the business model (through tools like SWOT) is important to evaluate its market position and it is also possible to change the business environment with a breakthrough business model and set a new standard for the industry (Osterwalder & Pigneur, 2010).

To understand the different approaches to evaluating your market position, Kim & Mauborgnes (2005) findings and their theory on “Blue Ocean Strategy” will be examined. The classic view of strategy as taking a position and then defending this position comes from the school of Industrial Organization economics (Kim & Mauborgne, 2005). Most companies follow this strategy, making incremental improvements to existing industry offerings, but most of the companies’ earnings comes from creating new markets with new or altered products (Kim & Mauborgne, 2005). Kim & Mauborgne (2005) presents a process for analysing your environment and finding new markets called “Blue Ocean Strategy”. Here you leave competition behind in their “Red Oceans”, contested by intense competition and rivalry, and seek new markets and demand in “Blue Oceans”, where competition is lower or non-existing, in contrast to Porter’s (1979) Five Forces where you optimize your position in the current market. This way of looking at the environment requires to look across boundaries of competition and reordering existing elements in different markets to create a new level of demand (Kim & Mauborgne, 2005). Kim & Mauborgne (2005) presents a Four Actions Framework for identifying Blue Ocean opportunities:

1. Eliminate: Which of the factors that the industry takes for granted should be eliminated?
2. Reduce: Which factors should be reduced well below the industry standard?
3. Raise: Which factors should be raised well above the industry standard?
4. Create: Which factors should be created that industry has never offered?

There also is a close connection between the business model and Kim & Mauborgnes (2005) theory of Blue Ocean strategies. This framework can be combined with the Business Model Canvas to create a tool for identifying business models that can support a Blue Ocean Strategy (Osterwalder & Pigneur, 2010).

Using this framework the company can alter its value proposition, raise or create new value, and eliminate or reduce costs (Figure 8). This requires the firm to be able to first identify the changes in their environment, understanding what the customers want, and then discover new market opportunities where these altered value propositions fits well. If the firm is too focused on defending its current position, and try to force

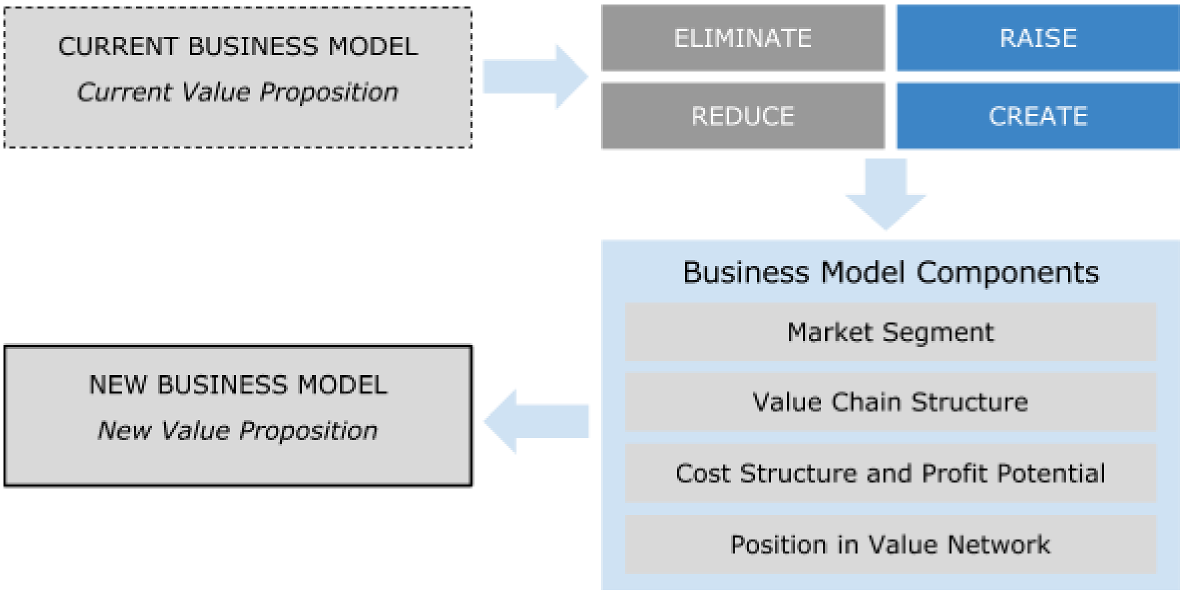

Figure 8: Tool for identifying business models that can support a Blue Ocean Strategy

competitors out of the market, these opportunities might not be identified.

The way the company looks at and perceives its environment can also affect the type of BMI the company performs. A company focused on keeping competitors at bay, and that wishes to maintain a strong position in its current "Red Ocean", will focus on reducing or eliminating costs, and thus pursues an efficiency centered business model design. This implies that they will continue to develop their products, and stick to their Red Ocean markets. A company that chases new "Blue Ocean" opportunities actively, will focus on creating or raising value to exploit new market opportunities, and thus purse a novelty centered business model design. This means that they will look for new opportunities and Blue Ocean markets to enter. The common denominator is that for both types of BMI, it is critical to understand and monitor the environment of the firm. There may also be combinations of these approaches, i.e. when a firm lowers the value and also the cost of the product, which enables it to pursue a new customer segment in a "Blue Ocean". In conclusion, depending on the perception the company have of its environment, some companies might easier be triggered into performing novelty centered BMI, while others might have an inclination towards efficiency centered BMI

The RBV has not been found to have great contributions to *what* might trigger BMI, as it mainly focuses on the internal factors affecting the firm. However, it is obvious that when companies are going to change as a result of BMI being triggered, their internal resources and competencies dictate how they will perceive the triggers. For this matter, the RBV can provide a lot of insights on the *how* BMI is performed. This will be studied further in the chapter 4.3 and 4.4.

Understanding the environment is absolutely critical for BMI, and in many ways, BMI can be seen as reacting to changes in the environment. Then again, what the environments looks like, depends on your perception of it. This the authors expect to give different triggers for different types of companies. This is summarized in

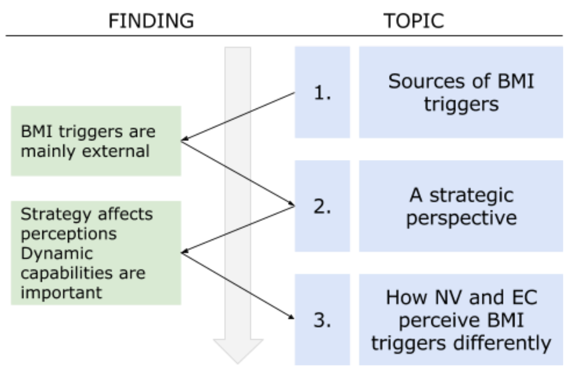

Figure 9: Second finding

Figure 9. The differences and commonalities between different types of firms will be presented in the next chapter by comparing New Ventures and Established Companies. The authors wish to identify general triggers of BMI, having in mind that it is not always certain that a firm will perceive nor react to the actual trigger. Two different starting points might give two different reactions.

4.3 How New Ventures and Established Companies Perceive BMI Triggers Differently

New Ventures differ from Established Companies in a variety of ways, not just their age, but also their experience, ways of doing business, attitude towards risk etc. Latham (2009) says that the New Ventures leverages their smaller and more flexible organizations to achieve a competitive advantage over Established Companies, because they typically lack the resources of an Established Company and in particular lack financial resources and buffers. Because of this, New Ventures potentially possess more sensitivity to changing market needs than their established counterparts, which may be less sensitive to fluctuations in the environment (Cooper et al., 1994). Therefore, the perception of the environment will probably differ between the two. New Ventures and Established Companies have different prerequisites to perform and initiate BMI due to organization size and structure, financial resources, network, customer base and bias towards previously successful models (Chesbrough & Rosenbloom, 2002). In the following sections, it will be discussed how the environment might be perceived differently by the two different types of firms, how BMI triggers are affected as a result of this, and what prerequisites they have to handle and interpret the triggers.

Teece (2010) claims that new business models are revealed through pioneers within the firm that possess or develop some kind of deep understanding of how customer needs are not being satisfied, and how it is possible to meet this need in a new way. However, an entrepreneur securely employed in an Established Company may feel little incentive to search for alternatives outside the current model (Chesbrough & Rosenbloom, 2002). This is mainly due to the organizational distance between the pioneers and management with the authority to actually change the business model, but also due to their unwillingness to change the currently successful model (Chesbrough & Rosenbloom, 2002). In New Ventures however, the distance is smaller, and the incentive to profit the company as a whole is higher because they are operating with less financial buffer, are likely closer to edge of elimination, and do not owe as much to their current business model (Leih et al., 2014). It can be seen that New Ventures and Established Companies have different incentives to search for and pursue different types of opportunities. The New Ventures are more likely perceive their environment with an opportunistic lens and follow a Blue Ocean Strategy as mentioned before, while the Established Companies might be more likely to perceive their environment within its current boundaries, following more of a Red Ocean Strategy.

These differences in perception, have lead to different adaptations of BMI and ways of developing new business models. Many of the tools used today for BMI were developed to improve the ways New Ventures created their business models. BMI can in light of the relations to strategy (Leih et al., 2014, Teece, 2010) be viewed as a tool first applied by start ups that lacked the resources to perform a complete strategy development cycle. In recent years and with the tools built to carry out BMI, New Ventures have excelled in exploiting the possibilities that BMI gives to achieve competitive advantages (Chesbrough & Rosenbloom, 2002, Osterwalder & Pigneur, 2010, Zott, 2007). Established Companies has traditionally applied a more classical strategy development (De Wit & Meyer, 2010). However, the success of New Ventures with BMI has caught the attention of Established Companies, seeking new and more efficient ways to achieve a competitive advantage (Morris et al., 2005). Though Established Companies have some constraints towards changing their business model (Chesbrough & Rosenbloom, 2002), using the business model concept as a practical tool has picked up speed in recent years (Zott, 2007, Giesen et al., 2007).

A convergence in the way New Ventures and Established Companies are triggered to perform BMI can be observed. New Ventures have in many cases lead the way (Trimi & Berbegal-Mirabent, 2012), but as some have made great success with new business models, Established Companies have started to pay increasing attention to BMI. In conclusion, due to to the large differences in composition, the resources these two types of firms possess, and their posession of different capabilities, the authors have found that there is reason to believe they will perceive their environment in different ways and have different reactions to BMI triggers. It will therefore be looked at how the RBV can contribute to the understanding of how these companies react differently to BMI triggers, and more specifically how their different dynamic capabilities affect this.

4.3.1 RBV for New Ventures Compared to Established Companies

Good management is important to be able to analyze and understand the value of the firm's resources, and which of these that can give sustained competitive advantage (Barney, 1991). Resources that can give sustained competitive advantages cannot be "purchased" on the open markets (Barney, 1986, Wernerfelt, 1989) but need to be found in resources already controlled by the firm (Dierickx & Cool, 1989), that is, resources that are available to the firm through their business model.

The RBV focuses on the resources and competences that a firm has, and how these can be combined to create a sustained competitive advantage. New Ventures and Established Companies are in this respect quite different. They have access to very different types and amounts of resources and they have different capabilities. The sum of this is that they look differently on the world around them, and different factors will trigger BMI for the two.

As previously mentioned, dynamic capabilities are important to encompass entrepreneurial activities, and consists of three main aspects; *sensing*, *seizing* and *transforming*. According to Leih et al. (2014), *sensing* enables the company to identify and assess opportunities. Thus, to detect triggers of BMI, it is essential that the firm possess the capability of *sensing* an opportunity. New Ventures are likely to have better *sensing* dynamic capabilities due to their opportunistic nature and continuous search for market opportunities. To be able to identify a new market segment and then change its business model, a firm also needs to believe that it is capable of *seizing* this market. Here, dynamic capabilities play an important role in reconfiguring resources, and creating new knowledge to adapt to such opportunities (Eisenhardt et al., 2000). Established Companies have in some cases access to more resources which can amplify their *seizing* dynamic capabilities. Lastly, *transforming* enables the firm to transform its resources and business model to fit the newly found market opportunity. New Ventures in general find *transforming* to be easier than Established Companies because they have a less definite path, fewer fixed assets to redeploy, and fewer established positions to reengineer (Leih et al., 2014). All these factors are important to understand how a company reads and responds to its environment.

Taking into account that a New Venture is more actively seeking for new opportunities, have less reasons to hold on to existing business models, and in general is more vulnerable to changes in their environment, they will likely be more sensitive to BMI triggers, thus reacting to more of them. What is interesting is that as New Ventures have been successful with BMI (Trimi & Berbegal-Mirabent, 2012), Established Companies have become increasingly focused on BMI as well (Chesbrough, 2007). BMI in New Ventures can thus be a trigger of BMI in Established Companies. This could materialize as a new entrant entering a market with a new business model, which triggers an established actor into changing its business model. In conclusion, New Ventures and Established Companies have had different paths to the way they now are performing BMI. However, it is still likely that they are reading triggers for this process differently, due their different possession of resources and capabilities. There's also considerable differences in how New Ventures and Established companies are able to sense, seize and transform new BMI opportunities. Therefore, the authors find it likely that New Ventures and Established Companies will react to different BMI triggers. This is shown in Figure 10. This is interesting to answer the first research question. Following, to answer the second research question, the effects of an economic downturn will be studied in light of this paper's findings on BMI triggers and expand the comparison of New Ventures and Established Companies into this context.

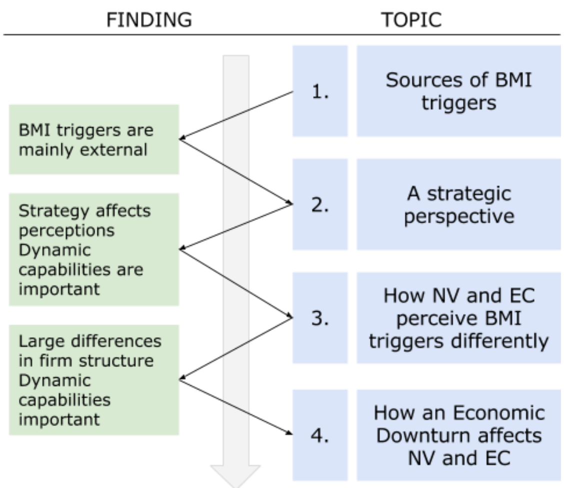

Figure 10: Third finding

4.4 The Effect of an Economic Downturn on Triggers of BMI

An economic downturn has a strong influence on all firms, as it changes the environment that the actors operate in. Latham (2009) makes the point that large established firms which derive competitive advantage from economies of scale, economies of scope, and learning effects, are more likely to adopt strategies designed to capitalize on efficiency through cost and asset reductions during an economic downturn. Smaller firms will be more dependant on finding market niches that might offer a moderate level of revenue generation, because they potentially are more sensitive to changing market needs (Latham, 2009). In addition to that, younger businesses in their formative years are more likely to be concerned with survival than growth if they do not fail within the first few years of starting up (Cowling, 2007). This may critically affect the choice of business model, and also how open one are to innovating on it. Interestingly, Latham (2009) found, in stark contrast to internal strategies found in New Ventures and established firms, that New Ventures did not reduce their investments in R&D, but specific to areas such as hiring new programmers and new product development, these firms actually increased their investments, whereas established firms decreased their investments in these areas during a downturn. As previously mentioned there is evidence that periods of disequilibrium and economic instability within the SME sector are precisely the times when some entrepreneurs are able to take advantage of new opportunities, as large firms and the public sector withdraw from markets (Acs & Storey, 2004, Grilli, 2010). Chesbrough & Garman (2009) argue that firms should continue their innovation initiatives also during turbulent times, as the companies that do are more likely to recover faster after the recession. As resources might be constrained during these times, BMI can be seen as a more attractive way to obtain a competitive advantage, as this type of innovation costs significantly less than product or process innovation (Zott, 2010). BMI can itself also lead to cost reductions, i.e. through a efficiency centered approach, while still creating new competitive advantages.

All of the five units of analysis (Table 3) previously mentioned will likely experience a lot of fluctuations during an economic downturn, because the economic downturn changes the external environment as a whole, which strengthens the hypothesis. The authors also find it likely that an economic downturn might bring BMI triggers that previously did not lead to any action, to the attention of managers and entrepreneurs as a result of a change of perception, and that this triggers BMI. The main finding is that triggers of BMI are likely to be amplified in an economic downturn (Figure 11). Following this argument, an economic downturn can in itself be seen as a trigger of BMI. Though an economic downturn in itself can been as an external factor, its impact heavily affects the internal factors, again affecting the firm's perception of the environment. In the following section the RBV will again be applied to increase the understanding of how the economic downturn will affect the resources and capabilities within New Ventures and Established Companies, and how this might affect how they perceive their environment.

4.5 RBV in an Economic Downturn for New Ventures Compared to Established Companies

Not all resources are sources of sustained competitive advantage. Also, which resources are indeed valuable to a firm might change over time. Unanticipated changes in the economic structure of an industry may make what was a source of sustained competitive advantage, no longer valuable to the firm. Some of these resources may again become sources of sustained competitive advantage in a new and redefined industry, while others may become weaknesses or just irrelevant (Barney, 1991). This will be used as a starting point to study how New Ventures and Established Companies calibrate their resources when operating in an economic downturn.

Leih et al. (2014) argue that strong dynamic capabilities enable firms to orchestrate their resources effectively. They enable a firm to identify and exploit opportunities, synchronize business processes and models with the business environment, and shape the business environment in its favor (Teece, Pisano, & Shuen, 1997). In stable markets, dynamic capabilities resemble routines (Cyert & March, 1963). They are complicated and analytic processes that rely on existing knowledge and linear execution leading to predictable results. In rapidly changing markets, they are simple, experiential, and unstable (Eisenhardt et al., 2000). Within the rapidly changing markets there are two different scenarios; (1) predictable change and (2) blurred change. In markets where change occurs frequently, but along roughly predictable paths, dynamic capabilities again rely heavily on existing knowledge (Eisenhardt et al., 2000), while in markets where boundaries are blurred and successful business models are unclear, dynamic capabilities rely much more on rapidly creating new situation-specific knowledge (Eisenhardt et al., 2000). Existing knowledge can even be a disadvantage for adapting to the new situation (Argote, 1999). In the predictable markets managers can analyze the situation and then implement new practices in a linear and planned manner (Helfat, 1997).

From this it can be considered that in a stable economic environment, Established Companies may have an advantage as they have had the time to build their routines and methods of solving problems. Then again, in an uncertain environment, the dynamic capabilities are changing rapidly and with great uncertainty, and it is likely that the New Ventures will handle such an environment better, due to their opportunistic nature and better transforming dynamic capabilities. In addition, the ability to cope with uncertainty is often a barrier for Established Companies' managers in rapidly changing markets (Eisenhardt, 1989). In situations of unpredictable environmental change the source of competitive advantage comes from managers abilities to "integrate, build and reconfigure internal and external competencies" (Teece et al., 1997, p. 516). Well developed dynamic capabilities in such markets enable managers to act quickly and test multiple options (Eisenhardt et al., 2000). As previously mentioned, there is evidence that New Ventures also increase their investments during an economic downturn (Latham, 2009). Acs & Storey (2004) and Grilli (2010) found that periods of disequilibrium and economic instability are also precisely the times when some entrepreneurs are able to take advantage of new opportunities. From this it can be expected that Established Companies are more receptive to BMI triggers in a stable market, and New Ventures to be more receptive to BMI triggers in an unstable market (Figure 11).

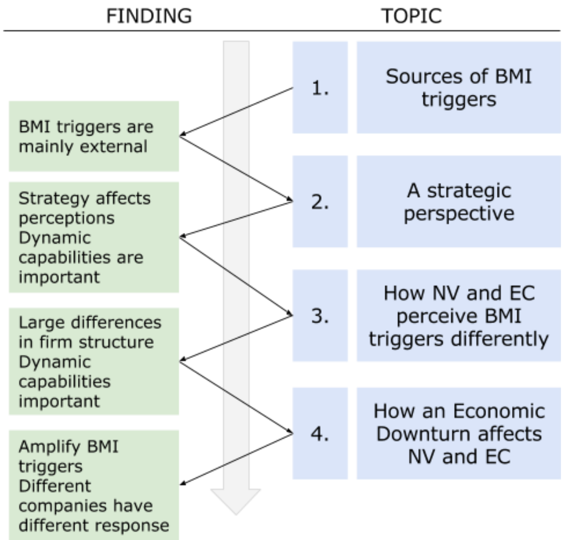

Figure 11: Fourth finding

5. Conclusions

Business model innovation is critically important for the success of New Ventures, as well as Established Companies (Zott & Amit, 2010), as a better business model likely will beat better ideas or technology (Chesbrough, 2007). However, markets are constantly changing, and the business model you had yesterday might not be right for tomorrow (Osterwalder & Pigneur, 2010). Therefore, BMI is key to maintaining a competitive advantage. The specific purpose of this paper has been to answer the two research questions: *1) What triggers BMI in New Ventures compared to Established Companies? 2) How does an economic downturn affect BMI triggers?*. To do this, the authors have performed a semi-structured literature search on business model literature, strategic theory of the Strategic Positioning View and the Resource-based View, and the effects of an economic downturn on New Ventures and Established Companies. The authors have found it difficult to extract explicit triggers of BMI from the literature. This difficulty has been enhanced by the great variety and disagreement on the definition of a business model, found through the literature review. Business models has been described as architecture, design, pattern, plan, method, assumption and statement (Morris et al., 2005). The authors have chosen the definition put forth by Chesbrough & Rosenbloom (2002) and used the six components of this model to understand how BMI is triggered. Therefore, the triggers have been identified with regards to more general characteristics on a conceptual level.

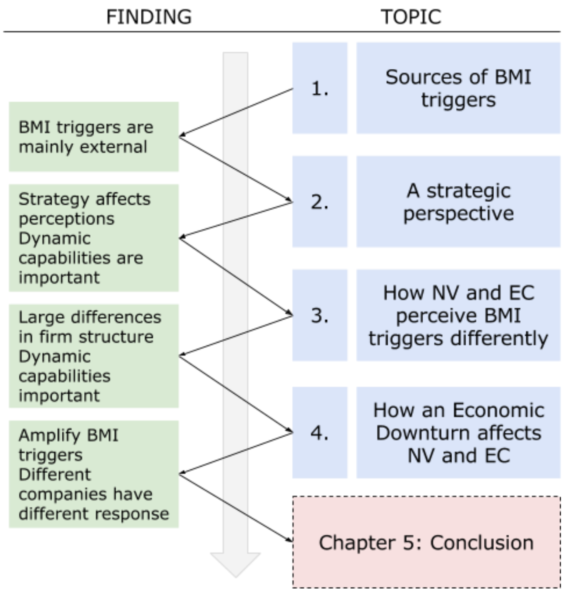

Figure 12: Findings

The findings suggest that most triggers of BMI are external factors outside the control of the firm (Figure 12). These triggers affect both New Ventures and Established Companies, but are perceived differently by the two. Taking a SPV perspective to these triggers, the authors have found that these triggers can result in two types of BMI, novelty centered and efficiency centered, according to Zott's (2007) findings. Depending on how the firm sees its environment, and if it focuses on cost and efficiency or opportunity and growth, the firm will react to different triggers and also respond differently. The authors have searched for triggers of both types of BMI, and have in this paper made no separation of the two.

Further, the authors have studied the differences of New Ventures and Established Companies, and how this affects what triggers BMI. Here, an RBV perspective have been used to understand how resources and capabilities influence BMI. Again, it seems that firms react and respond to different triggers of BMI depending on their starting point and perception of the environment. These two types of firms possess vastly different resources and capabilities, and have different advantages and disadvantages due to the nature of the firm. It is found that New Ventures are more flexible and opportunistic than their more established counterparts, that they are stronger at discovering and transforming to capture new opportunities, but have a disadvantage when it comes to seizing the opportunities they discover, due to their restricted resources.

To answer the second research question, the authors have studied literature on how a New Venture compared to an Established Company responds to an economic downturn. This was done through analyzing the economic downturn's effects on the external triggers and the change of the resources and capabilities of the firm in this context. In an economic downturn the entire economic landscape changes, and it is found that all triggers of BMI are amplified in such an environment. However, New Ventures and Established Companies seem

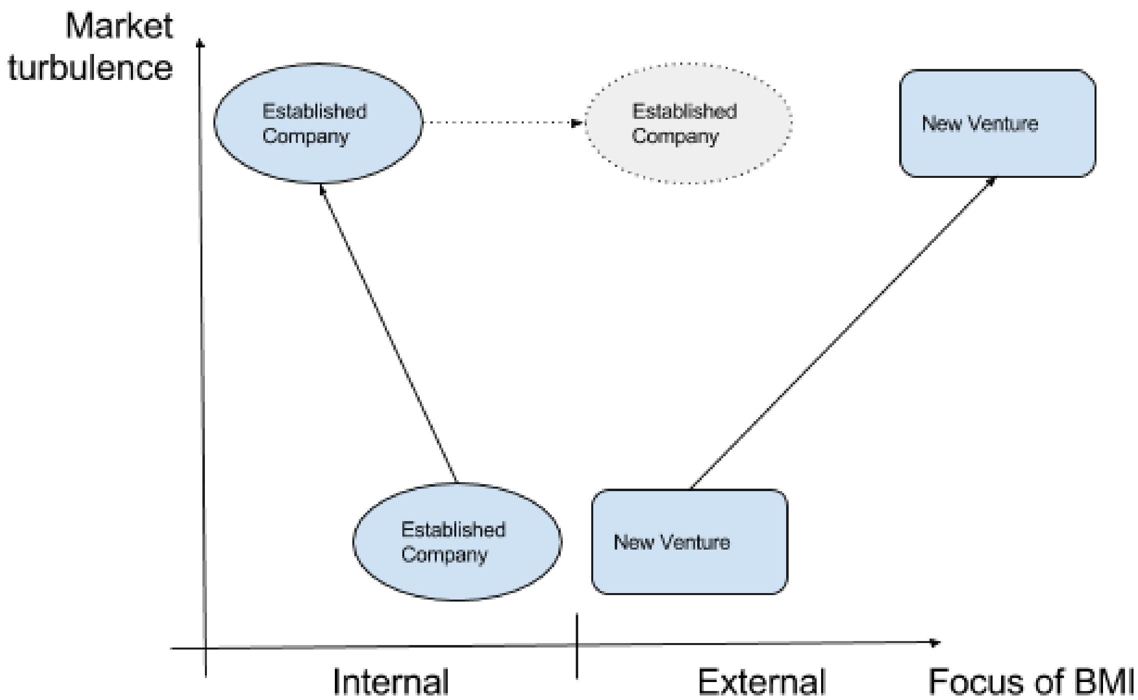

Figure 13: Focus of BMI during periods of increased market turbulence

to respond differently to this event. Established Companies have a tendency towards leaning on their stronger position, cutting costs and unnecessary operations to survive through the recession. New Ventures in most cases don't have this luxury, and will instead look for new market opportunities to expand their reach. Thus, in this case, two radically different BMI strategies can be expected. One strongly towards efficiency centered design, and the other strongly towards novelty centered design. The result of this can be that Established Companies ignore BMI triggers that could lead to profitable novelty centered design, which is the most profitable BMI on a longer term (Zott, 2007). On the other hand, New Ventures have an advantage during an economic downturn, as they are more flexible and able to adapt quicker in a rapidly changing environment. It can therefore be expected New Ventures to be more easily triggered into performing BMI during an economic downturn.

6. Implications for Managers and Entrepreneurs

The authors have the intention of contributing to managers' and entrepreneurs' understanding of what triggers BMI, and how they should be receptive towards indicators telling them to look for new business model opportunities. Therefore, the findings have been brought together in a framework to illustrate how New Ventures and Established Companies reacts to BMI triggers today. The key finding is that New Ventures in general does a good job at reading triggers of BMI, and in particular during economic downturns they are able to still capture new business model opportunities through an external focus. In addition, Established Companies seem to become more introverted during an economic downturn, and might miss out on profitable BMI. The authors therefore find it likely that Established Companies would benefit from a more external focus on BMI, as indicated in grey on Figure 13.

6.1 Implications for Managers

In good times, Established Companies do not have to focus on cutting costs, and it becomes more important to capture as much value as possible. This can be expected to be similar for New Ventures, while these will be slightly more focused on new opportunities. Capturing value thus become the essence of the business model.

In an economic downturn, Established Companies become cost focused (Latham, 2009, Michael & Robbins, 1998). Cost focus implies a very internal focus, looking only at optimizing already ongoing processes within the firm. However, the findings show that most of the BMI triggers are external, and that the focus to achieve a competitive advantage through BMI should be more on external than internal factors. The authors propose that if Established Companies have a more external focus during an economic downturn compared to a more stable economic environment, they would be able to observe more BMI triggers.

6.2 Implications for Entrepreneurs

In good times, competition becomes less intense, and it becomes easier for a New Venture to capture value (Cowling et al., 2014). As Cooper et al. (1994) mentions, New Ventures are more sensitive to changing market needs than Established Companies, and have a more opportunistic nature. Thus, they will have a more external focus than Established Companies, but nevertheless have a similar focus for their BMI.

In an economic downturn, New Ventures try to leverage the changed competitive situation and become even more externally focused to capture new available market opportunities. Therefore, by increasing their focus on how to exploit market openings, increasing their investments in new product development etc. (Latham, 2009), and by being more risk taking (Palich & Bagby, 1995), they become extremely externally focused looking to avoid any threat in the established markets, and hence searching for new markets and opportunities.

To improve the practical understanding of the proposed framework, the authors have combined it with the well known SWOT framework (Figure 14). From this it can be seen that in good times, Established Companies focus on their strengths to create and capture as much value as possible, while New Ventures focuses on opportunities based on mostly external factors. In bad times, Established Companies focus on cost-cutting in order to improve their performance and eliminating their weaknesses, while New Ventures focus on new market opportunities to avoid the threat from established actors.

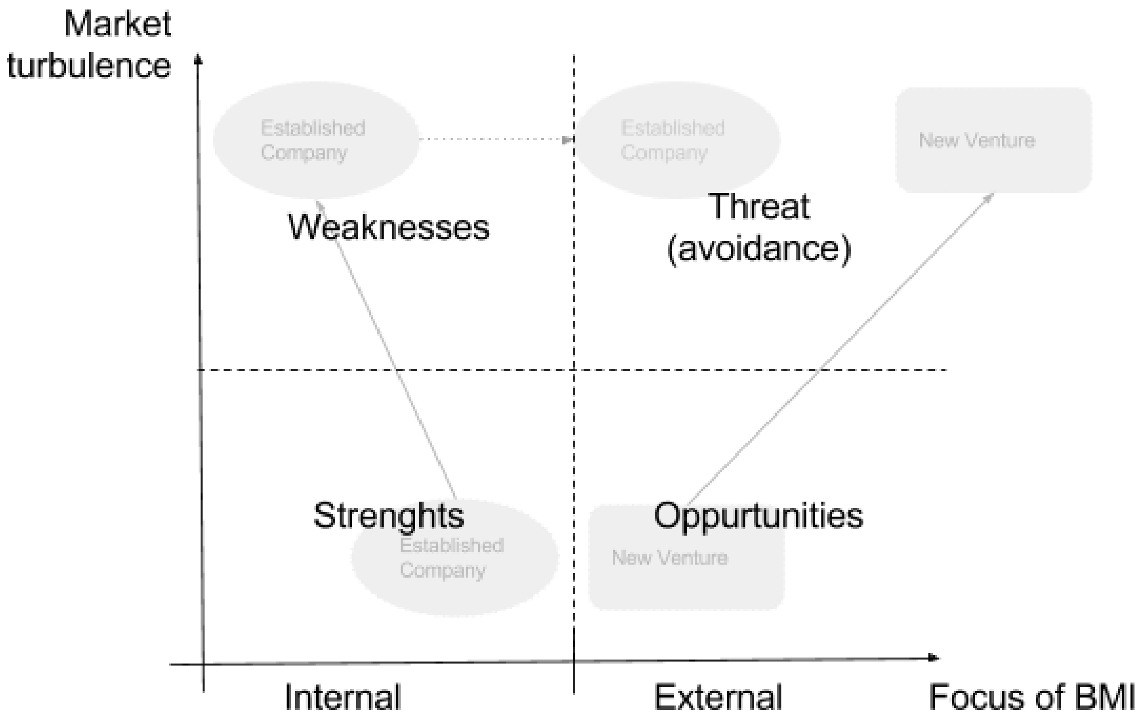

Figure 14: Focus of BMI compared to the SWOT framework.

7. Implications for Further Research

Through the literature acquisition, a theoretical gap explaining what triggers BMI has been discovered. This gap requires empirical analysis, as the literature on the area is scarce and builds on a complex environment where many potential triggers exist. This study shows that BMI triggers stem from external factors, and further research should focus on analyzing how firms perceive their environment to identify the most important specific triggers of BMI. Especially studying this empirically in an environment affected by an economic downturn would give important insight as the authors have found that BMI triggers are amplified during such periods of disequilibrium, and therefore might be easier to identify.

As found in this paper, the Value Proposition and Market segment components, and Value Chain and Value Network components are closely related. These four components are also especially interesting to further study empirically, under the above-mentioned criteria. In addition, these components are very open for the focal firm to interpret through their own perception, and thereby their perception of the business environment is critical to understand. In an economic Downturn, the Cost Structure of the business model of most companies in the affected environment is likely to change. When the market demand decreases as a natural result of an economic downturn, the cost structure must follow. The change of cost structure then, is more in a direct reaction to demand and revenue, and is likely to change for any company situated in an industry experiencing an Economic downturn. As shown in this literature review, strategy is closely related to the business model. However, the recommended scope of further research is to understand how perceptions of managers and entrepreneurs affect Business Model Innovation. To stay clear of the major topic that strategy is, it is useful to only study the BMI concept and the forces affecting it. With that said, strategy will likely be an important aspect to draw conclusions on, as it has implications for most operations of a company. Because of this, further research is recommended to focus on the four business model components most likely to be perceived differently by decision-makers, to study perceptions effect on BMI.

8. Limitations

This study has several limitations. The most prominent one is the lack of consensus on the definition of a business model. The authors have chosen to view the business model as a tool for converting technological potential to economic value, in accordance with Chesbrough & Rosenblooms (2002) definition of the business model. Taking another point of view would have given another set of findings, for instance Zott & Amit’s (2010) definition of the business model as an activity system, or Magretta’s (2002) interpretation of it as a narrative for telling the story about how the firm does business. Researching the topic of BMI triggers from another point of view could give valuable insights to the research field.

The purpose of this paper was not to compare the performance of New Ventures vs. Established Companies, and neither the performance effect of BMI, but what it is that *triggers* it. Implicitly, BMI is related to firm performance, but the authors have only focused on what it is that triggers BMI itself, understanding that this might induce performance. Still, the distinction between what triggers BMI and what the outcomes of it is, is at times difficult to separate in the literature, and this could influence the results.

Another limitation of the study is that BMI triggers have been identified on a conceptual level. The authors have identified themes and circumstances that are likely to affect BMI triggers that can be used as guidelines and insights for further studies. Further, the databases that the NTNU has access to has been used to search for relevant literature, and some articles might not have been identified as a result of this. However, the researchers have not found articles that have been considered to be relevant to the study which have not been available through these databases, and therefore consider this limitation as negligible. The selection of articles have been performed to the authors' best effort, but the researchers recognize that still some articles that are relevant for the studies might have been rejected, and others might not have been identified. By having both researchers reading and rejecting the articles on a mutual basis, this limitation has been sought minimized. Finally, this study is based on second-hand empirical data, i.e. it is based on other researchers' findings.

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How Perceptions of the Business Environment Affect Business Model Innovation and How This Changes in an Economic Downturn: An Empirical Study

Hjalmar Moberg, Tord Overå

Abstract

Business model innovation has been studied as a means to achieve competitive advantage in the past decade. In their literature review, the authors found that BMI triggers reside in the external environment of a company, and that BMI actions are highly dependent on the perceptions of decision-makers within the firm. The literature review also suggested that decision-makers in New Ventures and Established Companies perceived triggers of BMI differently, especially during times of economic disequilibrium. Therefore, how the BMI focus of managers in Established Companies and entrepreneurs in New Ventures is affected by their perception of the business environment has been studied empirically, as previous theory on the subject is scarce. The data originates from New Ventures and Established Companies operating in the Norwegian oil and gas service industry. The context of this industry is especially interesting, as they are at the time of writing this paper experiencing a 40% annual drop in revenue.

To study the business model, four separate components of the business model has been chosen as units of analysis. Specifically, the Value Proposition, Market Segment, Value Chain, and Value Network as the authors expect these components to change the most in the chosen industry context. To analyse the perception of the business environment and its effect on BMI, four categories of perception are studied: munificence, hostility, dynamism, and complexity.

By analysing the four metrics of perception, and three metrics of BMI, the authors conclude that perceptions have a substantial effect on BMI actions. Specifically, it is found that a high level of perceived dynamism leads to a high level of BMI. It was also found that being positioned far down and covering a large part of the value chain leads to more BMI, as these companies are able to perceive and respond to signals of change better. Finally, the theoretical implication that New Ventures will perform more BMI than Established Companies is confirmed, though under the condition of the mentioned perceptions and value chain position, as only some of the New Ventures perform a lot of BMI. The paper contributes to the field of Business Model research, in particular to the understanding of BMI. The findings are particularly interesting for managers and entrepreneurs operating in highly dynamic markets that require constant scanning of the environment to stay competitive through their business model.

1. Introduction

There is an increasing consensus that business model innovation (BMI) is key to firm performance (Zott, Amit & Massa, 2011). BMI can itself be a path to sustained competitive advantage (Teece, 2010). A better business model will often beat better technology or ideas and is therefore of great economic interest in a competitive environment (Chesbrough, 2007). The business model design determines the value the firm is able to create and capture from their product (Chesbrough, 2010). Designing a good business model is likely to be an ongoing process, throughout the lifetime of the company (Trimi & Berbegal-Mirabent, 2012) and is crucially important to stay competitive.

The key of a business model is to create a competitive advantage without it becoming too rigorous to change when innovating your business model is necessary (Chesbrough, 2007). Choosing a new business model or innovating on your current one can be seen as the primary strategic activity of a firm (Casadesus-Masanell & Ricart, 2010). Leih et al. (2014) states that all business model changes are almost by definition strategic issues. It is therefore important for managers or entrepreneurs to understand how they can and should assess their strategic possibilities and opportunities for BMI.

A business model cannot be assessed in the abstract, its suitability can only be determined against a particular business environment or context (Teece, 2010). Managers and entrepreneurs alike must excel at the scanning, learning, creative, and interpretive activities needed to sense new technological and market opportunities (Leih et al., 2014) to be able to adapt their business model to a changing environment (Osterwalder & Pigneur, 2010). However, to sense the triggers of BMI can be a difficult task. According to Sosna et al (Sosna, Trevinyo-Rodríguez, & Velamuri, 2010) firms begin with a business model, and then, in response to certain triggers (typically external) evolve their business models until they find the one that best suits their objectives. Numerous researchers have identified experimentation, and trial and error learning, as critical for successful BMI (McGrath, 2010, Trimi & Berbegal-Mirabent, 2012, Teece, 2010, Chesbrough, 2010). Experimentation is a process that occurs within the business environment, and based on the feedback and results that are obtained through this process; the company can change its business model and test again.

Understanding the environment is therefore essential for the performance of a firm. However, what the environment looks like depends on the perception of the person looking at it. Research has found that small firms that grow, tend to develop profitable and expanding market niches (Storey, 1996) that are often quite narrow and appear difficult to describe by objective variables (Wiklund, Patzelt, & Shepherd, 2009). To address this issue, researchers have suggested that it may be advantageous to describe the environment of small businesses in a way that reflects subjective perceptions of small business owners (Wiklund et al., 2009). The environment can be classified into an objective environment, and a perceived environment, where the latter reflects the environmental uncertainty perceived by a manager (Bourgeois, 1980). However, attitudes will likely differ between individual decision-makers, and in different types of firms.

Managers in Established Companies and entrepreneurs in New Ventures that have different perceptions of their environment are therefore likely to observe different opportunities and challenges to perform BMI. New Ventures may become more innovative and proactive to utilize the advantages associated with a complex environment, while bureaucratic structures and inertia may hinder Established Companies from being innovative, risk-taking and proactive in the same type of environment (Rosenbusch, Rauch, & Bausch, 2013). The combination of New Ventures' and Established Companies' different ways of sensing their environment and the unanswered question of perception's effect on BMI leads the researchers to ask the following research question (RQ):

> **RQ1:** How is the BMI focus of managers in Established Companies and entrepreneurs in New Ventures affected by their perception of the business environment?

However, the environment of a firm is dynamic and constantly changing. Continuous scanning of the environment is more important than ever, and understanding changes in the environment helps you adapt your model more effectively to shifting external forces (Osterwalder & Pigneur, 2010). In particular, an economic downturn will have a great impact on the business environment as it affects many factors of a firm's business model at once. Within the SME (small and medium-sized enterprises) sector there is evidence that periods of disequilibrium and economic instability are also precisely the times when some entrepreneurs are able to take advantage of new opportunities, as large firms and the public sector withdraw from markets (Acs & Storey, 2004, Grilli, 2010). In their literature review, the authors found that all BMI triggers are amplified during an economic downturn, and that the difference between New Ventures and Established Companies will be accentuated by the economic downturn (Moberg & Overå, 2015). In addition to this, at the time of writing this paper there is an ongoing economic downturn in the Norwegian oil and gas sector. Therefore, the authors find the topic important in a contemporary setting, and wish to provide insight on the topic for both academics and practitioners. This leads the authors to ask the second research question:

> **RQ2:** How does an economic downturn affect perceptions of the business environment and thus BMI?

To answer the research questions, the researchers have performed an empirical study of New Ventures and Established Companies in the Norwegian oil and gas service sector. The economic downturn implies major changes in a firm's environment and will likely affect the perception of this environment and the motivation for performing BMI. In addition, the competencies, such as engineering and process improvement in this industry, are not specific for the oil sector, and the companies therefore have the opportunity to pivot their operations toward new markets, and/or new product offerings. This sector is therefore found particularly interesting in a contemporary setting, as BMI is more likely to occur.

Other researchers have also highlighted BMI as a theoretical topic that lacks research. Teece (2010) writes, “The paucity of literature (both theoretical and practical) on the topic is remarkable, given the importance of business design, particularly in the context of innovation”. According to Chesbrough & Rosenbloom (2002), this might be because the business models concept draws on a variety of academic and functional disciplines, and thus is not prominent in any one discipline. Like other interdisciplinary topics, business models are frequently mentioned, but rarely analysed, therefore they are often poorly understood (Teece, 2010). There is a need for understanding the business model’s fit with changing environmental conditions, and insights are needed to understand how business models emerge and evolve (Morris, Schindehutte, & Allen, 2005). In particular, understanding *how* the business models changes is important to understand how it can contribute to competitive advantage (Dasilva & Trkman, 2014). This indicates that the research questions of this paper are important to answer, to improve the understanding of the concept of the business model and in particular, business model innovation.

The researchers have performed interviews with managers in Established Companies and entrepreneurs in New Ventures, and collected survey responses. The results have been analysed to determine how their perception and attitude towards their environment, as well as the economic downturn, has affected their BMI process. This paper first presents previous research relevant to answer the research questions, and then the method of research is described, before a comparative case-analysis is performed. Finally, the empirical results are compared to existing theory. The paper contributes to the research field of business models, and in particular, to the knowledge about how the environment and BMI are related.

2. Theory

In this chapter previous research and theoretical concepts that are relevant for the analysis and discussion later in this paper is presented. First, the concept of BMI and the business model components studied in this paper are presented. Then, what perceptions of an environment are, and what they consist of are described. Lastly, how an economic downturn affects businesses and their perception of the environment is presented.

The scope of this paper is to study how New Ventures’ and Established Companies’ activities related to BMI are affected by their perception of the environment. Some of the literature on BMI and strategy during an economic downturn focus on Small and Medium-sized Enterprises (SMEs). The central role of the entrepreneur in SMEs (Man, Lau, & Chan, 2002) as well as in New Ventures where the founder is still part of operational activities makes the authors consider the challenges New Ventures and SMEs face when it comes to BMI to be quite similar. Assumptions has been made from the literature based on this simplification. When this precondition is affected by obvious differences in firm structure, and thus does not hold, the authors have elaborated on the implications of this.

2.1 Business Model Innovation

In the most basic sense, a business model is the method of doing business by which a company generates revenue, and the business model spells out how a company makes money by specifying where it is positioned in the value chain (Chesbrough & Rosenbloom, 2002). The business model design determines the value the firm is able to create and capture from their product (Chesbrough, 2010) and there is an increasing consensus that BMI is key to firm performance (Zott et al., 2011).

Chesbrough & Rosenbloom's (2002) definition of the business model states that: "A successful business model creates a heuristic logic that connects technical potential with the realization of economic value" and contains the following six components: (1) Articulate the value proposition, (2) Identify a market segment, (3) Define the structure of the value chain, (4) Estimate the cost structure and profit potential, (5) Describe the position of the firm in the value network or ecosystem, and (6) Formulate the competitive strategy of the firm (p. 533). For the purpose of this study, the authors consider (Chesbrough & Rosenbloom, 2002) definition of the business model a good fit for studying a company's perception of the business environment, as this definition creates a clear distinction between different components of a business model. In addition, Zott (2011) found through his comparison of different definitions of business models that there is a consensus that the business model revolves around *customer-focused value creation*, which further strengthens Chesbrough & Rosenbloom's (2002) mentioned definition. BMI relies on recombining existing resources of a firm and its partners (Zott & Amit, 2010) and is a process of defining, adjusting and improving the design of the business model continuously (Trimi & Berbegal-Mirabent, 2012). The authors define business model innovation as any change, as described by Trimi & Berbegal-Mirabent (2012) and Zott (2010), to any of the components mentioned by Chesbrough & Rosenbloom (2002).

As mentioned, the relation between perception and BMI has not previously been studied. Theory on how each of the business model components relates to perception is therefore hard to obtain. However, as found in the authors' literature review (Moberg & Overå, 2015), only four of the mentioned business model components are recommended to study the effect of perception on BMI; namely, value proposition, market segment, value chain and value network. These are the components suggested to depend the most on the focal decision-maker's perception. The selected firms can change the first component, value proposition, quite easily because their resources in terms of knowledge and human capital can easily be adapted to fit a new market need or develop a different product. In addition, these components are open for interpretation by the focal firm through their own perception, and thereby their perception of the business environment is critical to understand. The second component, the market segment, can also easily be changed, as the oil service sector possess technologies, products and services that can be useful for other market segments than the oil companies. Lastly, the structure of the value chain and the focal firm's position in the value network is also open to changes, as companies can integrate or diversify their operations, or introduce new partnerships with other actors in the value chain.

2.1.1 Value Proposition

The value proposition is the value created for users by the product or service offering (Chesbrough & Rosenbloom, 2002). The value proposition of the firm is essential concerning creating value. If the customer does not recognize the value proposition as indeed valuable, the firm per definition does not create value. The customer's perception of the value proposition might change over time, with changes in demand, preferences and competing products. These changes have been intensified with technological developments, forcing managers to constantly re-evaluate their value propositions to ensure their offer matches with customer demands (Trimi & Berbegal-Mirabent, 2012).

2.1.2 Market Segment

The segment of the market that the company chooses to target plays a vital role. Most companies have a specific group of people as their target customers, namely their market segment. This segment is not necessarily constant, and many companies have successfully changed their market segment to increase their earnings (McGrath, 2010), emphasizing the value of Market Segment BMI. The market segment might change and the customers in the chosen segment might change their buying behaviour, receive offerings from a new entrant, or substitute product. Therefore, entrepreneurs need to design flexible business models that enable them to change rapidly according to market demands (Trimi & Berbegal-Mirabent, 2012). The market segment and the value proposition can be seen to be closely related, namely who are you selling to (market segment) and what do these customers value (value proposition).

2.1.3 Value Chain and Network

To simplify the number of units the analysis is performed on, the value chain and value network components are merged into one, and referred to as the value chain as the common term. This is because the value network describes the focal firm's position in the value chain, and in terms of performing BMI, they are closely related. A firm can choose what value adding activities it wants to perform, and if these are going to cover small or large parts of the value chain. Many companies are highly reliant on their ecosystem to provide and create value (Porter, 1985), e.g. through partnerships. New entrants, suppliers or customers going out of business, changes in government regulations, etc., might affect the position of the firm in the value chain. The structure of the value chain, and the firm's position in this value chain, is important for a firm's competitive advantage and position towards competitors. The business model construct is useful to help discover possible early warnings of a weak position and prompt the search for a new model that gives a better position (McGrath, 2010). There are mainly two ways of changing the position in the value chain, by performing integration and disintegration.

The decision to vertically integrate is a complex and difficult decision, but it is also one of the most fundamental decisions a firm makes (Beckman & Rosenfield, 2008). This decision affects the firm's position in the value chain, which determines how a firm generates revenue and thus is an important factor for defining the design of the business model (Chesbrough & Rosenbloom, 2002).

A firm that serves only a particular industry segment may tailor its value chain to that segment, which can result in lower cost. Widening or narrowing of geographic markets served can also affect cost, and more so, the competitive advantage. The extent of integration into activities plays a key role in competitive advantage. (Porter, 1985)

According to Porter (1985) there are four dimensions of scope that affect the value chain: (1) Segment scope, the product varieties produced and buyers served, (2) Degree of integration, the extent to which activities are performed in-house instead of by independent firms (3) Geographic scope, the range of regions, countries, or groups of countries in which a firm competes with a coordinated strategy, (4) Industry scope, the range of related industries in which the firm competes with a coordinated strategy (p.53).

According to Sosna et al. (2010) firms begin with a business model, and then, in response to certain triggers (typically external) evolve their business models until they find the one that best suits their objectives. Numerous researchers have identified experimentation, and trial and error learning, as critical for successful BMI (McGrath, 2010, Trimi & Berbegal-Mirabent, 2012, Teece, 2010, Chesbrough, 2010, Sosna et al., 2010). Thus, the business model can be seen as a construct that exist in the intersection between a firm and its environment.

2.2 Perception of the Environment

> *Environment, as opportunity structures, are diverse, uncertain, and imperfectly perceived, and it is seldom true that a particular individual will both have an accurate view and be aware of it.*
>
> *- (Zimmer, 1986)*

The environment of the firm can be described on three different levels: the objective environment, the task environment and the perceived environment. A firm chooses its “domain” or industry, and this results in a particular task environment (Downey & Slocum, 1975). After this, the perception of this task environment comes into importance (Downey & Slocum, 1975). The relationship between the objective environment, the task environment, and the perceived environment can be seen in Figure 1. In this paper, the term *environment* will consistently refer to the *perceived environment* unless specified otherwise.

Studies of the decision-maker’s perception usually measure specific characteristics of the perceived environment (Scott, 1981). This makes it possible to identify how the environment, on an individual firm level, affects decision-making, strategy, and performance (Wiklund, 1998). Some researchers claim that managers cannot directly observe and interpret the objective environment, and that instead they make up their own subjective impression of what the environment looks like (Wiklund, 1998). This makes strategic decisions difficult, as the strategy of the firm needs to fit with the perceived environment, but the perception

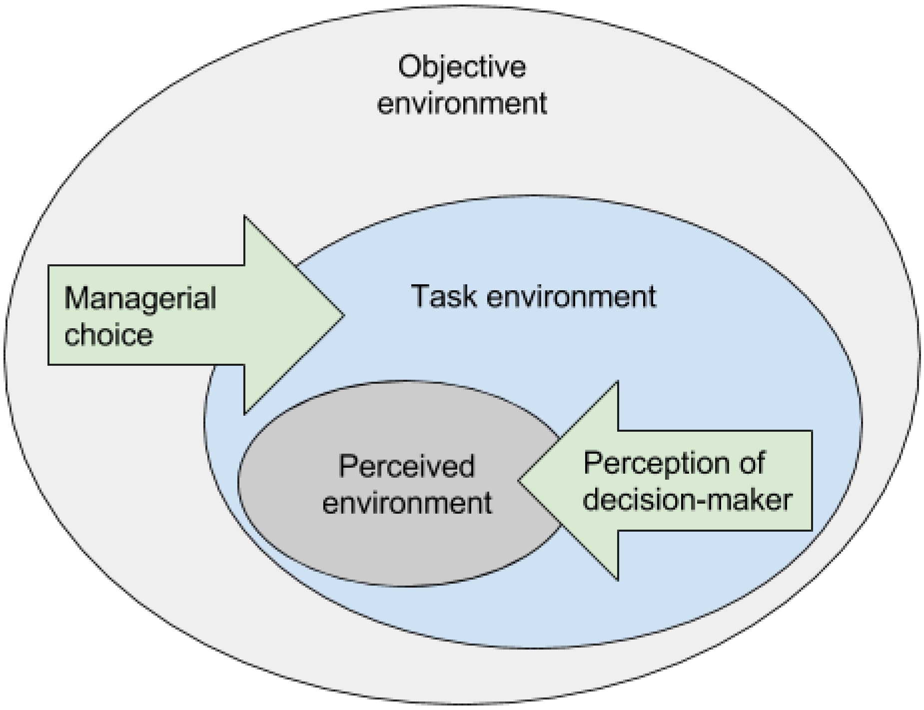


Figure 1: The objective, task, and perceived environment

of this environment also needs to reflect the objective environment (Dess & Beard, 1984, Dutton & Jackson, 1987).

When deciding upon a strategy, management must cope with uncertainty, and rely on the accuracy of its perceptions (Hatten & Schendel, 1976). A large uncertainty and contradiction in the research on a firm's environment is the influence of the objective environment versus the perceived environment (Bourgeois, 1980). According to Bourgeois (1980), the perceived environment is more relevant than the objective one for the study of managerial decision-making. It is the perception of the environment that will influence the development of strategies, and through this the perceptions of the environment affects the performance of the firm (Child, 1972).

From a conceptual standpoint, it might seem important whether the environment is a task environment or a perceived environment. When individuals are asked to describe their environments, their descriptions will be identical whether they refer to the perceived environment, or to a task environment. Thus, from an empirical standpoint, the two environments will be the same. Still, it is important to make a distinction between the two, as the perception of the environment might not be a direct reflection of the task environment, and the same task environment will then be described differently depending on the individual firm's perception. This is particularly important for doing research on this topic. However, allowing for different perceptions of the task environment also open up for an attractive research method, as you can study environmental differences on the individual firm level. (Wiklund, 1998)

The next section takes a closer look at what the task environment is, before moving over to how it can be perceived, and how this can affect BMI. The literature on the links between a firm's perception of its task environment and BMI is very scarce. Therefore, the authors will describe the links between a firm's perception of its task environment, strategy and firm performance, as these have previously been shown to be related to BMI (Moberg & Overå, 2015). It is then discussed how these concepts can be expected to influence BMI, before studying this link empirically.

2.2.1 Task Environment

The characteristics of the small firm's task environment such as munificence, turbulence, heterogeneity, hostility, dynamics, customer structure, and competition has been frequently researched (Bamford, Dean, & McDougall, 1997, Covin & Covin, 1990, Covin & Slevin, 1989, Kolvereid, 1992, Merz, Weber, & Laetz, 1994, Pelham & Wilson, 1995, Tsai, MacMillan, & Low, 1991). These dimensions have been argued to be critical for making suitable strategic choices (Wiklund, 1998). Wiklund et al. (2009) employed the dimensions dynamism, hostility and heterogeneity in their study of the task environment's relationship to entrepreneurial orientation (EO). Entrepreneurial orientation involves a willingness to innovate, take risks and be willing to try out new and uncertain products, services and markets, and to be more proactive than competitors toward new marketplace opportunities (e.g. Covin & Slevin, 1989, Covin & Slevin, 1991, Miller, 1983, Naman & Slevin, 1993, Wiklund, 2006, Zahra & Covin, 1995). The authors find this to be closely related to BMI, as willingness to innovate and try out new and uncertain products can result in innovating the value propositions of a firm, and proactiveness towards new marketplaces can result in innovating the market segment component of a business model. Therefore, the authors employs similar dimensions to study the perceived environment in this paper. In addition, the dimension of environmental munificence is studied, as munificence is interesting to identify the perception of opportunities and resources in the environment (Rosenbusch et al., 2013). The perceptions of these dimensions, and of the task environment itself, may vary between decision-makers. Next, the four characteristics of the task environment that is analyzed in this paper are described.

2.2.2 Munificence

Environmental munificence describes the favourability of the firm's task environment in terms of the existence of opportunities and the availability of resources (Dess & Beard, 1984, Pfeffer & Salancik, 1978, Staw & Szwajkowski, 1975). The existence of opportunities is related to industry change, industry growth and industry life cycles (Eckhardt & Shane, 2003, Shane & Venkataraman, 2000). Such an environment makes it easier to exploit new opportunities and promotes innovation (Klepper, 1997). In a munificent environment, a firm needs to proactively seek out and acquire resources from its environment, to allow it to exploit the opportunities that exist in a munificent environment (Rosenbusch et al., 2013). A munificent environment can make it easier for a firm to build slack resources, in particular for newly founded companies (Covin & Slevin, 1991).

2.2.3 Hostility

Hostility is an unfavourable environmental condition that implies competition for

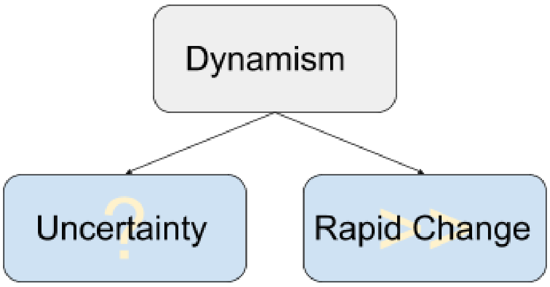


Figure 2: The components of dynamism

scarce resources and opportunities (Covin & Slevin, 1989, Miller, 1983). Intense competition for resources and opportunities, as well as other constraints associated with a hostile environment, decrease profit margins and limit strategic options (Miller & Friesen, 1983). Therefore, a hostile environment requires strategic discipline (Porter, 1980) as wrong strategic decisions could be fatal for the survival of a firm. Firms operating in hostile environments will also face difficulties in acquiring resources such as financial and human capital (Rosenbusch et al., 2013).

Throughout the empirical analysis, competitive pressure is used as the metric for hostility. In addition to competition, environmental hostility refers to legal, political, and economic constraints (Miller, 1987), low customer loyalty, and severe consequences of wrong strategic decisions (Covin, Slevin, & Heeley, 2000). However, the effect of hostility on performance and innovation is ambiguous. For example, Zahra & Bogner (2000) show that the effects of price hostility on the innovation - performance relationship differ from those of non-price hostility. Although innovation is less successful in price-hostile environments, non-price hostility increase the success rates related to innovation (Zahra & Bogner, 2000).

2.2.4 Dynamism

Environmental dynamism refers to both the uncertainty and the unpredictability of future market changes and developments (Khandwalla, 1972, Miller & Friesen, 1983). Cockerill (1994) points out the increased pace of change that occurs in an organization's environment as a critical factor for managers to adapt to. The authors therefore consider the two crucial metrics managers perceive through dynamism to be the uncertainty and rapidness of change in their environment (Figure 2). Uncertainty can occur in many ways, for example, as changes in customer needs, as shifts in the behaviour of competitors and suppliers, or from the introduction of new technologies that might disrupt the market. Thus, uncertainty comes from a lack of information about future events and their consequences, as well as how a firm will respond to them (Khandwalla, 1972), while rapid change does not necessarily imply a lack of information. However, this paper uses dynamism as the metric of measurement for the empirical data and theory referrals, and specify when a specific type of dynamism (uncertainty or rapid change) is being discussed.

A rapidly changing environment can provide many opportunities for a firm. For instance, shifts in demand allow firms to exploit new customer needs, and new technologies can open up a completely new spectre of possibilities (Utterback, 1994). Although dynamic environments create difficulties for strategic decision-making, firms that explore and exploit opportunities in such environments can outperform their rivals. Firms that are able to innovate and provide new products and services in a dynamic market can make their firm less vulnerable to the risk of their products or competencies becoming obsolete (Leonard-Barton, 1992, March, 1991). This also prevents a firm from creating rigidities within the firm, which is very dangerous when operation in dynamic environments (Rosenbusch et al., 2013). In a dynamic environment, a firm will only survive if it can maintain a highly flexible resource base (Rosenbusch et al., 2013).

2.2.5 Complexity

In this paper environmental heterogeneity and complexity is studied as a similar construct. Environmental heterogeneity indicates that there are several different segments of the market with varied characteristics and needs that are being served by the firm (Wiklund, 1998). Therefore, a market with a high degree of heterogeneity will be perceived as complex (Wiklund, 1998). Heterogeneity as one aspect of complexity can be defined as the degree of non-similarity between elements of the environment in which a firm is operating (Thompson, 1976). Complexity refers to the amount and diversity of information, knowledge, resources, and capabilities needed to successfully operate in an environment (Mintzberg, 1979). Complexity can result from environmental heterogeneity or the production and commercialization of complex customized products.

Very complex products will usually create high entry barriers for potential competitors. This can create an opportunity for a single firm that makes this product to stay ahead of its competitors by continuously innovating this product, and by doing this, keeping competitors at bay by continuing to rise the entry barriers. (Rosenbusch et al., 2013)

In a complex environment, firms need to be proactive to utilize their organization's competence and knowledge as efficiently as possible in different contexts. Firms that are not able to do this are at risk to under-perform. Firms in complex environments therefore need to proactively seek new combinations of resources that can transform complex opportunities into profitable business. (Rosenbusch et al., 2013)

2.3 Perceptions and BMI

Important elements of the environment might be invisible to the decision-makers, and if they are not perceived, they will not lead to action. However, these elements might still affect the outcomes of the firm. Thus, the perception of the environment affect both the actions the firm take, and the outcomes of the firm (Pfeffer & Salancik, 1978). Making changes to a firm's business model is not an easy or straightforward task, and it needs to be executed from top management (Leih et al., 2014). If the triggers of BMI are not perceived, action will not be taken to change the business model.

Following this argument, a firm also need to have the ability and desire to make changes to their business model. Even though a firm have the ability to perceive certain elements of its environment, it might not have the capabilities to make the necessary changes to adapt (Wiklund, 1998). Changes in the environment will then affect the firm no matter if the changes are perceived or not. Here pursuit of opportunity also plays a key role.

According to Stevenson & Gumpert (1985), a firm needs to perceive a situation as an opportunity of a desired future state, and believe it is possible to reach this state. Thus, to perceive an opportunity is not enough, a firm also needs to be able to capture this opportunity (Wiklund, 1998).

When looking at how the environment affects the strategic decisions of a firm, it is evident that the perception of the environment is the most important construct to predict growth and performance (Wiklund, 1998). Wiklund (1998) also found that strategy is adapted to the subjective rather than the objective environment. Doz & Kosonen (2010) have found a similar relationship to the business model:

> *Business models can be defined both objectively and subjectively. Objectively they are sets of structured and interdependent operational relationships between a firm and its customers, suppliers, complementors, partners and other stakeholders, and among its internal units and departments (functions, staff, operating units, etc.) .... For the firm's management, business models also function as a subjective representation of these mechanisms, delineating how it believes the firm relates to its environment. (p. 370-371)*

Due to the close connections between strategy, firm performance and BMI, as well as the dependence of BMI on the environment, the authors find the perceptions of the environment to be likely to influence how BMI is performed. However, the literature on how perceptions might affect BMI is scarce, and the authors wish to contribute to filling this gap in the literature.

2.4 An Economic Downturn

This section first introduces previous theory on how an economic downturn affects and changes the environment of firms and then how New Ventures and Established Companies might respond differently to an economic downturn. How an economic downturn might affect the perception of the environment is also presented, before comparing the theoretical findings of perception with the framework of BMI triggers from the authors' literature review (Moberg & Overå, 2015). The National Bureau of Economic Research defines a recession as "a significant decline in economic activity that spreads across the economy and can last from a few months to more than a year." (The National Bureau of Economic Research, 2016). This is a commonly used definition, often made more explicit by using a consecutive decline in Gross Domestic Product (GDP) of two quarters as an indicator of an economic downturn (Shiskin, 1974). In line with these definitions, the authors define an economic downturn as a decline in industry revenue lasting more than 6 months. Thus, if revenues for an industry sector as a whole is dropping the sector is experiencing a downturn. The boundaries for the downturn is set to industry sectors, thus the GDP for a country can be growing, while still specific sectors are experiencing a downturn. This is motivated by the authors wish to analyse how a specific industry handles a difficult economic situation, due to the fact that specific sectors often have similar business models, and the comparative analysis is made easier when the models are more alike.

Latham (2009) argues that economic downturns represent a period of greatly reduced environmental munificence that threatens the survival of all firms. Cowling, Liu, Ledger, & Zhang (2014) finds that during the recession, it is access to financial resources, rather than more subjective measures of human capital, that are important determinants of recessionary growth, especially regarding sales. This suggests that in more stable economic environments, it is easier to take advantage of general growth in demand without having to compete vigorously with other firms and entrepreneurs (Cowling et al., 2014). Managers within hostile environments will likely be confronted with smaller decision windows, diminishing opportunities, changing constituencies, increased resource specialization, lack of predictable needs, fragmented markets, greater risk of obsolescence, and a general lack of long-term control (Davis, Morris, & Allen, 1991). Thus, it can be expected that in an economic downturn, perceptions of munificence, hostility and dynamism will all change.

To understand how firms navigate in an economic downturn, dynamic capabilities is presented before describing different responses to the changing environment. Dynamic capabilities encompass the entrepreneurial activities, processes, and leadership skills by which the need for innovating existing business models is recognized, and how the necessary assets are both assessed and orchestrated in the pursuit of new value creation (Leih et al., 2014). The dynamic capabilities of a firm can be split into three clusters: (1) sensing (the identification and assessment of opportunities), (2) seizing (the mobilization of resources internally and externally to address opportunities and capture value from them), and (3) transforming (continued renewal of the organization) (Leih et al., 2014, p.9). Good management is important to be able to analyse and understand the value of the firm's resources, and which of these that can give sustained competitive advantage (Barney, 1991). Resources that can give sustained competitive advantages cannot be "purchased" on the open markets (Barney, 1986, Wernerfelt, 1989) but need to be found in resources already controlled by the firm (Dierickx & Cool, 1989), that is, resources that are available to the firm through its business model.

Leih et al. (2014) argue that strong dynamic capabilities enable firms to orchestrate their resources effectively. In stable markets, dynamic capabilities resemble routines (Cyert & March, 1963). They are complicated and analytic processes that rely on existing knowledge and linear execution leading to predictable results. In rapidly changing markets, they are simple, experiential, and unstable (Eisenhardt, Martin, & Helfat, 2000). Within the rapidly changing markets, there are two different scenarios: (1) predictable change and (2) blurred change. In markets where change occurs frequently, but along roughly predictable paths, dynamic capabilities again rely heavily on existing knowledge, while in markets where boundaries are blurred and successful business models are unclear, dynamic capabilities rely much more on rapidly creating new situation-specific knowledge (Eisenhardt et al., 2000). Existing knowledge can even be a disadvantage for adapting to the new situation (Argote, 1999). In predictable markets, managers can analyse the situation and then implement new practices in a linear and planned manner (Helfat, 1997). From a theoretical point of view, it can be expected that the dynamic capabilities a firm possess will affect its ability to sense, or perceive, changes in its environment. This could also affect its ability to spot new opportunities, exploit resources, and handle changes in competition.

The authors find that all of these potential effects of an economic downturn are likely to amplify changes in perceptions, due to changing market needs, falling demand, and cost cutting. Thus, it can be expected that the *sensing* and *seizing* capabilities a firm possess affect the way the environment is perceived. The ability to cope with changes and uncertainty is often a barrier for Established Companies' managers in rapidly changing markets (Eisenhardt et al., 2000). New Ventures and Established Companies have access to very different types and amounts of resources. The authors find it likely that New Ventures and Established Companies possess different dynamic capabilities, and that this could influence if and how they perform BMI. How perceptions directly relate to a firm's focus on BMI, is poorly described in literature. This is an important factor to understand how a firm relates to its environment, and thus why it performs BMI. The next section elaborates on the differences between New Ventures and Established Companies, and how they might be expected to respond differently to an economic downturn.

2.4.1 New Ventures and Established Companies in an Economic Downturn

A lot of research exists regarding the issue of when a New Venture is considered to come into existence as an organization (Oviatt & McDougall, 1994). In prior research, a firm has been considered a 'new' venture if it is 8 years old or less (McDougall & Robinson, 1990). Biggadike (1989) pioneered an age-defined cut-off point for a New Ventures, and found that New Ventures, on average, needed 8 years to reach profitability and 12 years to actually resemble Established Companies. Miller & Camp (1986) who defined 8 years as a limit for 'New' Venture and 8-12 years as 'adolescent' ventures have confirmed this. The authors have chosen to define a New Venture as a firm that for less than 5 years has been having active operations and Established Companies as firms older than 12 years, to avoid overlap.

Latham (2009) claims that large established firms which derive competitive advantage from economies of scale, economies of scope, and learning effects, are more likely to adopt strategies designed to capitalize on efficiency through cost and asset reductions during an economic downturn. Smaller firms will be more dependent on finding market niches that might offer a moderate level of revenue generation, because they potentially are more sensitive to changing market needs (Latham, 2009). In addition to that, younger businesses in their formative years are more likely to be concerned with survival than growth if they do not fail within the first few years of starting up (Cowling, 2007). However, there is evidence that periods with large changes in markets and increasing instability are also a situation where some entrepreneurs are able to spot and take advantage of new opportunities (Acs & Storey, 2004, Grilli, 2010).

New Ventures typically lack the resource pools (Cooper, Gimeno-Gascon, & Woo, 1994) that may allow a "wait it out" approach during environmental duress (Latham, 2009). During a recession, only the entrepreneurs that have access to essential financial resources can manage to achieve growth (Cowling et al., 2014). Therefore, New Ventures typically focus on revenue-generating activities to overcome this (Shama, 1993), whereas larger firms rely on cost reduction in order to improve their performance (Michael & Robbins, 1998). Interestingly, Latham (2009) found, in stark contrast to what might be expected in an economic downturn, that New Ventures did not reduce their investments in R&D, but specific to areas such as hiring new programmers and new product development, these firms actually increased their investments, whereas Established Companies decreased their investments in these areas during a downturn.

As previously mentioned, dynamic capabilities are important to succeed with entrepreneurial activities, and consists of three main aspects: *sensing*, *seizing* and *transforming*. According to Leih et al. (2014), *sensing* enables the company to identify and assess opportunities. Thus, to perceive possibilities for BMI, it is essential that the firm possess the capability of *sensing* an opportunity. New Ventures are likely to have better *sensing* dynamic capabilities due to their opportunistic nature and continuous search for market opportunities. To be able to identify a new market segment and then change its business model, a firm also needs to believe that it is capable of *seizing* this market. Here, dynamic capabilities play an important role in reconfiguring resources, and creating new knowledge to adapt to such opportunities (Eisenhardt et al., 2000). Established Companies have in some cases access to more resources, which can amplify their *seizing* dynamic capabilities. Lastly, *transforming* enables the firm to transform its resources and business model to fit the newly found market opportunity. New Ventures in general find *transforming* to be easier than Established Companies because they have a less definite path, fewer fixed assets to redeploy, and fewer established positions to reengineer (Leih et al., 2014). All these factors are important to understand how a company reads and responds to its environment.

In complex environments, small firms increase their innovativeness, proactivity, exploration and exploitation of new products and services, whereas large firms seem to decrease such activities (Rosenbusch et al., 2013). This may reflect the different organizational structures found in firms of different sizes. Although small and medium-sized firms may become more innovative and proactive to utilize the advantages associated with a complex environment, bureaucratic structures and inertia may hinder large firms from being entrepreneurial in the same type of environment (Rosenbusch et al., 2013). Research has found that small firms that grow focus on developing particular niches in their markets (Storey, 1996), but that these are often difficult to describe by objective variables (Wiklund et al., 2009). To be able to describe this approach better, researchers have proposed to describe the environment of small businesses in a way that reflects subjective perceptions of small business owners (Wiklund et al., 2009). The authors uses this approach, studying subjective perceptions to understand how New Ventures and Established Companies respond to an economic downturn and perform BMI in such a situation.

There is evidence that New Ventures might handle an economic downturn both better and worse than an Established Company. Even though they have poorer access to resources, they are better at handling a rapidly changing environment. They are able to leverage their more agile and entrepreneurial organizations to exploit opportunities in the situation of an economic downturn (Acs & Storey, 2004, Grilli, 2010). This contradiction in theory is studied in this paper through empirical research comparing the focus on BMI of New Ventures with Established Companies during an economic downturn. The authors' hypothesis is that due to different, yet so far undescribed differences in perception of the environment, managers and entrepreneurs are likely to observe different opportunities and different reasons for performing BMI. This is also the foundation for the model put forward by Moberg & Overå (2015), stating that Established Companies are less externally oriented in an economic downturn than New Ventures (Figure 3). The authors will develop this model based on the results of the empirical research performed in this paper. The perception each company has of its environment is likely to affect what they define as their environment, and how to react to changes in it. However, there has not been performed a lot of research on how the different perceptions of entrepreneurs in New Ventures and managers in Established Companies can affect their BMI efforts. The authors aim at contributing to filling this gap.

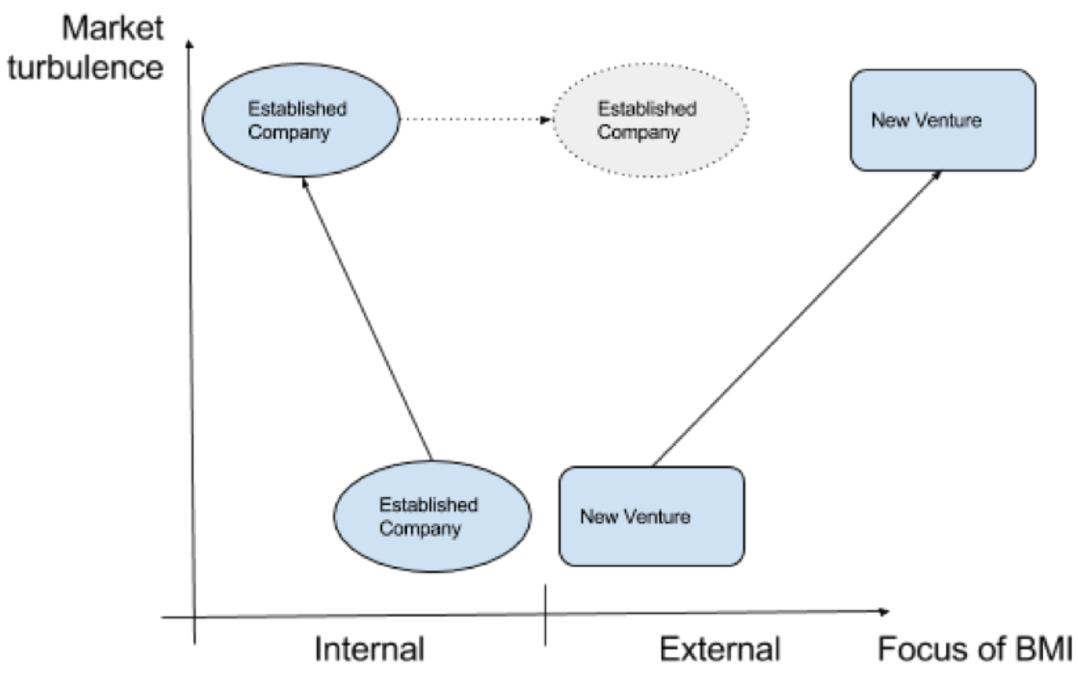


Figure 3: A firm's focus of BMI with increasing market turbulence

3. Method: Description of Research Design

In this chapter, the method of collecting research data for the master thesis is presented. This thesis is based upon the authors' literature review (Moberg & Overå, 2015) and uses its findings and suggestions for further research. The integrative model presented in the literature review (Moberg & Overå, 2015) is tested based on the empirical findings, to further improve the understanding of what influences how, and why firms perform BMI. A case study will always benefit from comparing the results to theoretical propositions, as this will increase the generalizability of the results (Robert K Yin, 2013). The authors found the topic of what and how firms are influenced to perform BMI as an understudied area of research, and therefore wanted to explore this field to contribute to this gap in theory. This paper is a qualitative and comparative case-based analysis of Established Companies as well as New Ventures based on interviews with decisions-makers in the firms to answer the research questions. In the following sections, the method of selecting cases, the case firms that comprise the sample in this paper, and lastly the method of data collection and analysis is presented. This chapter also present reflections and critique of the method.

Because of the significant cognitive role of the business model (Chesbrough & Rosenbloom, 2002), a qualitative method has been chosen to uncover detailed points of view on the subject from both New Ventures and Established Companies. The literature on business models is highly dispersed and have very different areas of focus, e.g. the business model has been referred to as architecture, design, pattern, plan, method, assumption and statement (Morris et al., 2005). The phenomenon of BMI is sparsely described in research, and there even exist a great difference of opinion on what the definition of a business model really is. Eisenhardt (1989) claims that when little is known about a phenomenon and current perspectives seem inadequate or have difficulties in explaining the phenomenon, a case study approach is justified. This is a useful strategy for examining a contemporary phenomenon in its real-life context, especially when the boundaries between the phenomenon and the context are not obvious (Yin, 1981). Theory building from case studies is particularly appropriate in early stages of research, and does not build on previous literature or previous evidence (Eisenhardt, 1989). The authors find this to be highly suitable for research on BMI, as this is a contemporary phenomenon with blurred boundaries towards any specific research field, as well as the disagreement about the definition of the business model itself.

This paper studies what influences managers and entrepreneurs into making changes to the firm's business model. The authors have chosen to study this phenomenon as an action being influenced by external factors originating in the business environment of the firm, and that the actions taken are a result of how the decision-maker perceive the environment. It is also recognized that the resources the firm possess plays a role when deciding what actions to take, and in particular, the firm's capability to exploit these resources. The perceptions and actions taken to perform BMI is studied in the context of an

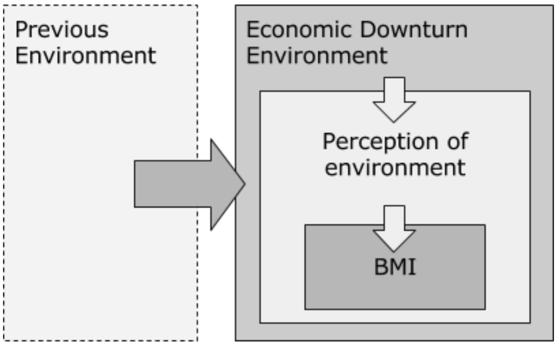


Figure 4: Structure for the study of BMI

economic downturn. The way the study is conducted is represented in Figure 4.

The process of BMI is explored through the cases of seven different firms, to provide a sample of the firms' BMI actions. This sample is then studied to understand how the firms' perceptions affected the BMI efforts. The purpose of qualitative knowledge is to get an insight into the subject's current situation of life. It has also to get tacit knowledge expressed with an oral vocabulary (Dalland, 2012). This paper studies business models on a company level due to the authors' interest in investigating perception's effect on BMI in general, and not for one particular type of BMI, or specific business model.

3.1 Selection of Cases

The firms in the sample were chosen based on the criteria described in Table 1. A prerequisite for being able to perform the research was that the firms had to be located in Norway. The criteria were developed to obtain a sample that could provide insights to answer the research questions presented in this paper.

The criteria in Table 1 led to the selection of the oil sector, as this sector is indeed experiencing an economic downturn. The oil-service sector was then chosen, due to their high degree of highly educated personnel in a variety of engineering disciplines, which potentially could be deployed into different industrial sectors. This is a segment that are not oil extractors themselves, but has relations to them, and that has the possibility to enter new sectors. This sector has also existed in Norway since

Table 1: Reason for selecting criteria, sector within industry and case companies

Reason for selecting criteria	**Criteria for selecting the industry sector**	**Criteria for selecting the case companies**
This paper studies the effect of perception on BMI in the context of an economic downturn	The sector is experiencing an economic downturn	Having customers that either were oil extracting companies, or that had oil extracting customers as their customers
This paper compares New Ventures to Established Companies	The sector contains companies in a variety of sizes and maturity	Either less than 5 years or more than 12 years of operations
To perform BMI, change in one of the four business model components is needed, requiring a flexible skillset and resource base	The sector is characterized by possessing a skillset that potentially could be put to use in a different industry sector	Operating in the oil sector or oil service sector, but not with extraction of oil specifically, and with focus on engineering

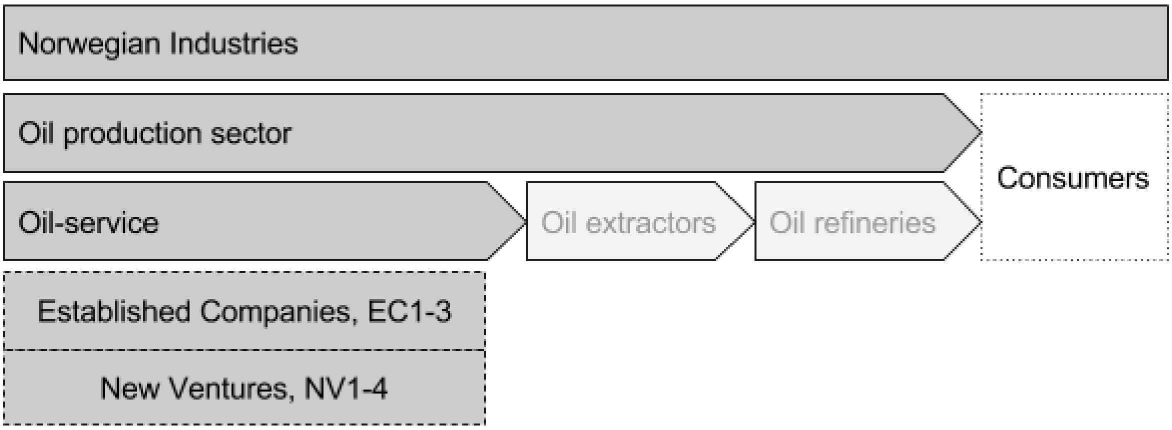


Figure 5: Process of selecting industrial sector and cases

the start of oil exploitation in the 1970s and consist of a variety of firms in different sizes and maturity levels. Finally, firms in this sector was initially contacted by phone, the research project was presented, and an initial confirmation that the firm in question was affected by the decline in the oil price and that they had concerns regarding how they were going to tackle this was obtained. The process of selecting the industry sector to be studied and the specific case firms is illustrated in Figure 5.

3.2 Presentation of Sample

In this section, the case firms are presented together with key characteristics for each firm. The sample studied in this paper consist of seven Norwegian companies in a variety of sizes and maturities that operate in, or in close relation to the Norwegian oil sector. The key characteristics of the firms in the sample can be seen in Table 2. All of the firms have been anonymized, as some of the questions asked in the interviews could be seen as sensitive business information. The authors wanted the respondents to speak freely, and therefore informed the respondents that their answers would be anonymized in the paper.

Due to a strong cluster of oil related business in the southwestern part of Norway, most companies in the sample are located in this area, in the cities of Stavanger and Haugesund, but have operations other places in Norway as well. Their size vary from the smallest having a revenue of approx. 70 MNOK and 30 employees to the largest employing about 300 people with revenues of approx. 800 MNOK. A more detailed description of the firms and the respondents can be found in Appendix C. The firms in the sample span different sectors of the value chain. This can be seen illustrated in Figure 6. The authors

Table 2: Key characteristics for the firms in the sample, sorted by age

	Established Companies			**New Ventures**			
Case	EC3	EC1	EC2	NV1	NV3	NV4	NV2
Employees	300	300	90	150	30	70	75
Revenue (MNOK)	700	800	300	300	70	600	100
Age (years)	50	35	25	5	5	4	3

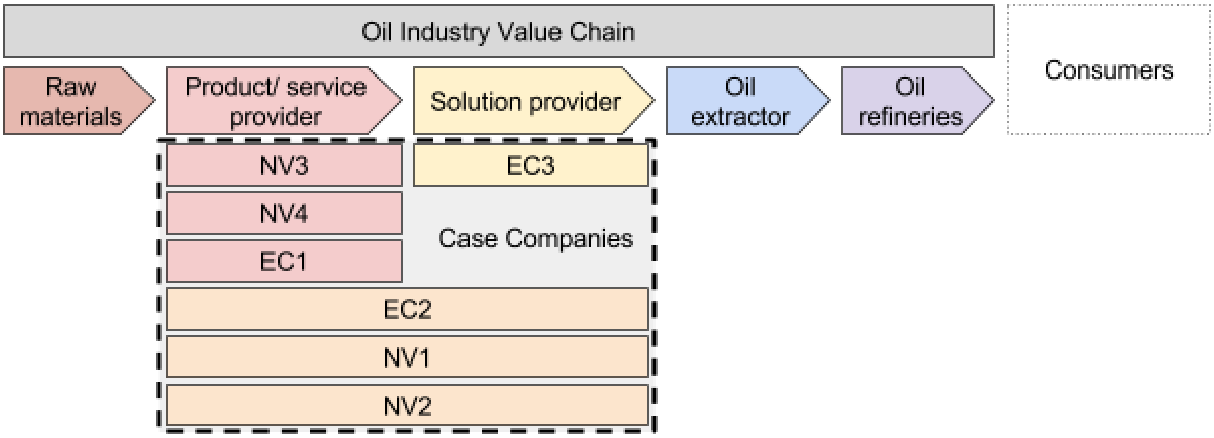


Figure 6: The case companies' position in the value chain

define the bottom of the value chain to be close to the end customer. In the sample, there are companies that have been in operation for decades, and companies that were established in the last 5 years. All of the companies are generally characterized by having highly educated personnel.

The sample consist of both New Ventures and Established Companies. As mentioned, the authors have chosen to define a New Venture as a firm that for less than five years has had active operations. By doing this, the firms in the sample should be well within the maturity of a New Venture. An Established Company is thus a company that is older than 12 years. However, to avoid overlapping types of firms, the specific cases of Established Companies for this study are all more than 25 years old. The researchers therefore find the sample to be a strong representation of respectively New Ventures and Established Companies.

There is no ideal number of cases, but Eisenhardt (1989) argue that between 4 and 10 cases usually is a proper quantity. The authors studied seven different cases in this paper, four that are New Ventures and three that are Established Companies, and found this to represent a sufficient data set for the purpose of this paper. The firms in the sample were found using the network of NTNU, the NTNU School of Entrepreneurship Alumni, and the authors' personal networks. All the firms are Norwegian companies in the oil and gas sector as there is an economic downturn in this sector at the moment, forcing many companies to rethink their business model. The authors find the sample to be likely to represent the challenges the industry faces, and to be suitable for the study.

3.3 Data Collection

To answer the research questions the authors have chosen an exploratory case study method. It has been conducted qualitative interviews in accordance with Dalland's (2012) writings on attaining in depth detailed data on a few data sets to achieve a deeper understanding of tacit knowledge. The interviewees have also filled out a survey regarding their attitudes and perceptions of the environment. When choosing the data points for qualitative research, Dalland (2012) specifies that a strategic selection is necessary when specific subjects are considered to have special knowledge. Strategic selection of individuals implies finding subjects that are considered having valuable information based on life situation and professional experience, rather than doing a systematic selection where predefined professional roles or random selection is used to get statistical data.

The business models has been studied on a company level, and the unit of analysis is the business model of the chosen companies. The authors have conducted individual interviews with strategically chosen subjects from both New Ventures and Established Companies to investigate the research question. Decisions affecting BMI are by the authors considered strategic, and therefore managers and decision-makers in the companies have been the subjects of interest. However, Chesbrough (2007) says that it is not always clear within a firm who are responsible for BMI, and how to find this person within each case will need to be individually handled through a dialogue with the management. Interviewing business experts can according to Dalland (2012) often become very factual, and as the purpose of this paper is to study how their perception affects their BMI actions, which for many is tacit knowledge, it was important to specify the objective of the interview when starting the interview, while also probing to get them to elaborate. The questions for the interviews were split into three categories; (1) BMI actions performed, (2) the respondent's perception of the business environment, and (3) general effects of the economic downturn. The authors chose to ask questions about actions that could be defined as BMI actions, even though the research question concerns BMI focus. To ask a person about their focus can become very vague, therefore the authors have used actions as the concretization of their focus. The reason for this categorization is explained in detail in section 3.4, Data Analysis. The questions were framed to start in a general manner in case the authors have missed obvious reasons for BMI, and then narrowed down to more specific questions related to the research question. E.g., when did they last change their business model and why, how had the access to resources developed in the last 24 months, and if the economic environment had affected the decision to change the business model.

The authors have used a recorder in all the interviews, to be able to pay attention during the interview without taking notes to every question. The interviews were then transcribed afterwards from the records. This allows for taking notes about the interviewee's enthusiasm, general attitude, the firm environment and other impressions the researchers observe in the field. All these factors represent valuable data to analyse and strengthens the research (Eisenhardt, 1989).

In addition to the interviews, the authors sent out a survey after performing the interviews. The survey contained 16 opposite statements that the respondent had to choose which one was a better description for his/her attitude and perception of the environment. The statements were based on surveys that have been used to perform similar research previously (e.g. Wiklund et al. (2009), Rosenbusch et al. (2013)). The results of the survey can be found in Appendix A. The data collected was stored in an online-shared database to facilitate the analysis and comparison of the results.

3.4 Data Analysis

After transcribing the interviews, the authors have filled out a predefined table that contains critical components for answering the research question (Appendix B). This is beneficial to avoid writing long narratives for each interview, and identifying important information to answer the topic of the study (Robert K. Yin, 1981). Dalland (2012) states that a good analysis of the data alternates between interpreting and analysing the answers given. This is an important quality control, and it gives room for other interpretations that may also derive from the data collected. A case-comparison method was employed to analyse the data. Yin (1981) argues that this is the best method for comparing cases with each other when the total number of cases is low. Another way of making the comparison, is to divide the interview into many small parts, so that each part has a specific theme, helping us understand the individual subject's view on the matter and making it easier to compare them (Dalland, 2012). The authors have done both, comparing findings across cases, and dividing the interview into smaller parts in the following three main categories: BMI actions, perceptions, and effects of the economic downturn.

The three categories were then subcategorized as described in Table 2. Categories (1) and (2) were chosen to make sure that the interviews answered research question 1, namely how perceptions affect BMI. The third category (3) was to make certain that the respondents elaborated on the effects of the economic downturn. In this category the respondents were allowed to talk more freely, to answer questions that the authors did not find to be directly related to either BMI or perceptions, but still are important for BMI. These categories are wide, but have helped the authors separate the findings into broad categories for further analysis.

3.5 Categorizing the Data

In this section, it is first explained how perceptions have been categorized in this paper, and then how BMI actions were categorized. The perception of the environment has been coded into four categories: (1) munificence, (2) hostility, (3) dynamism, and (4) complexity. The BMI actions have been categorized into three different components of the business model; (1) value proposition, (2) market segment and (3) value chain.

The categorization of perceptions was adapted from Rosenbusch et al. (2013) whom used these categories to study how

Table 2: Categories and subcategories used for data analysis

Data Analysis Categories

BMI action (1)	Perception (2)	Effects of the economic downturn (3)
Value Proposition Market Segment Value Chain	Munificence Hostility Dynamism Complexity	General actions taken as a response to the downturn Actions taken to change the business model

entrepreneurial orientation (EO) can be a mediating concept to understand performance in a specific task environment. The authors found the same categorization useful to study the effect of perception on BMI, as both concepts are concerned with attitudes toward the environment, and can be seen as measures to achieve growth. Other authors to investigate small business growth (e.g., Wiklund et al. (2009) have also used similar classifications of the environment. The four categories developed by Rosenbusch et al. (2013) are particularly useful for this study, as they take in both objective and perceived factors. Rosenbusch et al. (2013) found all of the four categories to be strongly influenced by perceptions, and this paper studies this further.

The categories have been further subcategorized into six categories: opportunities, resources, competitive pressure, dynamism, the complexity of products and organizational complexity. These categories have been chosen to identify the perception of the four theoretical classifications; munificence, hostility, dynamism and complexity and are chosen as they are more detailed components of each category, as described in section 2.2. Munificence has been divided into opportunities and resources, as these are the two major components of munificence. In addition, the perception of these two factors of the environment do not need to correlate within each firm, and is therefore useful to separate. Complexity is also divided into product complexity and organizational complexity, because the level of complexity within each of these categories can be different within a firm.

After categorizing the data, the statements were used to rate how strongly each respondent perceived the factor. The rating was performed based on the authors' overall assessments of the respondent's answer. Though this assessment is heavily dependent on the authors' ability to interpret the answers objectively, i.e. the authors' ability to perceive the correct situation and intentions of the interviewee, the use of perceptions has proven in previous research to be reasonable. Research within management often encounter problems obtaining *objective* measures of organizational performance (Dess & Robinson, 1984). This in particular is the case for small or privately owned firms (Dess & Robinson, 1984), which most of the firms in the sample are. Dess & Robinson (1984) found that when you analyse a manager's subjective perceptions of firm's performance versus the performance of competitors, they are quite accurate compared to objective measures. Subjective perceptions can be useful to study broader, non-economic aspects of organizational performance (Dess & Robinson, 1984), such as the tacit knowledge of BMI. The authors therefore find the use of subjective perceptions to analyse a firm's development of BMI in the last 24 months to be applicable. Researchers on business models have used similar approaches, e.g. A. Zott (2007) who used a 13-point scale to identify the novelty vs. the efficiency of business model design. Zott (2007) found that due to the difficulty of obtaining objective measures of business model design, the use of perceptual measures was justified, and employed a Likert-type scale to rank the level of perceptions. The authors have used a similar approach, using a 7-point scale adapted from Wiklund et al. (2009) that consisted of two opposed statements to decide which statement was most representative for the focal firm. Wiklund et al. (2009) used this approach to identify how a firm's attitude toward its business environment affect performance. The rankings of these factors was performed by the authors based on statements in the interviews, and cross-referenced with a questionnaire that the respondents answered within a month after the interviews had taken place. When a pattern from one data source is corroborated by the evidence from another, the finding is strengthened (Eisenhardt, 1989). To avoid biased subjective rankings of the perceptions, the authors employed this technique. When contradictory statements were found, the authors could look deeper into the data to reveal the meaning of the differences (Eisenhardt, 1989). The authors found this approach to be the most viable one, as the process of BMI is not always a deliberate action, and the reason for performing it might not be evident (Demil & Lecocq, 2010).

The different perceptions were all ranked from one (low) to seven (high), based on the answers in the interviews and the following logic. To exemplify statements that could have been rated high or low, fictive quotes follows in each category:

Opportunities: Based on the statements from the case companies, their answers have been ranked and given a high score if they consider their environment to contain many opportunities for new revenue and a low score if they consider their environment poor on opportunities. If they are pursuing or planning to pursue any of these opportunities, they have been ranked above other firms that also perceive many opportunities, but have no plan to pursue these opportunities. The authors find that firms which are actively pursuing new opportunities to be more opportunistic, and have therefore ranked these firms higher.

> *High rated quote: "We do see a lot of new opportunities in the current environment, and have started to pursue multiple of these."*

> *Low rated quote: "We do not see any new opportunities arising in the environment at this moment, and if we did, I do not think we would actively pursue them."*

Resources: Within resources, the main categories are human capital and financial capital. Access to other resources, such as materials, auxiliary firms or hired expertise have also been considered. Though these could also be divided into separate groups, the authors feel that a combination of them gives a complete picture of the individual company's perception of available resources to pursue opportunities. Again, few resources gives a low rating, and a munificence of resources gives a high rating.

> *High rated quote: "We consider both financial and human resources to be easily available."*

> *Low rated quote: "The access to both human and financial resources is scarce, and has become harder to obtain lately."*

Dynamism: Companies that perceive their environment as rapidly changing and uncertain receives a high rating in this attribute, and perceiving the environment as conservative and predictable, gives a low rating. Neither one of these factors are on their own strictly positive or negative, and dynamism therefore has to be reviewed in light of other perceptions of the environment.

> *High rated quote: "There are events every day that changes our environment, and it's very hard to predict our future situation, even on a short term."*

> *Low rated quote: "This market is very slow, and change that affects us is rare, and relatively predictable."*

Competitive pressure: Companies perceiving their environment as hostile or highly competitive receives a high rating on competitive pressure. A low rating is given to those who perceive a high degree of cooperation and low competitive pressure. Again, neither high nor low rating here is strictly positive or negative. It can however shed light on why they do or do not perform BMI.

> *High rated quote: "The competition on new contracts is extreme, and actors are very secretive on their technical and business operations."*

> *Low rated quote: "There are few competitors, and those who exist we have a very good relation to."*

Product and Organizational Complexity: Each case company specifically rated both of these attributes, where high complexity results in a high rating and vice versa.

The same approach that was used to categorize perceptions was used to categorize BMI actions. The categorization of BMI actions was adapted from Chesbrough & Rosenbloom's (2002) definition of the business model, selecting three of the components for this study; value proposition, market segment and value chain. As BMI is a relatively new term, and especially for an established industry sector such as oil and gas service, it is likely to find that the BMI process is not a deliberate one, even though the firm might be performing it. Therefore, the empirical research and interviews focuses on innovation of specific components of the business model that the managers and entrepreneurs recognize and can elaborate on. The components of the business model were categorized and ranked based on the following logic:

Value Proposition BMI: New product or service offerings, new ways of offering them or a change of focus from quality to cost, are the metrics used to rank the companies on value proposition. Though under normal conditions changing your cost focus would be weighted equally to the other proposed changes to the Value Proposition, it is something all companies are focused on during an economic downturn, and not something that separates a company from the rest. Therefore, changes to the value proposition concerning price or cost is weighted as less BMI than other changes to the value proposition.

> *High rated quote: "We have created a new service to provide additional maintenance for our customers."*

> *Low rated quote: "Our products have been exactly the same for many years now."*

Market Segment BMI: Market segment BMI can be performed through entering a new market segment in your existing geographical area or by entering a new geographical area within your existing market segment. Both forms of BMI demands resources, and can contribute to reach new potential customers. In addition to entering new markets, some of the cases who are already taking part in multiple market segments have reprioritized their focus segments because of the economic downturn. This is also seen as BMI, as it changes how the company *captures value*. However, reprioritizing existing markets have been ranked as less BMI than entering brand new markets.

> *High rated quote: "We have recently entered multiple markets where we did not have any customers from before."*

> *Low rated quote: "Our customers have been the same for a long time."*

Value Chain: The level of Value Chain BMI a company has performed is evaluated on recent horizontal or vertical integrations or disintegrations performed, or an increase in collaboration with other firms. All these BMI actions change the way a company *creates value*. Horizontal and vertical integrations are weighted equally, and collaboration efforts are ranked below integrations as Value Chain BMI.

> *High rated quote: "We have acquired firms that used to be our suppliers."*

> *Low rated quote: "We are performing the same activities as always."*

The findings from the analysis is compared to the theory from previous research to discuss the practical applications and implications for this study. Comparing the emerging theory that takes form during research with existing literature enhances the internal validity, generalizability and theoretical level of the research (Eisenhardt, 1989).

3.6 Methodological Limitations

The qualitative method chosen is a proven and working way of discovering details in the working frames of key personnel. Limiting the search to Norway has its benefits, as most cases will be comparable and has the same opportunities and restrictions to abide to. While this is true, limiting the search to one country can potentially limit the relevance of the findings and practical implications for other countries and regions. To minimize this limitation the authors focus on firms that operate in an international setting. When using a qualitative case method it might be difficult to assess which are the most important relationships in the findings, and which are particular for that exact case (Eisenhardt, 1989). To help solve this, the mentioned three categories of BMI and four categories of perception were applied. In addition, the case method also has its strengths, such as its likelihood of generating novel theory, that the results are likely to be testable, and that the results probably are empirically valid (Eisenhardt, 1989).

Interviewees may not be completely honest, as they may have an agenda to be perceived in a certain way, e.g. not talking honestly about failures and things that went wrong (Dalland, 2012). The lack of empirical data on failures can affect the reliability of the results. The authors have focused on what the interviewees think of as a success in terms of BMI, as it is recognized that people in general do not like to talk about their failures. It was looked for similarities in success factors, and intend to gather as much information as possible on what lead to success. The authors used Lincoln & Guba's (1985) four criteria for trustworthiness: credibility, transferability, dependability and confirmability, as guidelines for designing the research method. Credibility was secured by performing a thorough literature review before starting the empirical research to let the authors get familiarized with the topic, as well as anonymizing the results to strengthen the honesty of the respondents. Transferability was handled by using the theoretical results from the literature review as a basis for the empirical research, as well as investigating the phenomenon of the economic downturn through statistical data before entering the field. By using both interviews and surveys, the authors strengthened the dependability of the research. The study's confirmability is discussed in the limitations section, chapter 8.

This study is based on a sample consisting of seven firms, selected based on the criteria described. The generalizability of the study is therefore limited. To strengthen the generalizability of the results, the findings have been compared to existing theory, and the interviews have been cross-analysed with a separate survey.

4. Results

To answer the research questions, results on how the economic downturn has affected the perception of the business environment are presented. Then, the perceptions, as affected by the economic downturn, is described for each case. Lastly, the BMI actions and general level of BMI performed is put forward. Within both perception and BMI action, the observed difference between New Ventures and Established Companies is described. The results are presented as mentioned to be able to uncover new insights to contribute to the theoretical gaps mentioned, on both how perceptions affect BMI and how New Ventures and Established Companies might react differently to an economic downturn and changes in perceptions. The structure of the results chapter is presented in Figure 7.
The data set is composed of seven firms: four New Ventures and three Established Companies, as described in detail in the method chapter. How the two types of firms differ is mentioned whenever the results show a clear difference.

4.1 Economic Downturn and Perceptions

The Norwegian annual GDP growth the past two years of 2.2% in 2014 and 1.6% in 2015 (Statistics Norway, 2016a) has been in

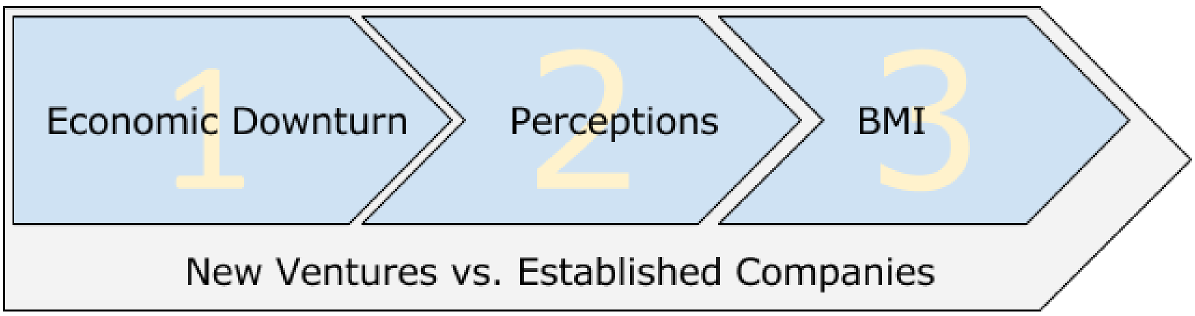


Figure 1: Structure of results chapter

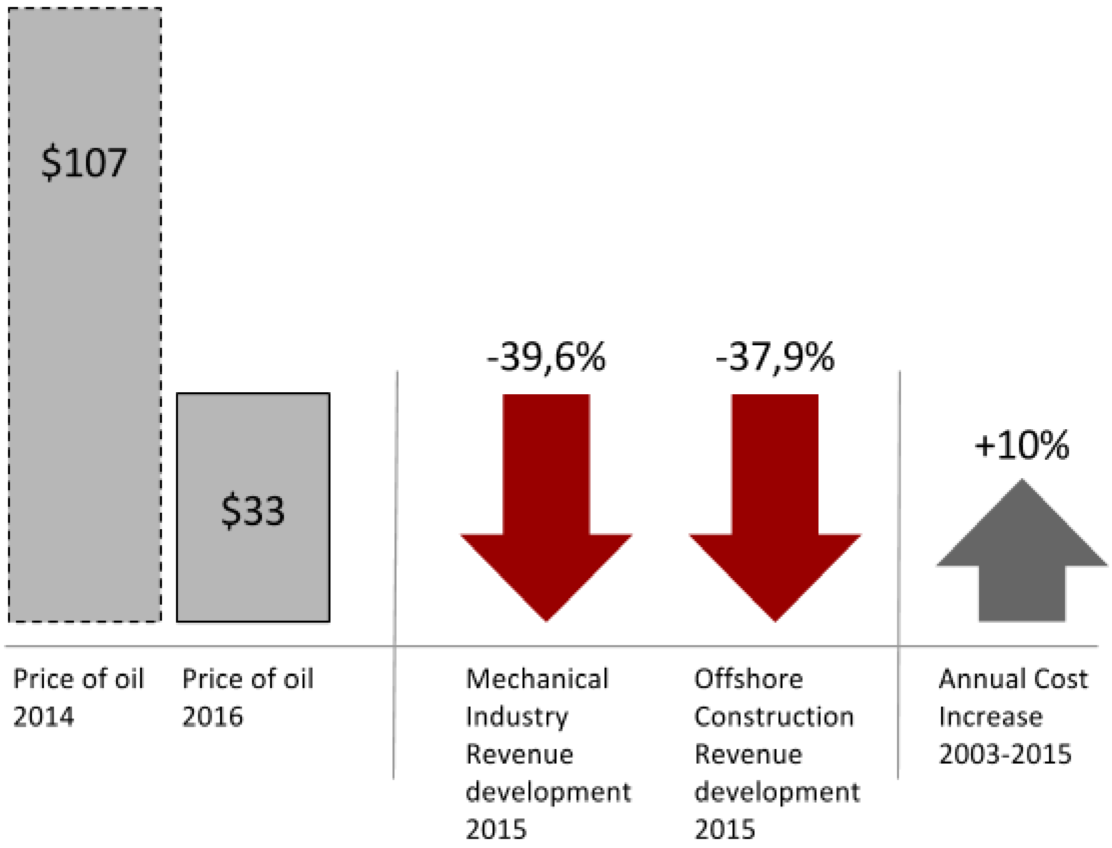


Figure 2: Market developments in the Norwegian oil and gas sectors

line with the national 20-year trend of 2.6% (Statistics Norway, 2012). However, the foundation and source of all revenue in the oil and gas sector is the production and selling of crude oil. In the last 24 months, the market price of crude oil has seen a severe drop of 69%, from $107 in January 2014 to $33 in January 2016 (Dagens Næringsliv, 2016). In combination with a substantial cost increase over the past 12 years (Norwegian Oil and Gas Association, 2015), this has resulted in a sudden change of focus, where cost is now a top priority for the oil extracting firms, resulting in a reluctance to invest in new projects, affecting every actor up the value chain. This has resulted in a huge overall decrease in industry revenue where the mechanical industry is down 39,6% and ship and offshore construction is down 37,9% over the past 12 months (Statistics Norway, 2016b). The reason why it's interesting to review the industry numbers over a more recent period of time (12 months) than the crude oil price (24 months), is because of slack in the value chain before demand actually drops, as discussed further under section 4.1.1, Ripples Through the Value Chain. The market developments in the Norwegian oil and gas sectors are summarized in Figure 8.

This section shows how the economic downturn has affected the environment of all firms, and how they have chosen to respond. In addition, which market forces have changed during the observed economic downturn is described. The headlines of the section are chosen on the basis of the most commonly occurring themes regarding the economic downturn from the data.

4.1.1 Innovation and Resources

In an economic downturn, the access to resources and opportunities is generally scarcer than when markets are growing. Firms get more cautious and spend less money. In general, this have forced the companies in the sample to be more observant on their environment, and to think of new opportunities.

> *"When things run smooth and what you are doing works, you have good revenues, why would you want to change it? But now you have to change." – EC1*

During times of growth, the companies had problems finding time to pursue new opportunities; they spent all their efforts to deliver on their existing offerings and customers. The economic downturn has led to less work for the personnel of the companies, which in turn can be used to investigate new opportunities. The economic downturn led to a turnaround in the access to resources. During the growth period, the companies had lots of capital, but were not able to recruit sufficient personnel with the right competence. Now, this is inversed; there is plenty of competent candidates, but it is access to finance that is restricted. All of the firms in the sample perceive this resource transformation.

> *"When we started two years ago, the greatest challenge was to recruit qualified personnel… Now this is easy, but the financial part is difficult." - NV4*

> *"Personnel is extremely easily available now… it is financing to sustain on-going business that is the issue." - NV1*

4.1.2 Ripples Through the Value Chain

The drop in the price of crude oil has triggered the economic downturn in the sector that the sample firms operate in. The oil-extracting firms are struck by this first, and then their response to this creates ripples through the value chain. Thus, the ones at the top of the chain is affected by the downturn on a later point than the ones positioned closer to the oil extractors. The firms in the sample are mostly suppliers of equipment or services to the oil industry. Some have direct connections to the oil extractors, but the majority have intermediaries that they are dealing with and are thus located further up the value chain. This has influenced the impact of the economic downturn on the individual firm.

> *"Companies delivering seismic surveying for instance are hit instantly by the downturn (...). We are a bit further up the value chain, so the decline is a bit softer on us." – NV4*

4.1.3 Change, Consolidation and Hostility

The downturn has forced companies to be more efficient, as customers are increasingly focusing on cost. Because of this, the case companies expect that some firms will go out of business and that others will consolidate in fewer but bigger companies. At the time of research, this was a process that was just about to get started, and the market had seen one or two consolidations. However, a lot more were expected, and the case companies are uncertain what changes this will bring to their markets. Therefore, this perception of expected consolidation has affected the perception of dynamism amongst the respondents, and most perceive more change to come than what they have already seen. However, the view on how the economic downturn has affected the dynamism in the environment varies greatly. Some perceive the current situation in terms of uncertainty as unchanged while others perceive more uncertainty. Some firms claim that there are greater and more rapid changes at the present time, while others think that the magnitude of change has decreased because of the downturn.

> *"I would say that changes are more frequent now than they used to" – EC1*

> *"From my point of view, the rate of change has not increased a lot due to the downturn" – EC3*

The downturn has on a general level increased the competitive pressure in the market. The amount of jobs are less than it used to, and actors have started dumping prices to capture projects. The oil sector used to be very concerned with top quality and safety, but the downturn has shifted this over to price. The firms in this study are all affected by this, and are handling it in different ways.

> *"We feel a strong competition, a lot of price pressure…" – EC1*

> *"We had estimated that there would be about 50 rigs in operation, now there are under 20. Of course people are struggling with finding new sources of revenue." – NV1*

Some firms have tried to tackle the increasing competition by entering into partnerships or collaborating to find new opportunities. This is both to find all the possibilities that might exist for new revenue, and also to take a stronger position in the market. The firms in the sample finds this attractive regardless of age or size.

> *"We are looking for new customers, new segments or new products within existing customer segments, but also out towards new markets, where we have a formalized cluster partnership to investigate what we can do together with other firms." – EC1*

> *"As we are a small firm, we have to have to have a partner to capture the really big contracts. It's something we look into continually." – NV4*

Key Findings on the Effects of the Economic Downturn

The economic downturn is seen to influence innovation and resources, the value chain the industry structure. The key findings are:

- Innovation and resources: the firms have more time to pursue new opportunities, but less financial resources to do so with.
- Ripples through the value chain: a firm's position in the value chain, and more specifically distance to the oil extractor, affects the impact the market changes have, and how fast the firm is hit by the changes.
- Consolidation: the cost focus and decreasing demand has made the competitive picture more intense which together with more rapid changes in the environment have led to

expected consolidations in all levels of the value chain.

This chapter has summarized the general effects of an economic downturn on the environment. Following, the perception of the firms is presented, how these perceptions have been influenced by the economic downturn, and how this has affected their BMI actions.

4.2 Perceptions

Figure 9 shows the perception each company has in the categories opportunities, resources, competitive pressure, dynamism, the complexity of products and organizational complexity. The graph show that the firms have very different perceptions of opportunities in their environment, ranging from very few to very many. On resources, there is a greater agreement; most perceive the access to resources as quite poor. The competitive pressure is in general perceived to be high, and the perception of dynamism ranges from somewhat dynamic to very dynamic. On both product and organizational complexity, the firms are quite aligned, finding their products to be complex and their organizational structures to be simple. These measures are grouped into the four categories; munificence, dynamism, hostility and complexity to take a more detailed look at how each of these factors are perceived by the firms.

4.2.1 Munificence

NV2 finds the amount of opportunities to be quite stable, but the access to financial resources to be worsening. EC2 claim there are plenty of opportunities, and the access to financial resources is not changing. NV1 see an endless line of opportunities in their environment, however access to financial resources is poor.

> *"...new customer needs have emerged, this has given us new opportunities" – NV1*

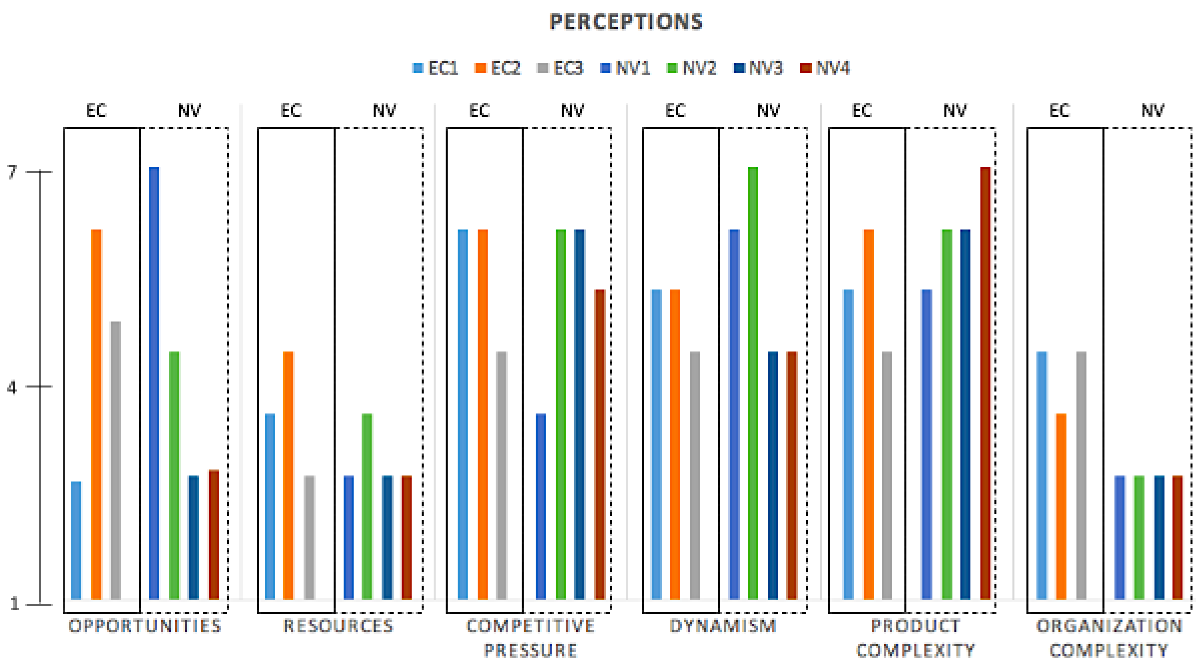


Figure 9: The perception of different factors in the sample firms' environment, separated into Established Companies (EC) and New Ventures (NV)

"One thing is to win contracts, the other thing is, that the banks are not getting on board..." – NV1

EC1 see few opportunities and the access to financial resources being somewhat constrained. NV3 and NV4 have similar perceptions, seeing few opportunities and poor access to financial resources.

"Now there is not a lot of opportunities, now there is very few opportunities, and you have to work really hard for the opportunities you do get." – NV3

"There still are opportunities, but fewer than it used to." – NV4

EC3 find many opportunities, but also think access to financial resources is poor. There are some commonalities between which firms perform BMI and their perception of the environment's munificence, and this is further studied in the analysis.

4.2.2 Hostility

Many of the firms feel that the competitive pressure is increasing and that their market environment has become more hostile. NV2, EC2, EC1 and NV3 all claim that the competitive pressure is very high.

"Competition is really hard right now." – NV3

"Competition is fierce, and people are dumping prices because they are desperate." – EC1

NV4 also thinks that the competition is tough but do not feel threatened, and actually collaborate quite a lot with their competitors. However, many new actors have emerged in their segments.

"...the big ones took the large contracts, the medium ones took the medium contracts, and the small ones took the small contracts. That has definitely changed. Now the focus of the largest actors is; they want to take it all..." - NV4

NV1 have a more relaxed relationship to competitors, and feel to a larger degree that they are the threat rather than being threatened. EC3 thinks that the competitive landscape is quite stable. Most of the companies think that the competition is changing, and how this could affect BMI efforts is discussed later in this paper.

4.2.3 Dynamism

NV2, EC2 and NV1 all find themselves in a very dynamic market. EC1, NV3, NV4 and EC3 perceive their markets to be more or less dynamic, not leaning much to one side or the other. In addition, a difference in what type of dynamism is perceived is observed. Among the case companies perceiving the environment as highly dynamic, NV1 perceives it as rapidly changing, while NV2 and EC2 perceive it as uncertain.

"What we are working on now is much more flexible, as things change every week or every month" – NV1

"The future changes in our environment are so uncertain that we have hired a consultancy firm to do an analysis of the situation for us" – NV2

"There is a low level of predictability in this industry" – EC2

4.2.4 Complexity

All the firms in the sample perceived their organizations as quite simple structures, with the majority claiming to be very simple, up to medium complexity. They perceive themselves in a similar manner when it comes to their products' complexity, all claiming to have quite complex products, with the majority claiming to have very complex products. Among the seven cases, there is no significant difference on neither product nor organizational complexity that can contribute to the understanding of BMI processes. However, the New Ventures in the sample appear to in general have a slightly simpler organizational structure. As the differences in complexity between the firms and the groups of firms are small, this is not a topic of major importance in this paper. Due to the relatively small variations within complexity, this category is not included in the graphs and data presentation later on in this paper to facilitate the understanding of the other categories that have been presented.

Key Findings on Perception from Data

From the data, the following key findings are derived that describe tendencies observed in this study's cases.

- Most companies perceive an abundance of human capital, while financial capital is scarce and hard to obtain.
- Most companies feel an increase in competitive pressure. However, quite few perceive their competitors as directly hostile.
- In general, the case companies perceive their environment as dynamic to very dynamic.
- Complexity gives no significant differentiation between the companies. All perceive their organizations as quite simple, and all perceive their product as complex and demanding to build.

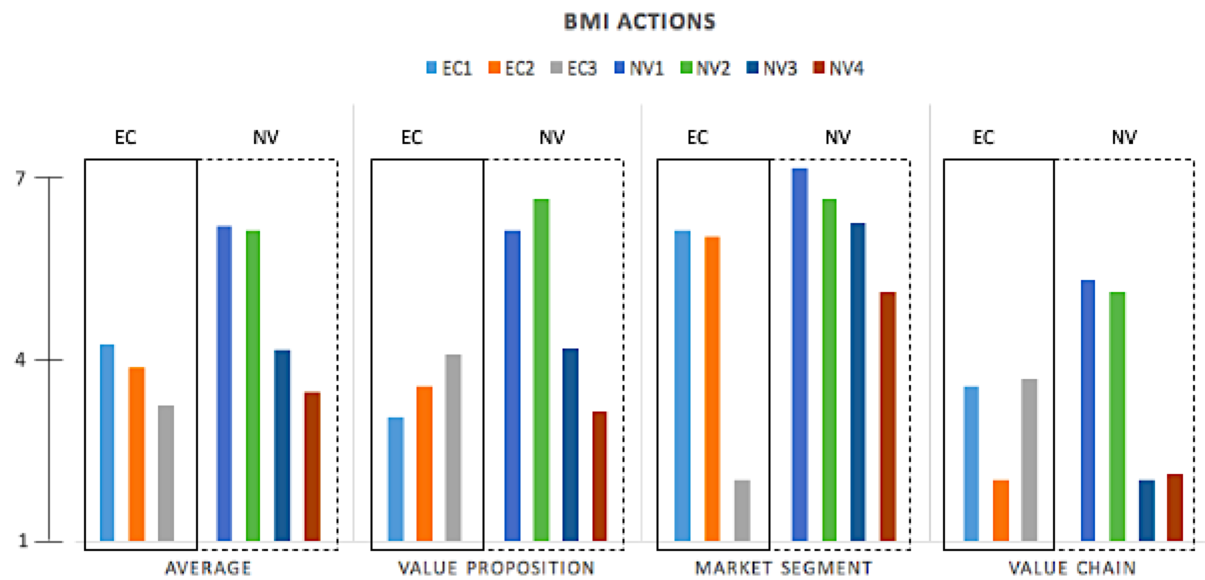


Figure 10: Level of BMI action for the sample firms, separated into Established Companies (EC) and New Ventures (NV).

It is not possible to see any clear difference between how New Ventures and Established Companies as a group perceive their environment. This is discussed further in the analysis section.

4.3 BMI Actions

The following section includes the BMI actions performed by the case companies, and is presented within the different categories of BMI. The level of BMI action for each of the firms is presented in Figure 10.

From the graph two firms can be seen to stand out in performing more BMI than the others, namely NV2 and NV1, whom both are New Ventures. These two companies represent the top individual scores for Market Segment BMI, Value Chain BMI, and Value Proposition BMI, as well as the top two average BMI scores. In general, there is a larger focus on Market Segment BMI than other types of BMI, but there are large variations within each type of BMI between the firms.

In the analysis, the different firms' BMI focus is analysed, and what perceptions may have led them to do it. First, the BMI efforts in each of the three business model components is summarized; value proposition, market segment and value chain.

4.3.1 Value Proposition BMI

Two of the firms excel at Value Proposition BMI: NV2 and NV1. Both firms have offered new services or products, or improved aspects of their existing value proposition by faster deliveries or production times. The other firms in the sample have made small tweaks to their existing value proposition, i.e. focusing more on price or cost advantages, or offering a slightly more comprehensive service. All of the firms in the sample express that their customers are increasingly focusing on cost. However, the firms themselves do not seem to follow this demand from their customers blindly as they are trying to reduce their costs, but are also looking for ways to avoid this cost-based competition.

> *"The focus have naturally switched over to price, as the most important buying criteria for our customers now." – EC1*

> *"The oil extractors have a much greater focus on cutting costs." – NV3*

4.3.2 Market Segment BMI

All but one (EC3) of the firms show indications of performing Market Segment BMI. NV2 and NV4 have reprioritized their existing segments, and are trying to capture more of the business opportunities in segments that previously were not their top priorities. EC2, EC1 and NV3 are all pursuing customers in brand new segments, and are exploring opportunities in other segments. NV1 is the only company that has expanded into multiple new market segments, also moving from offshore to onshore markets.

> *"Traditionally we were 95% oil and gas (….) we have started looking at new industries that could be of interest." – EC1*

> *"No, we have not changed our customer focus the last 24 months." – EC3*

4.3.3 Value Chain BMI

Only two companies (NV2 and NV1) in the sample have performed significant Value Chain BMI. Both have integrated additional services into their value chain, thus taking a larger part of the value chain. The other firms have made either none, or very small changes to their value chain, i.e. by hiring people with skills in other disciplines than they used to, or by other means slightly expand or pivot their value chain activities. None of the firms has reduced the span of their value chain activities.

> *"We performed an acquisition of a firm that would have been a supplier." – NV2*

> *"...to survive, we have started to offer welding and painting services...." – EC2*

Key Findings on BMI Action from Data

The sample show BMI in all of the business model components, and the key findings are:

- Falling demand forces companies into searching for new segments, or reprioritizing the importance of current market segments to maintain or grow revenue.
- Only two companies have performed Value Chain BMI, while the rest is quite passive within this BMI component.
- Only two companies have performed considerable Value Proposition BMI.
- The two companies who on average has performed the most BMI are both New Ventures.

It seems that there are major variations on the level of BMI companies in a similar situation perform. The reason for this and the reason for why those who have performed BMI have done it is analysed in the following analysis chapter.

5. Analysis

The analysis is split into three parts, (1) how the economic downturn has affected perceptions, (2) how each of the three business model components studied in this paper have changed and been affected by specific perceptions and (3) how the sum of changes in the business model components is related to the perception of the firms that have performed the most BMI (Figure 11). Differences between New Ventures and Established Companies is analysed in each of the sections when this is relevant.

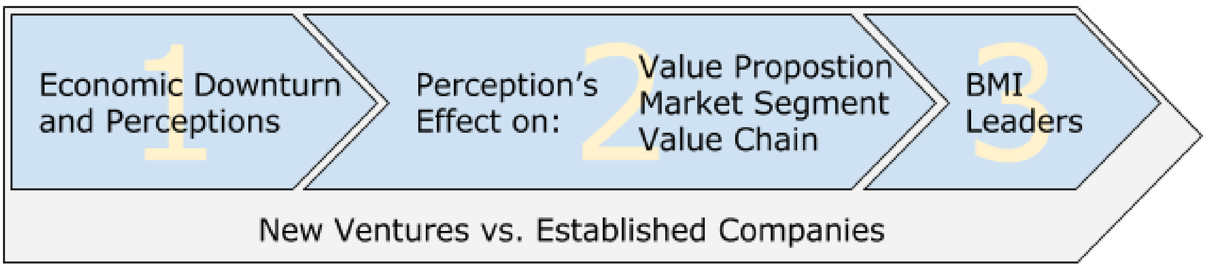


Figure 11: Structure of analysis

5.1 Economic Downturn and BMI

The economic downturn has changed the access to resources, the value of resources, and the future prospects for the firm. This affects both the amount and the ways firms perform BMI. It is analysed how the downturn has affected the three topics: innovation and resources, value chain effects and consolidations, as identified in the results section, and how this can have affected BMI.

5.1.1 Innovation and Resources

Because of the economic downturn, most firms find the access to financial resources to be more constrained, but access to qualified personnel to be better. This can been seen as a change in the perception of the munificence of the environment. However, each company's perception of changes in the environment's level of munificence is relative to their previously perceived level of munificence.

> *"There are more opportunities now (...) A lot more. (...) 5 times more" – NV1*

> *"We're unable to replace the lost volume in sales with new opportunities that I consider unrealistic" – EC1*

Some firms perceive many opportunities in their environment, others think that there are less than it used to be. A result of the economic downturn is also that the firms have more time to look for new opportunities, and pursue the ones that they do find.

> *"We use a lot more energy on strategically searching for opportunities, a lot more than we used to. We have a dedicated resource for this." – NV4*

> *"We wanted to develop new products, look into acquire other firms and so on, but we just did not have the time. Now we do." – EC2*

The economic downturn can therefore be seen to have a double-sided effect on munificence, objectively reducing the access to resources, i.e. investment or customer spending, but at the same time enabling a search for new opportunities, and actually freeing up resources to pursue these. This could also be seen as an increased rate of change in the access to resources, that is, an increase in dynamism. It is also found that the perceptions vary more in an economic downturn between firms operating in the same sector. The firms in the sample report differently on how the downturn has affected change in their environment, some perceive more change, others perceive less. Depending on the opportunity focus of the firm and their position in the value chain, some perceive new opportunities while others do not.

5.1.2 Ripples through the Value Chain

The changing economic landscape has been reacted to in different ways. Some have entered into partnerships, others have integrated parts of their value chain. This is examined more thoroughly later on in the discussion chapter. These value chain changes are connected to changes in the perceptions of munificence, hostility and dynamism. How these perceptions change, is affected by the firm's position in the value chain. Firms located closer to the oil extractors feel the changes first, and thus perceive change first. These perceptions then spread up the value chain, which gives the ones at the top of the chain some extra time to adapt to the changes, but also more time before they perceive the new situation. Dynamism is thus stronger for firms located at the bottom of the value chain.

> *"We only had one segment, oil rigs, and when this segment goes down, we immediately follow…." – EC2*

> *"We are a bit further up the value chain, so the decline is a bit softer on us." – NV4*

5.1.3 Consolidations

The economic downturn has in general increased the competitive pressure in the industry, and changed the focus from quality to cost. Most of the firms in this study report that competition is tougher, and that they have experienced competitors dumping prices. This can be seen as a general perception of increased hostility in the market.

> *"In addition to the competition being much more fierce, you are also pushed a lot harder on price, because the oil extracting companies are focused on cutting costs." – NV3*

> *"...many are desperate, dumping prices to survive…" – EC1*

Because of this, it is expected that consolidations will take place, and new forms of collaborations and partnerships have appeared. The economic downturn has for some firms led to more rapid and massive changes in their environment, in other words an increase in dynamism. All of this, combined with the increased cost focus, has affected the value chain of the entire industry.

> *"A tendency with our customers, the oil service companies, is that they are reducing the supplier-base." – EC1*

> *"We think that our sector will have a lot less actors in 12-24 months than what we had last year." - NV4*
> *"We do see a tendency towards consolidations." – EC2*

Key Findings

An economic downturn radically affects the environment, but it also influences the subjective perceptions of decision-makers. The key findings on how the economic downturn affects the firms in the sample are:

- The perceptions have a "ripple movement" through the value chain, where the ones at the bottom change first and then it moves up through the chain
- The perception of munificence change drastically in an economic downturn. Access to resources and opportunities change a lot.
- The variation in perceptions of munificence differ more between firms, as some perceive opportunity, and others perceive crisis.
- Changes in dynamism is larger at the bottom of the value chain

In the next sections, the perceptions effect each one of the business model components studied in this paper; value proposition,

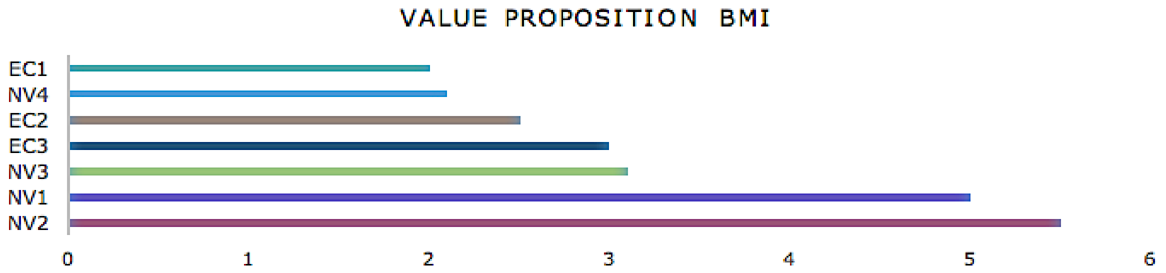


Figure 12: Level of Value Proposition BMI for each of the sample firms

market segment and value chain, are analysed.

5.2 BMI Value Proposition

This section presents how firms innovate on their value propositions in an economic downturn. A big change among the customers of the companies in this study is the change of focus from quality to cost. This has repeated itself throughout all the cases. However, the companies seem reluctant to go into a pure pricing war, even though they have reduced their margins. The level of Value Proposition BMI for each of the firms can be seen in Figure 12.

5.2.1 The Value Proposition Innovators

Of the seven cases, NV1 and NV2 are the ones having done the most BMI on their Value Proposition. NV1 have entered and are planning to enter new markets. As a result, they will offer *new products and services* as they will not offer the same product or service in every market. NV2 is working on *quicker deliveries* to the customer. Through renting rather than selling equipment, they plan to have a stock of products ready for rent at the customer's demand. *Quicker deliveries* and *new products and services* are the specific Value Proposition BMIs discovered among NV1 and NV2. To analyse why these specific companies have performed the most Value Proposition BMI, the similarities in perception of the two companies is analysed in the following section.

NV1 and NV2 have both similarities and variations in their perception of the environment (Figure 13). Within resources and competitive pressure, they greatly vary. The difference in perception of opportunities is also striking. Still, both companies perceive opportunities in their environment, but NV1 perceive more than NV2. However, they are the two companies perceiving their environment as most dynamic and shifting. This high level of dynamism might help explain why they have innovated the same component of their business model, but in different ways. In addition, they both perceive their environment to contain opportunities for new revenue. Though they are less aligned

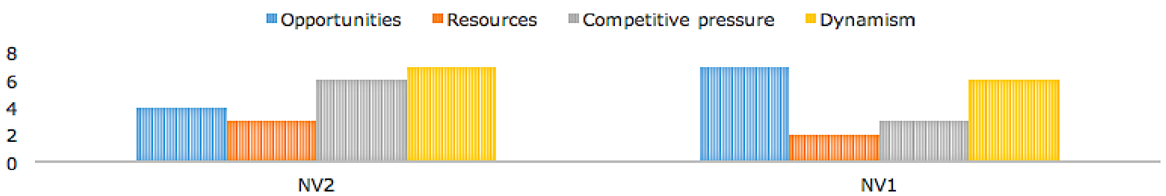


Figure 13: Perception of NV2 and NV1

on perception of opportunity than on their perception of dynamism, the perception of some opportunities might help explain some of the Value Proposition BMI that has been done.

Dynamism is the component of the environment where NV2's and NV1's perception are most aligned. NV2 says that because they are a young company changes occur all the time. NV1 say that because of dramatic changes to their business environment over the past 24 months their pace of change has increased, and as a result, they perceive their environment as more dynamic.

> *"We have to take month by month because we are a new player, not so much because of the macro economic situation" – NV2*

> *"There are dramatic changes happening. (...) either you sit and wait, turning the light off and wait for things to get better, or you face the changes head on, and try to figure out a solution" – NV1*

This is interesting as they are both young companies. Though the reason for their perception of high dynamism is quite different, they both perceive rapid change, and this might have an effect on their way of doing and incentive to perform Value Proposition BMI. Utterback (1994) says that a rapidly changing environment can provide many opportunities for a firm. This aligns well with the finding that both perceive their market to contain opportunities, which might have led to their Value Proposition BMI. However, NV1 has a more positive perception of new opportunities in the market than NV2. There are many factors playing in on this perception, such as different specific markets, different customers and different products. However, the perception of NV1 might be affected by the fact that they have already started to see revenue from some of the new opportunities they have perceived, and therefore consider them stronger than those potential opportunities NV2 are pursuing.

It seems then that both NV2 and NV1 are coping with the challenges of an economic downturn by sensing new opportunities and overcoming the challenges of a dynamic environment through their Value Proposition BMI and flexible organizations. It is interesting to note that both NV2 and NV1 are New Ventures. This leads the authors to believe that perceiving your environment as highly dynamic and containing some opportunities, while being a New Venture, leads a company to perform more Value Proposition BMI.

However, NV2's and NV1's level of Value Proposition BMI is relative to the other case companies in this study, which is quite low. This means that though these two companies have received a high ranking in performing Value Proposition BMI, it is not objectively speaking a high level of BMI. NV2 have not yet performed the mentioned change to their business model, they are only planning to do so, while NV1's Value Proposition BMI is a natural result of entering new markets, and not so much a result of changing what they offer each existing customer group. This brings us back to the initial finding that customer focus has changed from quality to cost. When cost is what dictates most customer decision, adding value to your product will not increase sales. Value Proposition BMI might have suffered from the economic downturn in general.

Key Findings on Value Proposition BMI

In this section, it has been analysed how firms have innovated their value propositions in an economic downturn. The foundation for the new value propositions is the change of customer focus from quality to cost. The key findings are:

- Perceiving your environment as highly dynamic and containing some opportunities, while being a New Venture, leads a company to perform more Value Proposition BMI.
- The increased cost focus caused by the economic downturn is a disadvantageous environmental factor for performing Value Proposition BMI.

The following section investigates how the Market Segment BMI have changed through the economic downturn.

5.3 Market Segment BMI

In the economic downturn, customers have changed preferences and attitudes. This section presents how this have been perceived, and how it has affected BMI. The level of Market Segment BMI for each of the firms can be seen in Figure 14.

Entrepreneurs need to design flexible business models that enable them to change rapidly according to market demands (Trimi & Berbegal-Mirabent, 2012). All but one of the firms in the sample have either reprioritised the market segments they operate in or entered new market segments. This can be seen as closely related to the economic downturn they have experienced.

> *"The reduced willingness to pay a premium for quality has forced us to look for new customers in the oil and gas segment. We are also looking into other related industries." – EC1*

> *"The oil extractors are our main customer, but we have started to approach the oil-service companies as well. That I think is due to the downturn." – NV3*

> *"We are delivering solutions for oil rigs and maritime applications, where we now focus a lot more on the maritime sector that is boats, ferries, etc." – NV2*

> *"We established the accelerator to find new attractive segments, and we are definitely considering entering new segments in the immediate future." – EC2*

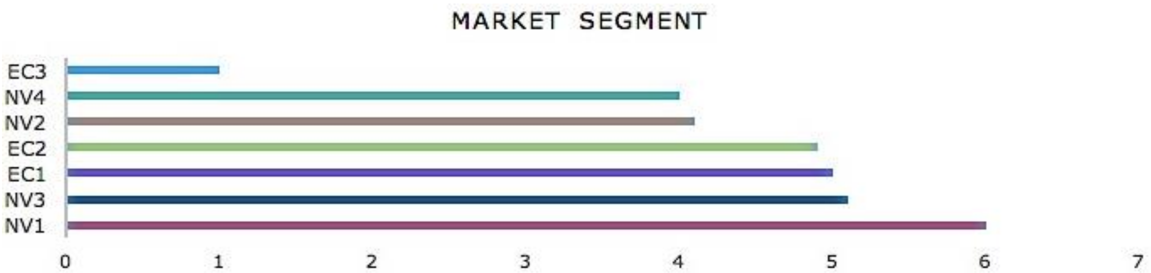


Figure 14: Level of Market Segment BMI for each of the sample firms

The market segments that used to be the most important (oil related business) have experienced a recession, and the companies have started looking for opportunities in other markets. It is also found that though all the companies say they are focused on new opportunities and actively looking for them, the perception of the amount of opportunities in new market segments differs.

This section analyses the companies in three groups depending on their degree of Market Segment BMI: The Market Segment Innovator, NV1, which is actively entering brand new markets, The Majority, NV3, NV4, NV2, EC2 and EC1, whom have reprioritized their market focus, and The Market Segment Conservative, EC3 which has performed no Market Segment BMI. It is interesting to note that both of the two extremal cases, NV1 and EC3, perceive that there are available opportunities in their environment. However, while EC3 senses opportunities in their existing segment, NV1 senses them outside their segment and has a much wider scope. This heavily affects the level of Market Segment BMI that is performed by the different firms, as the following sections show.

5.3.1 The Market Segment Innovator

Though all the companies say they are focused on new opportunities and actively looking for them, the perception of the amount of opportunities in new market segments differs. NV1 is the firm performing the most Market Segment BMI and it is very focused on new opportunities, and perceive a lot more opportunities in the environment than the other firms perceive. NV1 also find the market to be very dynamic. The other firms that have performed some Market Segment BMI have a somewhat similar perceptions, but differ in two of the categories. NV1 perceives that they are actually lacking resources to pursue attractive opportunities in their current market segment, and they find the competitive pressure to be less intense in the market as a whole. Thus, NV1 feels that both going outside their current segment and pivoting their focus on markets they are present in poses little threat in terms of competition, and the lacking resources in the current segment incentivizes them to look outside this segment.

> *"...compared to 24 months ago, the amount of opportunities has grown fivefold..." – NV1*
>
> *"Not in any way have our initiatives been threatened, not any of our six fields of business. " – NV1*
>
> *"Earlier there was a 70/30 offshore/onshore focus, but now it's more like 20/80" – NV1*

This indicates that if a company feels the environment it is in does not provide sufficient resources, but that there exist opportunities in other markets, combined with a perception of a low threat environment, it is more inclined to pursue opportunities in new market segments.

5.3.2 The Majority

Five out of the seven case companies have performed approximately the same level of Market Segment BMI. The type of Market Segment BMI varies some across the five different firms, but what they have in common is that they are all changing their focus on segments they are already taking part in. The reason for this action is also the same across the firms, namely falling demand from their current main customers.

EC1 and NV4 both state that their relation to current customers is so strong that they are reluctant to altogether drop them as a focus market, even though the demand is dropping. However, they are both reaching out to new markets in parallel to maintaining existing customers. EC1 is focused on reaching out more to international customers within their existing industry, and NV4 are focusing more on customers and relations they already have outside the oil and gas sector.

> *"We are still competitors locally, but will work together on new international opportunities." – EC1*

> *"As early as in 2012 we started working in the offshore wind sector, which our competitors now are trying to enter (....) the largest change is increased competition in our existing segments." – NV4*

It seems then that a close relationship to your customer can be a barrier to radically change your market segment component of your business model. Though NV4 is a relatively new company, they have built strong relations quickly, while EC1 have existed for decades and naturally have such relationships.

Interestingly, the three others, EC2, NV2, and NV3, all perceive their market as uncertain, and have roughly the same level of Market Segment BMI. This implies that the uncertainty of a market makes suddenly changing your focus market a hard call to make. Though demand is dropping, you may feel inclined to go after markets you already know, to reduce risk of entering a new highly competitive market segment, or maybe a market lacking a strong customer base.

> *"I can predict our situation until tomorrow morning. (....) There are so many things that can happen" – NV3*

> *"There is a low level of predictability in this industry." – EC2*

5.3.3 The Market Segment Conservative

EC3 has not performed any Market Segment BMI, and is focused on gaining a stronger position in their existing market. Part of the reason for this is that they have a very close relationship with their customer due to very little competition, while their service is unreplaceable, and will still be needed in the years to come. They are also able to anticipate long-term change.

> *"Our customers are large and solid actors that enter into long term agreements with us. I would say we have a horizon I could predict 2-3 years ahead." – EC3*

> *"The customers are more concerned about cost, which has increased their attention on logistics and our service." – EC3*

EC3's combination of limited need of change and a close relationship to their customer has limited their need for and focus on Market Segment BMI. They perceive enough opportunities in their current market, and though the access to capital for new investments is limited, they are not dependent on this to be successful with their current business model.

Key Findings on Market Segment BMI

Most of the firms in the sample are looking into possibilities for performing Market Segment BMI. NV1 stand out having implemented many market segment changes, while the others are either close to performing Market Segment BMI, or very seriously considering it. The perceptions of the firms vary greatly, as well as the level of BMI. The authors chose this industry because they anticipated that the knowledge and human capital utilized in this struggling industry could easily be applied to new markets. It is found that many of the firms are considering new markets to exploit their capabilities in. However, only one firm have taken the step into new markets. In general, the firms in the sample are actively reprioritizing their market segments and/or looking for new segments and say that the reason for this is falling demand in what used to be their main segment. Therefore, the authors find that the economic downturn have led to more Market Segment BMI.

The key findings on Market Segment BMI are:

- Perceiving that segments outside your current market segments are unhostile, combined with a lack of financial resources in your current segments, incentivizes the pursuit of opportunities outside your current market segments.
- A close relationship to your customer can be a barrier to radically change the market segment component of your business model.
- Perceiving your environment as hostile while also uncertain, can limit Market Segment BMI to reprioritizing the importance of the segments where you are already present.
- Current success in your existing market segment, can be a barrier to perceive opportunities outside this segment and to perform Market Segment BMI.
- An economic downturn encourages Market Segment BMI.

To understand the links between the firms' offerings, and their customers, the next section looks at the value chain of the focal companies.

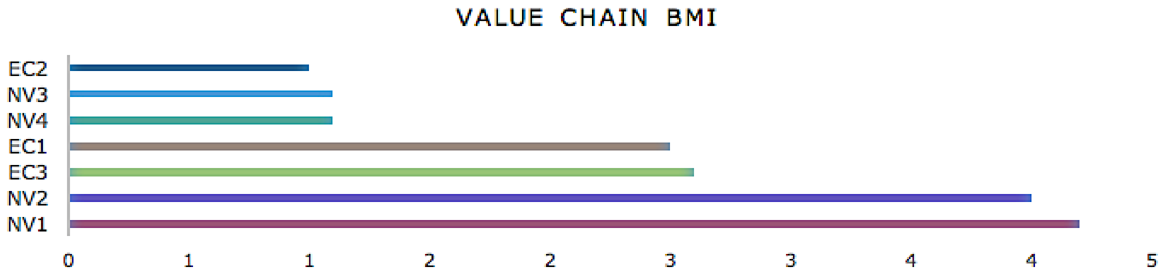


Figure 15: Level of Value Chain BMI for each of the sample firms

5.4 Value Chain BMI

The case firms in this paper span very different parts of their value chains. This section investigates how this can influence the perception of a firm, as well as how perceptions in general affect Value Chain BMI. The level of Value Chain BMI for each of the firms can be seen in Figure 15.

The companies in this study have focused mainly on integration when it comes to their value chain activities. Some have integrated vertically, others horizontally. It is not made a distinction between these two in this part of the paper. For one of the companies the Value Chain BMI can be seen as a part of a grand expansion plan, where multiple companies in different markets have been integrated into a large holding company coordinating the subsidiaries. None of the firms has performed disintegrations as a part of their Value Chain BMI. Some of the companies are actively promoting collaborations with other value chain actors, mainly to expand their scope and to improve their capability of taking on large projects. In particular, the two New Ventures NV2 and NV1 perform a large amount of Value Chain BMI. NV2 have recently acquired a supplier to strengthen their competitive position, and NV1 have continuously expanded their value chain through organic growth and some acquisitions to enter new market segments and provide new products and services.

5.4.1 The Value Chain Innovators

The companies in the sample differ when it comes to how large part of the value chain they cover. The two firms that have performed the most Value Chain BMI (NV1, NV2) cover a very large part of the value chain, all the way from manufacturing of their own products to consultancy and implementation at the end-user. Spanning a large part of the value chain can give the firm insight into how many different processes work and what the customer values, and build their value chain accordingly. A supplier of a component in a value chain does not have the same connection to the end-user and customer, and can thus have greater difficulty with observing changes in the environment. This also might affect BMI on other business model components, as sensing of

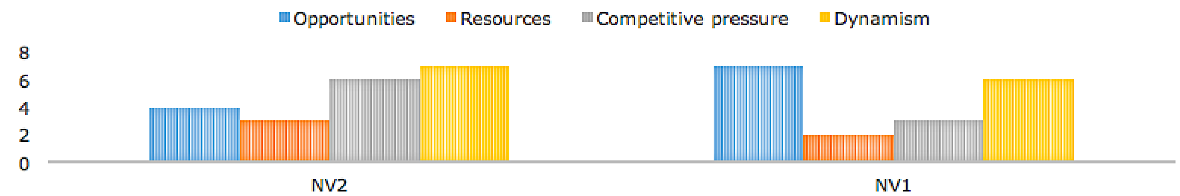


Figure 16: Perceptions of Value Chain Innovators

opportunities and customer needs are important for all BMI efforts.

The perceptions of the two Value Chain Innovators can be seen in Figure 16. Both of the Value Chain Innovators perceive their environment to be very dynamic. Changes are happening fast, and they find it difficult to predict the future of their markets. A rapidly changing market could change the requirements to a firm's value chain, thus triggering the firm into performing Value Chain BMI.

> *"...we cannot draw a permanent value chain, because the changes around us are happening so fast..."*
> *- NV1*

NV1 is the firm in the sample showing the strongest Value Chain BMI. They are strongly focused on opportunities, and perceive their environment to be filled with prosperous business opportunities. NV2 also shows a focus on opportunities, but their perception differ when it comes to how many opportunities there actually are. The authors find the combination of a dynamic market together with a strong focus on opportunities, to promote Value Chain BMI. Thus, firms that are able to perceive changes in their market and new opportunities, performs more Value Chain BMI. The two firms in the sample performing the most Value Chain BMI are both New Ventures. It is not surprising that a New Venture is focused on opportunities, neither that they are able to handle a dynamic environment well. However, the two firms that have performed the *least* Value Chain BMI are also New Ventures. How these perceive their environment is analysed in the following section.

5.4.2 Value Chain Conservatives

Two of the companies (NV3, NV4) in the sample stands out in not performing Value Chain BMI. Both of these companies provide a specific service to oil and oil-service companies. They thus cover a small part of the value chain, and to a small degree collaborate with other companies in their value chain. One firm opposes collaborations with competitors, while the other firm do work together with competitors or other actors in their value chain, but mainly when contracted by larger firms.

The perceptions of the value chain conservatives can be seen in Figure 17. These two firms differ greatly from the value chain innovators. They perceive their environment to be poor on opportunities, and only somewhat dynamic. They have similar perceptions of the hostility in their environment, but they are a lot more sceptical or passive when it comes to collaborating with other firms.

> *"In some situations we have offered our special technology together with one of the large suppliers, as a part of their package to the customer."*
> *- NV4*

> *"We do not really cooperate with competitors, but we have started to collaborate with other expert companies with different expertise."*
> *- NV3*

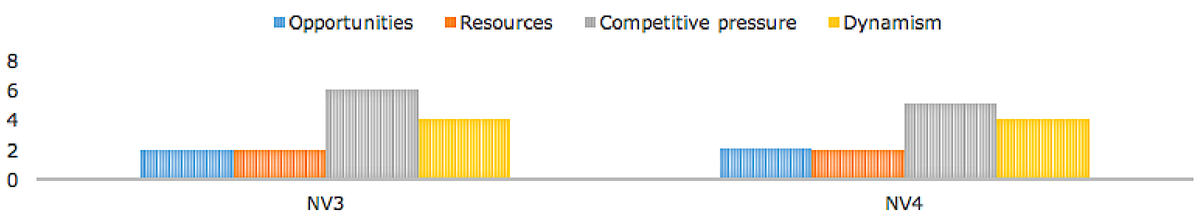


Figure 17: Perceptions of the Value Chain Conservatives

Based on the perceptions and actions of the value chain conservatives, the authors find that firms with a perception of the environment to be poor on opportunities, stable and strongly competitive, to discourage Value Chain BMI.

Key Findings for Value Chain BMI

The authors find from these two groups of firms that it is the perception of available opportunities in a rapidly changing and dynamic market, combined with a competitive environment to be the strongest influencers of Value Chain BMI. A hostile or competitive environment promotes Value Chain BMI if the firm perceives its environment as filled with opportunities, and hinder Value Chain BMI if the firm perceives its environment to be poor on opportunities. As there are both New Ventures and Established Companies performing a lot of Value Chain BMI, it is not possible to draw any conclusions about what types of firms are more likely to perform BMI. The key findings are:

- A dynamic market combined with a focus on opportunities promotes Value Chain BMI.
- A perception of a very competitive or hostile environment can either hinder or strengthen Value Chain BMI depending on the opportunity focus of the firm
- Covering a large part of the value chain is an advantage for Value Chain BMI, and can also reinforce other forms of BMI

How much of the value chain the company spans seems to be an important influencer of BMI. A firm that spans a large part of the value chain performs more Value Chain BMI, and might have an advantage when it comes to innovating other components of their business model.

5.5 Summary of Analysis

From the analysis of the business model components there have been presented some findings on perception that influence BMI in each one of the components. To investigate if there is a common denominator between firms that have performed the three types of BMI, they are compared in the following sections. The analysis found specific preconditions that need to be met for the particular perceptions to lead to BMI. These are matched with the findings in each of the business model components, in Table 4. The findings that did not reflect a particular perception is discussed later in this section.

Table 4 shows that that all three components of perceptions are important for BMI. Again, the fourth component; complexity, is disregarded, as there is no grounds for claiming it has a considerable effect on BMI in this study. In addition to the findings presented in the table, it was also found that the economic downturn have encouraged the firms into performing more Market Segment BMI, and less Value Proposition BMI. The authors find this to be connected to the increasing cost focus in the sector, and uncertain future prospects.

This can also be seen to be affected by other preconditions, such as the lack of financial resources. A close relationship with the customer was found to be a barrier for radically change the market segment. One of the preconditions for not performing Market Segment BMI is closely related to this, namely the success of previous

Table 4: Summary of BMI findings for each of the business model components

Value Propositions BMI	Precondition	Perception
Perceiving your environment as highly dynamic and containing some opportunities, while being a New Venture, leads a company to perform more Value Proposition BMI.	New Venture	Dynamism
Market Segment BMI		
Perceiving that segments outside your current market segments are unhostile, combined with a lack of financial resources in your current segments, incentivizes the pursuit of opportunities outside your current market segments.	Lack of financial resources	Hostility
Perceiving your environment as hostile while also uncertain, limits Market Segment BMI to reprioritizing the importance of the segments where you are already present.	Uncertain future prospects	Hostility
Current success in your existing market segment is a major barrier to perceiving opportunities outside this segment and to perform Market Segment BMI.	Success with current model	Munificence
Value Chain BMI		
A dynamic market and focus on opportunities promotes Value Chain BMI.	Focus on opportunities	Dynamism
A perception of a very competitive or hostile environment can either hinder or strengthen Value Chain BMI depending on the opportunity focus of the firm	Focus on opportunities	Hostility
Covering a large part of the value chain is an advantage for Value Chain BMI, and can also reinforce other forms of BMI	Value chain span	Dynamism

business models. Next, the perceptions of the firms that have performed the most BMI, i.e. the BMI leaders, is further analysed.

5.5.1 The BMI Leaders

Two of the firms (NV2 and NV1) in the analysis have been found to innovate on more BMI components than the other cases. These firms are also individually the ones that have been most innovative within each component: value proposition: NV2, market segment: NV1 and value chain: NV1. How the perception of these two firms are alike and how they differ is studied in the following section to understand general perceptions that can lead to BMI. Their BMI actions can be seen in Figure 18.

NV1 and NV2 have similar perceptions to some degree, but there also some variances between the two. They both perceive their markets as very dynamic, and to some degree jointly perceive available opportunities. NV2 finds the market to be

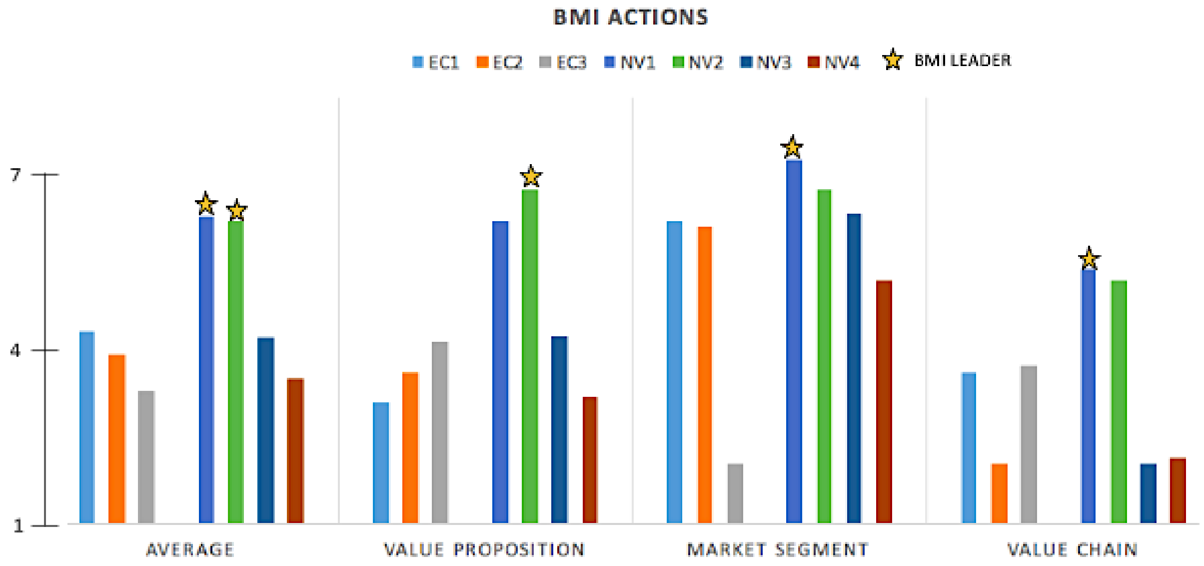


Figure 18: The BMI Leader's BMI action level

very competitive, and NV1 finds it to be a lot less competitive, which accounts for large variations in perception of hostility. NV2's and NV1's difference in perception of munificence and hostility, and their agreement on dynamism is found to be interesting. Therefore, these have been studied more thoroughly in Table 5.

5.5.2 Dynamism's effect on BMI

The firms performing BMI seem to perceive some opportunities in their environment, even though the market is in a recession. They are able to pivot to other segments and are actively looking for new sources of revenue, though NV1 perceive the environment to contain more opportunities than NV2. They perceive their markets as increasingly competitive, but NV2 perceive the pressure as more intense than NV1. The authors find the combination of perceiving the existence of opportunities and a somewhat competitive environment, together with a perception of the market as highly dynamic, to drive these companies into performing BMI. The perception of dynamism is seen to be particularly important for performing BMI, and this relationship can be seen for all of the firms in the sample (Figure 19). The firms that perceive a lot of dynamism also tend to perform more BMI.

The analysis finds that being a New Venture alone, does not necessarily imply performing more BMI. However, being a New Venture in combination with perceiving your environment as highly dynamic causes more BMI within the value

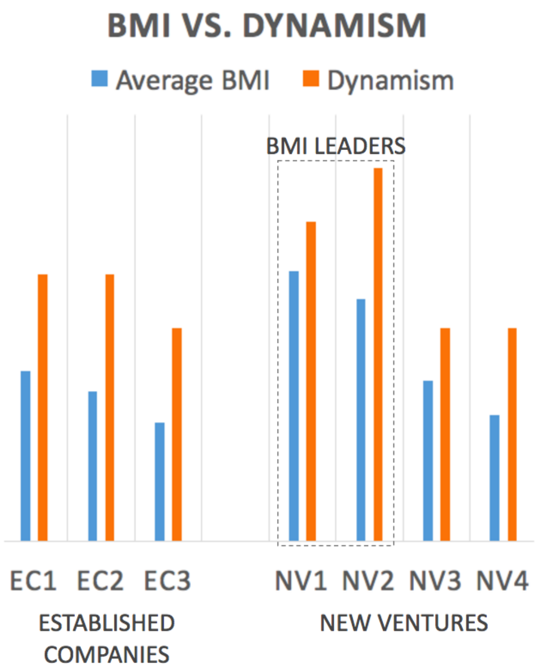
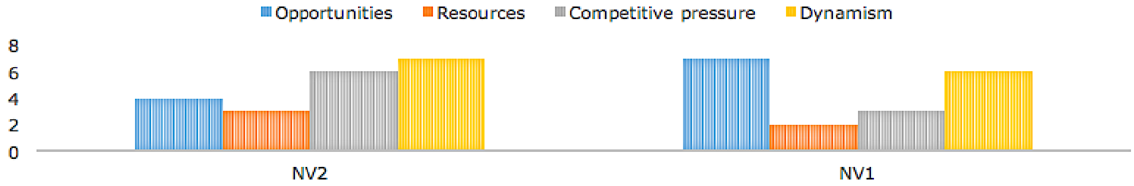


Figure 39: Average BMI compared to dynamism

Table 5: Perceptions of BMI Leaders



Munificence (Opportunities and Resources): Divided
On the topic of munificence some disagreements between the two is found, regarding the availability of capital. NV1 is greatly limited in their operations by poor access to capital. NV2 perceive the access to financial resources as difficult, but still not critical. NV1 perceive their environment to contain multiple opportunities for new sources of revenue, and that the economic downturn has created a huge amount of new business opportunities. NV2 finds that there is no change in opportunities because of the economic downturn, but that there still are opportunities for growth.
Hostility (Competitive Pressure): Divided
In the economic downturn, competitive pressure has increased on the general level. However, how the firms handle this differ greatly. NV2 find the competitive situation to be much more difficult, while NV1 feel they themselves have become a larger threat to their competitors after the economic downturn. This makes NV2 more defensive, while NV1 is aggressively attacking the market.
Dynamism: Agreement
Both of the firms find themselves in very dynamic markets. However, NV1 perceives the environment as very rapidly changing, while NV2 perceives it as a bit uncertain.

proposition, market segment and value chain components of the business model. Munificence, dynamism and hostility have some effect on BMI action. However, perceiving dynamism yields more BMI action compared to the other perceptions, especially Value Proposition and Value Chain BMI. Also, the authors find the combination of perceiving the existence of opportunities and a somewhat competitive environment, together with the perception of the market as highly dynamic, to drive NV2 and NV1 to be the strongest BMI practitioners.

In the next chapter the findings from the analysis is compared to theoretical concepts to discuss the reasons for why their decision-makers have a specific perception of the environment and why they perform BMI the way they do.

6. Discussion

The discussion is presented in two parts. First, how the economic downturn has affected perceptions is discussed, then it is discussed how perceptions have affected BMI of each of the three business model components: value proposition, market segment and value chain.

6.1 The Economic Downturn's Effect on Perception

The economic downturn has been found to radically change the environment of all companies. However, when and how they are affected vary, according to their position in the value chain. This section discusses (1) how a firm's position in the value chain has affected the perception of the economic downturn, (2) how perception of resources and opportunities have changed and (3) what the responses to the economic downturn have been.

6.1.1 The Economic Downturn and the Value Chain

The authors find that all of the firms in the sample have been hit by the effects of the economic downturn, however, the ones at the bottom of the chain has been struck harder and more suddenly than the ones further up. In addition, it is found that the companies that are at the bottom of the chain and cover a large part of the value chain are the ones that have performed the most BMI. Furthermore, New Ventures that reflect these characteristics are found to perceive changes in their environment better than Established Companies, and are performing more BMI.

McGrath (2010) claims that more and more companies are searching for “temporary competitive advantages”. All of the companies in the sample have to some degree experienced that in an economic downturn customer preferences change fast, and what used to be a competitive advantage might not be it anymore. The firms that are positioned far down in the value chain seem to sense these changes faster, which can be seen as an example of what McGrath (2010) describes as “early warnings of model weakness”, which trigger the firms into looking for an alternative model. Thus, if you are positioned close to the end user and customer, you experience environmental changes more suddenly and drastically, but you also have a favourable position for transforming your business model. The economic downturn then, affects perceptions, but how it does so heavily depends on the focal firm's position in the value chain.

In addition to a position far down the value chain, the BMI leaders in this study also cover a large part of the value chain. I.e. they are close to the end customer, but they also cover the value chain quite far upwards. This has enabled them to not only sense the changes going on at an early point in time, but also to adapt to these changes rapidly. A firm needs to develop dynamic capabilities to be able to respond to changes in the business environment through the organization's business model (Dasilva & Trkman, 2014). The BMI leaders' position in the value chain can be seen to have strengthened these firms' dynamic capabilities to sense and seize the opportunities that emerged in a changing market. The ability to cope with uncertainty and rapid change is often a barrier for

Established Companies' managers in rapidly changing markets (Eisenhardt et al., 2000), which aligns well with the top two Value Chain BMI leaders being New Ventures. To create a successful business model managers and entrepreneurs must understand reasonably well how technologies will evolve and how quickly competitors, suppliers, and customers will respond (Leih et al., 2014). Competitors may or may not see the same opportunity, and even if they do, they may calibrate it differently (Leih et al., 2014).

A certain perception of the environment might not be shared between firms in the same sector, which implies that firms with different perceptions might respond differently to the same changes in their environment. The authors find that being placed far down in the value chain makes you perceive changes in the business environment quicker, while also giving you a great deal of insight into what is going on in your environment, enabling you to innovate your business model. In particular, New Ventures that are located at the bottom of the value chain and cover a large part of this value chain, have better preconditions for responding to changes in the environment. These firms perceive changes more rapidly compared to actors that cover a smaller part of the chain, or are located higher up in the value chain.

6.1.2 Resources and Opportunities

The perception of munificence, i.e. the perceived access to opportunities and resources, vary between the firms. When it comes to opportunities, the perception of available opportunities during an economic downturn varies between the firms, irrespective of whether they are New Ventures or Established Companies. However, when it comes to resources, Established Companies seem to perceive access to resources during an economic downturn to be slightly better than what New Ventures do. In general, the access to resources is found to be quite poor for all of the firms. This is found to be caused by the economic downturn.

The perception of resources must be split in two: financial capital and human capital, to understand its effect on BMI. The customers' increased focus on cost has squeezed the case companies' margins, which has made the access to financial resources more difficult. Financial institutions and investors are more careful with investing in the sector due to the economic downturn taking place. According to this study's findings, companies in an economic downturn have better access to human capital, but weaker access to financial capital, compared to times of economic growth. However, exploiting the available human capital is hard without the financial capital to do so. These findings are in line with Cowling et al.'s (2014) findings, who claim that during the recession, it is access to financial resources, rather than more subjective measures of human capital, that are important determinants of recessionary growth. However, it is not found a clear link between the perception of resources and BMI. Still, the authors find that the lack of resources in the oil sector has triggered the firms into pursuing customers and opportunities in other markets. This is further discussed in section 6.2.2, Market Segment BMI.

The perceptions of opportunities vary greatly between the firms, from an almost endless line of opportunities down to almost none. The economic downturn has affected this as well, as some firms find emerging opportunities in the changing economic landscape, while others struggle to keep their business alive. Here the authors find the combination of being a New Venture and perceiving many opportunities, to result in considerable BMI action. This is not the case for Established Companies. This is as expected, as Established Companies are more likely to focus on improving the performance of their existing business (Michael & Robbins, 1998) while New Ventures will focus on revenue-generating strategies during an economic downturn (Shama, 1993). However, not all of the New Ventures perceive many opportunities.

This study shows a relationship between a firm's ability to perceive opportunities and their access to resources, which might not be obvious at first. Many of the firms in the sample claimed that when the market was better, they did not have the time to look for nor pursue new opportunities. The lack of access to human capital forced them to use all their available personnel to deliver on their existing products, services and customers. The economic downturn have led to a turnaround in the access to resources. The improved access to human capital has enabled the firms to find new opportunities, but the restricted access to financial capital has limited their ability to keep looking for opportunities, as well as exploiting the opportunities they find. This turnaround is illustrated in Figure 20.

The way a firm exploits its accessible resources is strongly dependant on their dynamic capabilities (Eisenhardt et al., 2000), thus an explanation for why some firms are able to use their resources to perceive and pursue new opportunities, can be found in their dynamic capabilities. In a rapidly changing market, a firm will only survive if it can maintain a highly flexible resource base (Rosenbusch et al., 2013). Two of the dynamic capabilities becomes particularly important when rerouting your business model in an economic downturn: (1) sensing (the identification and assessment of opportunities), (2) seizing (the mobilization of resources internally and externally to address opportunities and capture value from them). This is because these capabilities allow the focal company to pursue new opportunities in a shifting environment (Leih et al., 2014, Teece, Pisano, & Shuen, 1997). In markets where boundaries are blurred and successful business models are unclear, dynamic

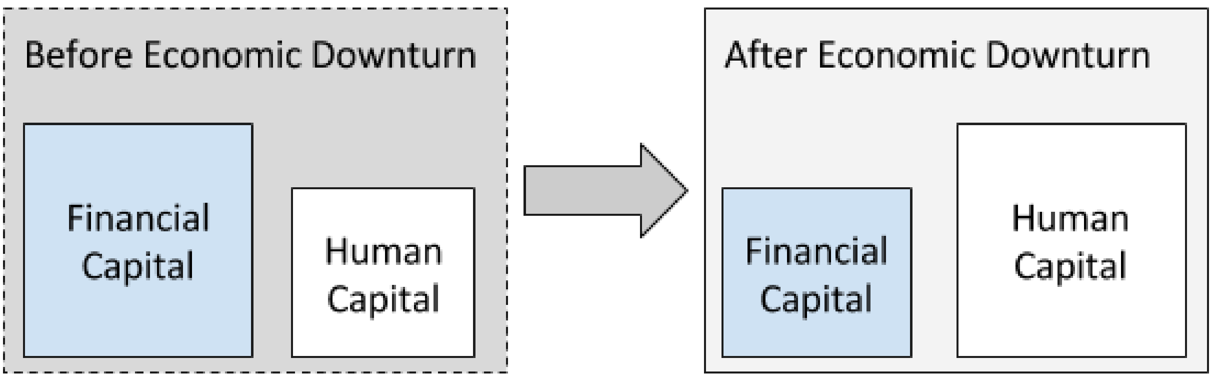


Figure 20: Turnaround in access to resources as a result of the economic downturn

capabilities rely on rapidly creating new situation-specific knowledge (Eisenhardt et al., 2000). Existing knowledge can even be a disadvantage for adapting to the new situation (Argote, 1999). This is in particular the case when the environment is perceived as uncertain (Eisenhardt et al., 2000).

The entrepreneurs in the New Ventures that have done the most BMI in this study are well experienced, and have extensive market knowledge. For NV2 whom perceive their environment as uncertain, this should have impeded their ability to perform BMI. This is not found to be the case, as NV2 performs a lot of BMI. However, the New Ventures that in addition to uncertainty perceive few opportunities in their environment, perform a lot less BMI. The economic downturn is found to amplify the impact of individual perceptions of the environment and the attitude to explore opportunities, and because of this, some have performed more BMI than others. An explanation for this is that the BMI leaders in this study might possess strong sensing and seizing dynamic capabilities, as they are the ones exploiting the economic downturn to the fullest. BMI can be seen as a more attractive way to obtain a competitive advantage, as this type of innovation costs significantly less than product or process innovation (Zott, 2010). This is reflected in the sample, as the New Ventures perceive the access to resources to be poor, some of them are still able to spot opportunities and perform a lot of BMI. The following section discusses how the lack of resources have affected collaboration and consolidation that has been found to take place as a response to the economic downturn.

6.1.3 Responses to the Economic Downturn

It has been found that many of the firms in the sample are trying to take a different position in the value chain as a response to the economic downturn. Some have performed outright integrations, while others have entered into formalized collaborations or temporary partnerships to improve their position. Two firms in the sample have performed integrations. Both of these are New Ventures. However, both New Ventures and Established Companies are seen to enter into collaborations or partnerships. It is also found that consolidations are about to take place in the industry, and that the firms in the sample expect this to increase in the near future.

An integration can be seen as a way of acquiring strategic resources. To acquire strategic resources can refer to purchasing of commodity-like resources (e.g. equipment), intangible resources (e.g. intellectual capital) or to acquire complex sets of resources through mergers and acquisitions (Denrell, Fang, & Winter, 2003). The price paid for the resources reflect their expected contribution to competitive advantage (Barney, 1986). However, due to incomplete information, in particular about new ways of utilizing resources, the price might be lower than what is their true market value (Sirmon, Hitt, & Ireland, 2007). Sirmon et al. (2007) claims that to be able to respond to environmental changes, a firm needs to build slack resources. Integrations during an economic downturn can thus be seen as a strategy to obtain slack resources, to be able to adapt more efficiently to the new situation. The authors find the topic of integration and consolidation to be influenced by many factors, such as strategic choices, access to financial capital, as well as individual perception of business environments. The economic downturn is found to increase the pace of change in value of resources, and New Ventures are found to be better at perceiving opportunities to exploit such change.

In place of integrating and actually acquiring the resources, a firm can also enter into agreements that secure their access to future opportunities (Bowman & Hurry, 1993). This is particularly important to increase the range of possible responses to an environmental change (Gunther McGrath & Nerkar, 2004). Thus, in an economic downturn it is crucially important to be aware of the future opportunities that are possible to secure to improve the firm's chances of surviving. However, during an economic downturn, managers tend to get overly eager to reduce costs and therefore divests resources that potentially are valuable (Sirmon et al., 2007). In addition, in situations of uncertainty, it is extremely difficult to evaluate the future potential of resources to create value (Sirmon et al., 2007). This could result in some resources, or even entire firms being strongly undervalued. If this is perceived as an opportunity, it can result in new value chain structures, and potentially BMI.

An agreement that secures access to resources can take the form of contracts, or partnerships to collaborate if one actor captures a new contract, e.g. in a market segment that the actors previously did not operate. Some of the firms in the sample have created formalized structures for collaboration. Such collaborations are employed to broaden the scope of the value chain and require the firms to coordinate their efforts (Porter, 1985). Common for the firms that employ these types of arrangements is that they perceive their environment as hostile, but want to avoid competing on price. In an economic downturn, these factors are amplified as competition is more intense and existing market structures might change (Moberg & Overå, 2015). In addition, the difference in perceptions varies greatly between firms, as some perceive opportunities, while others are struggling to stay alive. The firms that succeeded with Value Chain BMI in the economic downturn setting were able to perceive the change in hostility, avoid the competition on price, and enter into profitable collaborations with other actors in the value chain. This is in line with Chesbrough & Rosenbloom (2002), claiming that managers need to create processes to explore market opportunities far more thoroughly, from customers and suppliers in a value chain, to potential collaborations with third parties and the surrounding elements of the value network. The authors find that if the business environment is perceived as dynamic and to some degree hostile, firms that have strong relationships with other actors in their industry is more likely to enter into collaborations to exploit new opportunities and to avoid hostility.

The economic downturn has been found to change the value chain structures of the firms in the sample. Two different approaches can be seen, one is to integrate larger parts of the value chain into the value chain of the firm, through acquisitions and consolidations, and the other is to enter into agreements with other firms to take another position in the value chain. The authors find these different responses to be caused by differences in perception. Firms that are able to perceive the changes happening in their environment and respond to them as an opportunity is going to acquire other firms and perform integrations. New Ventures appear to be better at this than Established Companies. Firms that either fail at perceiving the changes in the environment, or perceive the changes as a threat rather than an opportunity, holds a weaker position to respond to the economic downturn and as a result performs a lot less BMI. Thus, a weak perception of dynamism, and a difference in perceptions of munificence (opportunities) and hostility leads to different levels of BMI. The authors therefore find the structural changes that are expected to occur in the industry to be a driver for BMI trough perceptions.

6.2 Perception's Effect on BMI

In the following discussion, the effects of perception on BMI is discussed with reference to previous findings in theory. The analysis' findings is discussed to shed light on its alignment or misalignment relative to theory, and previously undescribed phenomenons are put forward and summarized in the conclusions chapter.

6.2.1 Value Proposition

The authors find that the firms who have performed the most Value Proposition BMI are New Ventures. However, not all New Ventures in the sample are performing Value Proposition BMI. It has been found that perceiving your environment as highly dynamic and containing some opportunities, while being a New Venture, leads a company to perform more Value Proposition BMI.

Both of the case companies performing the most Value Proposition BMI, perceives their environment as highly dynamic. In a rapidly changing environment, the source of competitive advantage comes from managers abilities to "integrate, build and reconfigure internal and external competencies" (Teece et al., 1997, p. 516). This is in agreement with theory that entrepreneurs in New Ventures has less of a barrier to rapidly change their operations, and are more flexible, both as organizations and the individuals working there (Latham, 2009, Cooper et al., 1994). This can help explain why they more rapidly adjust their product offerings to fit new or changing customer demands. Perceiving your environment as dynamic, can be seen as closely related to Leih et al.'s (2014) theory of dynamic capabilities, specifically the capability of *sensing*. *Sensing* revolves around the ability to spot opportunities and threats; identify avenues for research and development; conceptualize new customer needs and new business models (Katkalo, Pitelis, & Teece, 2010). From theory, sensing (or perceiving) changes in your environment incentivises a company to review its business model and the value it creates. The finding of this study suggests that New Ventures have better sensing capabilities than the Established Companies, and that this is part of the reason for why they are performing the most Value Proposition BMI.

In the analysis, it was found that the increased cost focus caused by the economic downturn is a disadvantageous environmental factor for performing Value Proposition BMI. The case companies perceive the general change of customer demand to be increasing, and cost focus is the major factor for the change in customer demand. A firm that senses and understands the changing needs of their customers (in this case, cost reductions) and is able to accommodate this while at the same time retaining profits, performs more Value Proposition BMI. This finding is backed by (Leonard-Barton, 1992; March, 1991), claiming that firms who are able to innovate and provide new products and services in a dynamic market, can make their firm less vulnerable to the risk of their products or competencies becoming obsolete. However, only two firms in the sample, both being New Ventures, have been able to perform change because of the changed customer focus. These companies may possess a deeper customer understanding than their peers, which from the analysis in this paper seems to be closely linked to perceptions of dynamism. The authors find that the New Ventures who have performed the most Value Proposition BMI have aligned views on the dynamism of the environment, and that this has led them to innovate their Value Proposition component of the business model.

6.2.2 Market Segment

One of the sample's New Ventures, NV1, stands out in level of performed Market Segment BMI. NV1 is also the firm perceiving the market as most dynamic, and least hostile, of all firms. While high dynamism and low hostility is found to lead to increased Market Segment BMI, a close relationship to your customer can be a barrier to change the market segment component of your business model. However, all but one of the firms in the sample show significant BMI on their Market Segment component, and the authors find that the economic downturn has led to an increase in Market Segment BMI.

Unanticipated changes in the economic structure of an industry may make what was a source of sustained competitive advantage, no longer valuable to the firm. Some of these resources may again become sources of sustained competitive advantage in a new and redefined industry (Barney, 1991). The firm that performs the most BMI perceives the external environment as unhostile while their current market segment is lacking resources. This is in combination a strong incentive to pursue opportunities outside this segment. When seen in light of the resource-based view (Barney, 1991), part of the reason for searching outside the current segment which is lacking resources, is that the resources the company actually possess may be more valuable in other market segments. The complex nature of business models makes it hard to identify and validate these new segments, without actually testing them. Numerous researchers have identified experimentation, and trial and error learning, as critical for successful BMI (McGrath, 2010, Trimi & Berbegal-Mirabent, 2012, Teece, 2010, Chesbrough, 2010). This might explain why the company most focused on testing out new markets also excel at performing other forms of BMI.

Understandably, in an economic downturn, the firms become increasingly afraid to lose the few customers they have. Chesbrough (2007) finds that owing success to previously successful business models can be a barrier to try out new ways of *creating and capturing value*. An important part of a business model is the customer relationship. Being able to change this is a key process in innovating your business model. Not being able to do this then, reasons well with Chesbrough (2007) claiming that affection for previous business models (here; customer relations) is a barrier to radically change your Market Segment. Combined with the findings of this study, this implies that not only can current or previous success with your business model be a barrier to enter new markets, it can also be a barrier to at all perceive surrounding opportunities. The study finds that because of a reduced awareness for changes in the market segment that directly affects the value of what the focal company is creating, i.e. a poor perception of dynamism, some companies do not perform Market Segment BMI.

The key to the business model is *how to create and capture value* (Chesbrough & Rosenbloom, 2002), and the economic downturn has made the current markets of most firms in this study harder to capture value in, through increased cost focus and decreased demand. By perceiving this change, the majority of the firms are searching for new opportunities in other market segments, and in segments they are already present in. Though Market Segment BMI is found to increase during an economic downturn, the majority of this BMI action is performed through reprioritizing focus on a company's current market segments. Increasing the focus on a known market, poses less of a barrier than entering a brand new, explaining why most firms have relied on this Market Segment BMI action. Here, it is also important to notice the difference between rapid change and uncertainty, as a company can perceive one without the other. The majority of the firms have a slightly passive attitude towards Market Segment BMI, as they do not enter brand new markets. This is found to be caused by the combination of a high degree of uncertainty and perceived hostility in other markets. An explanation for why they stay in their existing segments during the economic downturn is that managers wants to reduce the amounts of environmental variables by keeping the change of their current operations to a minimum, as they have a hard time navigating in these unknown markets.

6.2.3 Value Chain

The key finding on Value Chain BMI is that if you are a New Venture, perceive your environment as rapidly changing and with quite intense competition, you perform more Value Chain BMI, specifically through value chain integration. This section discusses how the ability to perceive and handle a rapidly changing environment as well as hostility affect Value Chain BMI.

In addition to integration, there are three additional dimensions of a firm's value chain scope; (1) segment scope, (2) geographic scope and (3) industry scope (Porter, 1985). Through Porter's (1985) framework, the Value Chain Innovators of this paper can be seen to widen the scope of their value chains in two ways. NV1 is expanding its product range and reaching new customers (1), as well as targeting related industries to their current segments or customers (3). By integrating suppliers and related firms into their value chain, they are able to reach new segments and customers with new products. NV2 is mainly expanding their product range (1), by integrating one of their suppliers. This way they deliver an enhanced product, and they perform more operations in-house. The two BMI leaders in this study have both decided to vertically integrate some part of their value chain. A firm that perceives opportunities during an economic downturn responds to a dynamic and competitive market by expanding the scope of its value chain. A firm that does not perceive opportunities maintains existing value chain structures.

Interestingly none of the firms seems to be disintegrating parts of their value chain. The lack of disintegrations in the sample could be an indicator that in the current economic environment of these companies, disintegrations are not considered attractive. The finding that none of the firms has performed disintegrations is somewhat surprising, as it could be expected that cost reductions through an economic downturn would lead to firms getting rid of non-essential parts of their business (Beckman & Rosenfield, 2008). The firms in the sample are in general very focused on creating high quality products and services, and perceive their products as complex. If a firm does not trust its suppliers to deliver the required quality, and find it difficult to separate their product into modules that could be outsourced, it will prefer to control this part of their value chain (Beckman & Rosenfield, 2008). The sector studied has a very demanding requirement for documentation about the production and quality of each product. This factor could increase the transaction cost between different actors in the value chain, and thus encourage integration and Value Chain BMI. High transaction costs to procure the component from a supplier will favour internal production (Beckman & Rosenfield, 2008), and thus does not promote disintegration.

According to Beckman & Rosenfield (2008), one of the reasons for performing a vertical integration is changes in the environment of a firm. The environment for the firms in the sample have been changing greatly in the last 24 months. Specifically, dynamism has in general increased, and the firms are more unsure about their suppliers' or partners' futures. A highly dynamic market has been seen to positively influence Value Chain BMI and the authors therefore find that the changing level of dynamism have triggered firms into performing Value Chain BMI. The way the firms in the sample handle this change in their environment greatly differ, and this can be seen in their perception of dynamism.

Some of the firms in the sample are not taking any Value Chain BMI action, and seem to be waiting out the downturn, while the majority show a tendency towards Value Chain BMI through widening their scope. The New Ventures that perceive the environment to be very dynamic performs more Value Chain BMI. For the BMI leaders, this has resulted in value chain integration efforts. This confirms the link between the perception of high dynamism and Value Chain BMI action.

7. Conclusion

This study finds that there is a clear relation between perceptions and BMI. The findings show that there are particular forms of perceptions leading to particular types of BMI. However, this has to be seen in context of the focal firm, as the study also finds clear differences in the way and to what degree New Ventures and Established Companies perform BMI. Also, an economic downturns amplifies some types of BMI, while it makes other forms more difficult. This section presents conclusions on three topics related to the research questions; (1) How perceptions affect BMI, (2) How an economic downturn affects perceptions and thus BMI, (3) How New Ventures and Established Companies perceive their environment differently, and how this affects BMI.

BMI is in this study found to be strongly affected by perceptions. In particular, perceptions of dynamism seem to be important. The authors find that the position of the firm in the value chain strongly affects their perception of dynamism, as firms far down in the value chain perceives changes in the environment first. Additionally, changes in dynamism is also perceived as more intense. Covering a large part of the value chain is therefore found to reinforce BMI efforts. Firms that perceive their environment to be dynamic while there also are available opportunities in their environment are the ones that are most inclined to perform BMI. However, it is important to separate the two categories of dynamism: uncertainty and rapid change. While perceiving a rapidly changing market is seen to *encourage* BMI, perceiving that the environment is uncertain, i.e. that it is difficult to predict when and how the market changes, is seen to *discourage* BMI. Here the notion of hostility also plays a role. Perceiving the environment as hostile, but with many opportunities for new revenues, typically in another less hostile environment, encourages BMI. Perceiving the environment as hostile, but with few opportunities, limits BMI to reprioritize existing segments and initiatives, rather than exploring new ones. Perceptions are as mentioned subjective impressions, and do not need to be the same for actors that operate in the same environment.

The sample in this paper shows that New Ventures are more likely to perform high levels of BMI than Established Companies in an economic downturn. The authors find that this is because New Ventures are better at sensing changes in their environment, and better at adapting to these changes. Furthermore, the New Ventures that perceive their environment as very dynamic performs even more BMI. As mentioned, the dynamic factor of the environment concerns both *change* and *uncertainty*, and the New Ventures that perceive the environment to be *rapidly changing* performs the most BMI. In terms of barriers for BMI, having a very close relationship with a customer limits the sensing capabilities of a firm, and thus hinder BMI. Established Companies more often have strong relationships with their customers, where trust have been built over many years of cooperation. This factor limits Established Companies' BMI initiatives.

An economic downturn radically changes the environment of a firm, and changes the perceptions of both managers and entrepreneurs. The perceptions of munificence changes drastically, as access to opportunities and resources are reduced.

However, perceptions vary more in an economic downturn, as some perceives new opportunities, while others perceives crisis. An economic downturn also increases the cost focus in the affected sector, which is found to discourage Value Proposition BMI, but encourage Market Segment BMI. Dynamism and hostility increases in an economic downturn, because of changes in the environment and more fierce competition. For the industry studied, this is found to lead to consolidations. Firms that are able to perceive opportunities and take advantage of resources that are undervalued because of the downturn, are better positioned for consolidations. In conclusion, an economic downturn is found to fundamentally change the perceptions of the environment, and to both amplify and reduce the level of BMI performed, depending on which component of the business model you are looking at.

7.1 Alignment with Previous Theoretical Framework

In their literature review, the authors found that New Ventures perceives and responds to more triggers of BMI in an economic downturn than Established Companies (Moberg & Overå, 2015). In addition, the triggers of BMI were found to originate mostly in the external environment of the firm, being the motivation for studying how perceptions of the environment affect BMI. The theoretical findings presented in the literature review are largely in line with the results in this paper. The case companies performing the most BMI are New Ventures. However, this is not the case for all the New Ventures in the sample, which reflects that perceptions are individual, and decision-makers perceive their environment differently.

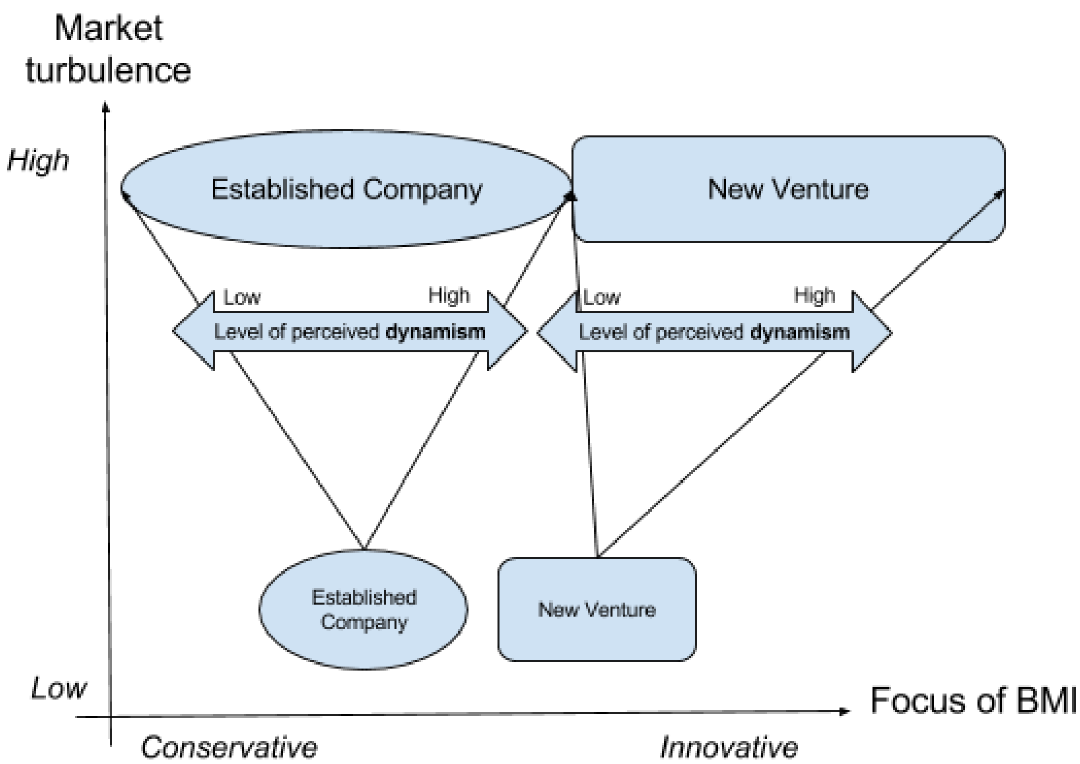


Figure 21: Focus of BMI with increasing market turbulence, and varying level of perceived

The authors find that the proposed model presented in the literature review (Moberg & Overå, 2015) is well supported by this empirical study of New Ventures and Established Companies. However, the improved model (Figure 21) presented focuses on the whether the BMI performed is innovative or conservative, where innovative BMI can be seen as a reflection of the BMI efforts of the BMI leaders in this sample, and conservative BMI can be seen as a reflection of the BMI conservatives. In addition, it includes the finding that perceived dynamism affects the level of BMI performed in an economic downturn. Depending on their perception of dynamism, New Ventures appear to be better equipped for responding to BMI triggers in an economic downturn.

Thus, there is a condition for a New Venture to perform more BMI than an Established Company. The findings from this empirical study imply that the effect of perceived dynamism makes the potential difference between New Ventures' and Established Companies' focus of BMI smaller than the original theoretical model proposed by Moberg & Overå (2015). The study shows that New Ventures that also cover a large part of the value chain perform more BMI. The authors argue that covering a large part of the value chain strengthens a firm's ability to sense changes in its environment, i.e. strengthens the ability to perceive dynamism. The combined findings in this paper strengthen the hypothesis that most BMI triggers originate in the external environment of the firm, as the firms that perceive a large amount of dynamism (i.e. changes in their environment) perform more BMI.

8. Limitations and Further Research

The firms in the sample operate in the same industry, but the variations in their objective environment could be larger than presumed by the authors. This has been tackled by only including firms that are influenced by the economic downturn in the sector to make sure the environment of the firms is as similar as possible. Furthermore, all of the firms in the sample were located in Norway, and most of them in the southwestern part of Norway. However, all the firms in the sample operate in a market characterized by international competition and has characteristics similar to other industry sectors.

The understanding of perceptions is subjective, and the authors have interpreted the answers from the respondents to determine their perception of the different environmental factors. It is possible that this rating has been influenced by the authors' attitudes and mind-set. The authors have reduced this bias by assessing each of the interviews individually before analysing and concluding, as well as revising the rankings afterwards to discover any discrepancies. To avoid misinterpretations, two different sources of data were used, both interpretations of the interviews and a survey performed by the respondents after the interviews.

The firms in the sample have been separated into two categories, New Ventures and Established Companies, based on the criteria of age. Other criteria could also be used, such as the point of time where the venture is self-sustaining (i.e. do not need additional investment), a combination of age and size, or the point in time when the firm starts generating revenue. Another perspective on what is a New Venture could give other insights into how they differ from Established Companies on BMI initiatives. Vesper (1990) argued that there can be no ultimate resolution to the question of when a venture comes into existence. Thus, empirical studies of New Ventures must resolve a definitional ambiguity. However, Biggadike (1989), McDougall & Robinson (1990) and A. Miller & Camp (1986) argues for the use of age as criteria for this separation and the authors have based on this used this method. Further research should consider this, and consider other definitions. In particular, the authors find the part of the value chain a firm cover to be interesting. How large part of the value chain a firm covers was found to be closely related to its BMI efforts. The authors believes studying New Ventures and Established Companies by focusing on their position in the value chain could reveal some interesting insights on BMI.

Lastly, the business model is a concept of great disagreement, where many different definitions exist. The authors have chosen a definition presented by Chesbrough & Rosenbloom (2002) as this definition was found useful to assess each of the specific components of the business model, and their relation to perceptions of the environment. Furthermore, the authors have studied the concept of the business model and BMI in the context of an economic downturn. The authors found the chosen definition and context to be useful to study BMI. However, other definitions or contexts might yield other interesting insights to improve the understanding of BMI.

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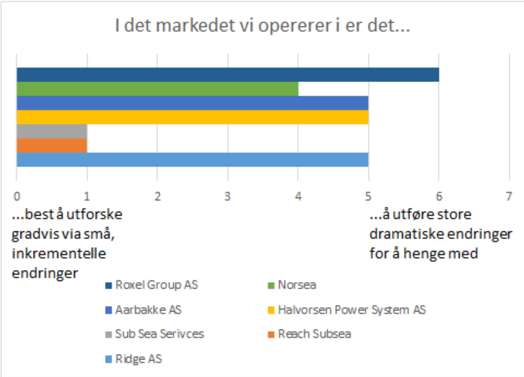
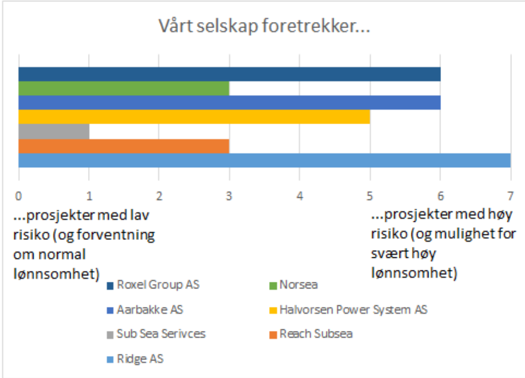
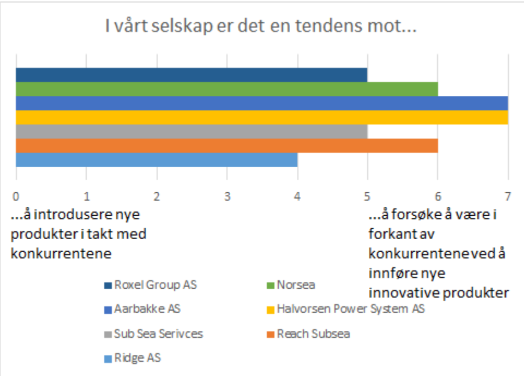
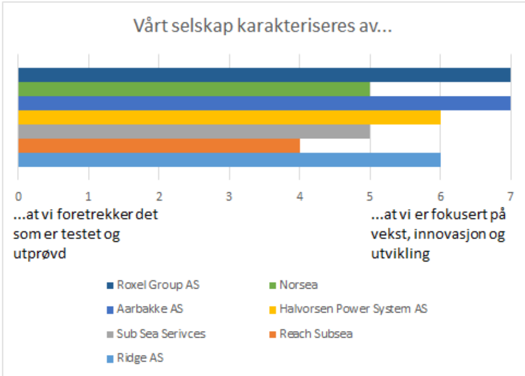
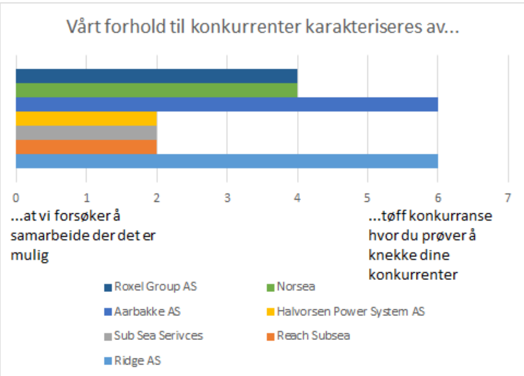
Appendix A: Survey results

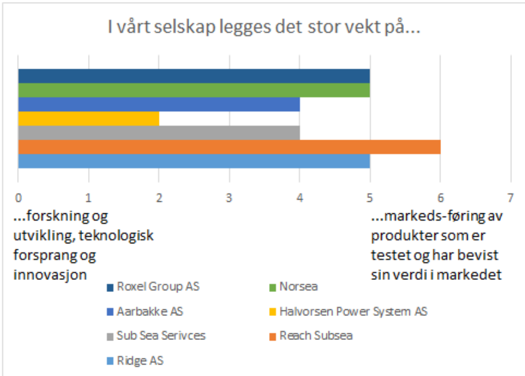


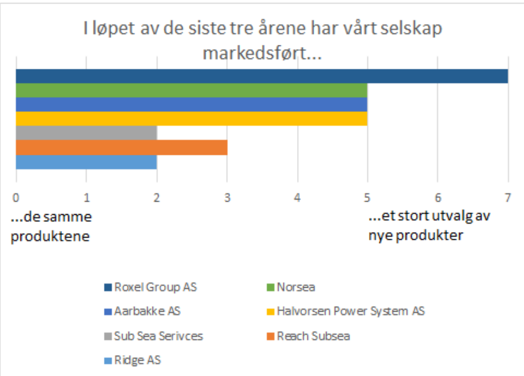


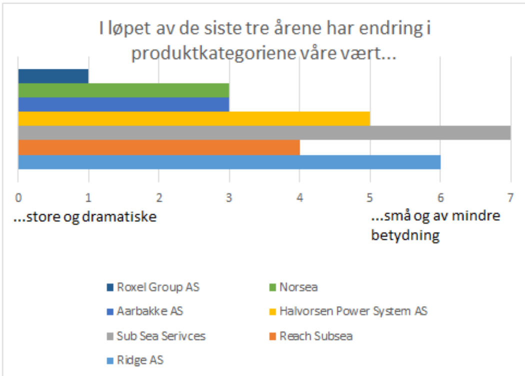


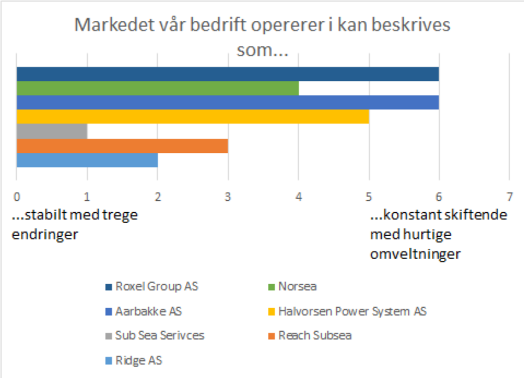








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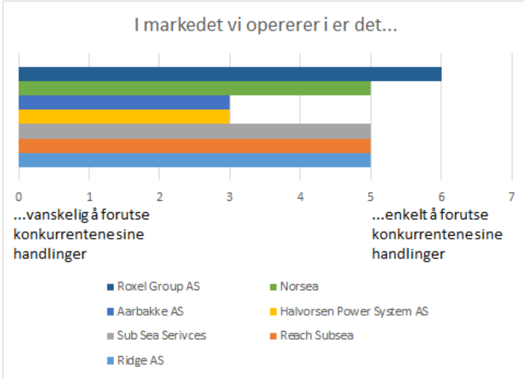
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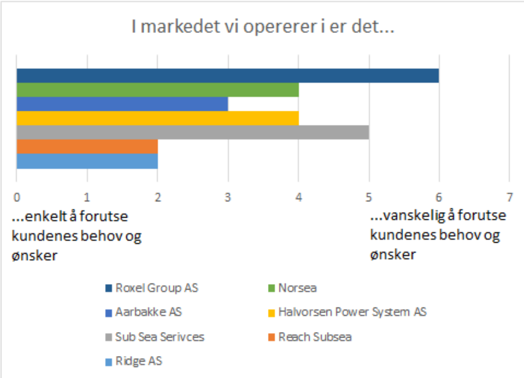
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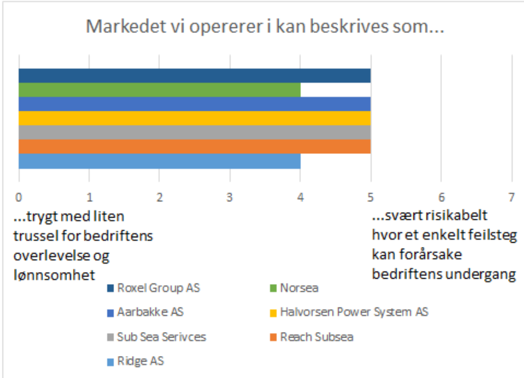
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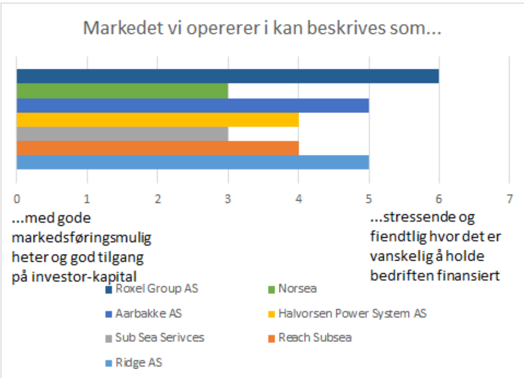
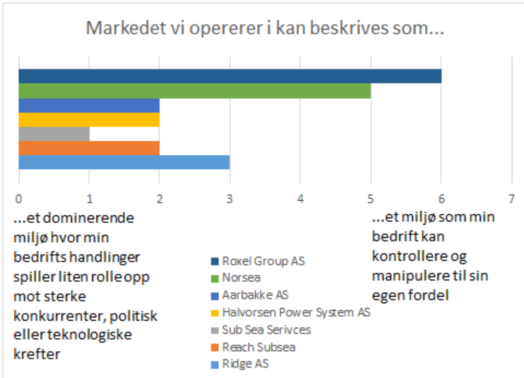
Reach Subsea
Ridge AS


Markedet vi opererer i kan beskrives som...
0
1
2
3
4
5
6
7
...med gode markedsføringsmulig heter og god tilgang på investor-kapital
...stressende og fiendtlig hvor det er vanskelig å holde bedriften finansiert
Roxel Group AS
Norsea
Aarbakke AS
Halvorsen Power System AS
Sub Sea Serivces
Reach Subsea
Ridge AS


Markedet vi opererer i kan beskrives som...
0
1
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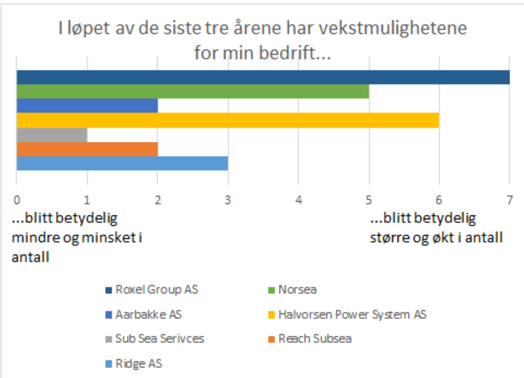
7
...et dominerende miljø hvor min bedrifts handlinger spiller liten rolle opp mot sterke konkurrenter, politisk eller teknologiske krefter
...et miljø som min bedrift kan kontrollere og manipulere til sin egen fordel
Roxel Group AS
Norsea
Aarbakke AS
Halvorsen Power System AS
Sub Sea Serivces
Reach Subsea
Ridge AS


I løpet av de siste tre årene har vekstmulighetene for min bedrift...
0
1
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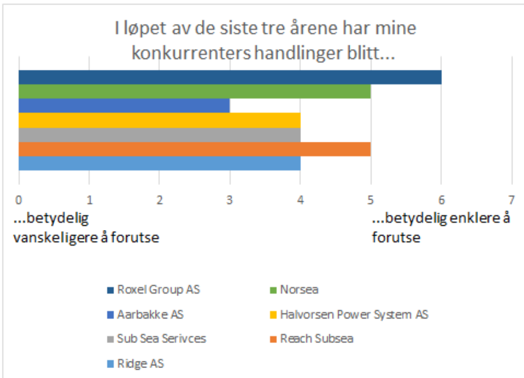
6
7
...blitt betydelig mindre og minsket i antall
...blitt betydelig større og økt i antall
Roxel Group AS
Norsea
Aarbakke AS
Halvorsen Power System AS
Sub Sea Serivces
Reach Subsea
Ridge AS


I løpet av de siste tre årene har mine konkurrenters handlinger blitt...
0
1
2
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6
7
...betydelig vanskeligere å forutse
...betydelig enklere å forutse
Roxel Group AS
Norsea
Aarbakke AS
Halvorsen Power System AS
Sub Sea Serivces
Reach Subsea
Ridge AS

Appendix B: Example of predefined table of interview answers to key interview-components

Perception of business environment

	Perception hos bedriften	EDs effekt på perception
Mulighet-/ ressurstilgang	Finnes muligheter i olje hos kunder de tidligere ikke har hatt kontakt med Lett tilgjenglige ressurser av human capital, og ikke så mye innesteringsvilje.	ED har ført til færre muligheter i olje og gass, men fornybar er litt i motkonjuktur. Mye bedre tilgang på folk, og mye kortere leveringstid på utstyr. Beslutninger har flyttet seg til kreditorene i mange tilfeller. Nye muligheter er enda viktigere enn før. Leter aktivt etter nye muligheter. Prøver å forutsi hvilke muligheter som kan dukke opp. Finanshus som tidligere plassert penger i subsea og offshore trekker ut pengene sine.
Konkurransepress	Godt forhold til konkurrentene. Føler seg ikke truet, føler at de er en liten aktør som i større grad blir sett på som en samarbeidspartner. Mange relasjoner på tvers av bedriftene.	Har blitt flere om beinet. Marginene er lavere. Er ikke så direkte påvirket av fallet i oljepris.
Dynamiskhet	Tar måned for måned, mest fordi de er en ny aktør. Har hyrt inn et konsulentselskap for å vurdere usikkerhet og markedsutsikter fremover.	Endringene er større og hyppigere som følge av nedgangen. Sluttkundene merker det.
Kompleksitet	Middels komplekst, selve utførelsen av tjenesten er ikke så kompleks, men kompleks planlegging og organisering. Middels kompleks struktur.	Har kuttet i administrasjonen og omorganisert Internt incentiv-program

Focus on BMI

	Endring hos bedriften	Begrunnelse for endring (perception)
Value prop.	Har utvidet sin logistikktjeneste for å gjøre logistikk mer effektivt. Samler flere kunder i samme bygg og integrerer kundenes logistikksystemer/planer tettere med sine egne.	Mer enn halvering av innvesteringene i olje
Market segment	95% leveranser til olje tidligere Har en sterk posisjon pga rykte Ser nå på nye kunder innen olje Ser på forsvaret som et marked	Eier hadde et godt forhold til forsvaret, jobbet med dem tidligere. Eierne ønsker å bygge opp noen "støttebein" til hovedbransjene.
Value chain	Forutser ferre kunder, pga. Konsolidering Ønsker ferre leverandører.	Kunden må fylle sine arbeidstimer før de evt. setter ut ting til andre som aarbakke. Kutter i administrasjoenen, og gjør da tiltak for å minke arbeidspress på administrasjonen. Ønsker mer makt over leverandører, derfor vil de ha færre.
Misc.	Generell konsoloidering i bransjen Skiller seg fra konkurrenter ved at de i motsetning til andre serviceselskaper gjør egen engineering, og at de har internasjonale salgskanaler.	Vil se mot internasjonale markeder for å fylle verkstedtimer

Appendix C: Detailed description of the firms and the respondents

Established Companies	
EC1	Respondent's position: Sales Manager
	The company is an established industrial manufacturer, delivering components to oil and subsea installations. In the last 24 months, the company has had to cut down on their number of employees, and is experiencing decline revenues. They have had a strong focus on cutting costs, which is ongoing, and is looking for new sources of revenue.
EC2	Respondent's position: Marketing and Contract Manager
	This established firm specializes in subsea appliances and services to the oil industry. They have cut their employee base by more than 40% and are currently facilitating an incubator for start-up companies in related segments to search for new opportunities.
EC3	Respondent's position: Property Manager
	This is an established supplier of services, mainly logistics, to the offshore industry, both to operators and oil service companies. Their services are to a large degree unreplaceable, and they do not have any direct competitors.
New Ventures	
NV1	Respondent's position: Founder and CEO
	A recently established firm with high and growing revenues. Operates in a variety of markets and have a broad spectre of both services and products. Specifically they have 6 different focus segments, within both offshore and onshore activities. They were heavily involved in offshore markets but have pivoted to other markets in the last 24 months.
NV2	Respondent's position: Founder and HR Manager
	A spin-off company from a parent company in the oil industry. Provides both services and products. Experiencing reduced demand from their main segment in the oil industry and is trying to exploit their other segments more.
NV3	Respondent's position: Petroleum Engineer
	A recently established consultancy firm that offer services to the oil industry. Are experiencing reduced demand for their services, but have not cut down on the number of employees.
NV4	Respondent's position: Founder and Business Development Manager
	Also a firm that specializes in subsea services. Recently established, but have been able to obtain very high revenues in a short period of time. Are experiencing decreasing demand for their services, but have not been forced to reduce the number of employees, but have adjusted their growth ambitions.