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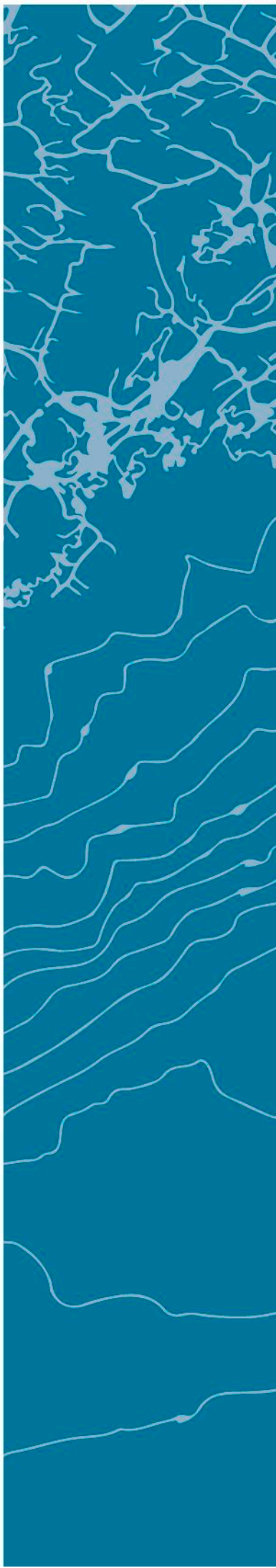
Evaluating New Market Opportunities
-A case study of the Norwegian oil & gas industry

Karan Man Hussain
Andreas Vyssios

Supervisor
Tor Helge Aas

University of Agder, 2017
Faculty of Engineering and Science
Department of Engineering Sciences



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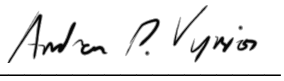
PREFACE

This thesis is a part of the Master Programme in Industrial Economics and Technology Management at the University of Agder. This is a study that attempts to elaborate on relevant empirical works, by addressing the composition between internal and external factors of competitive advantage, respectively by two dominant theories within the field of strategic management: Porter's industry analysis and the resource-based view of the firm (RBV). This thesis combines the development of a strategic evaluation tool with a most relevant and present case study regarding oil and gas firms located in the Southern part of Norway.

We wish to thank our supervisor, Ph.D. Tor Helge Aas, at the Department of Management at University of Agder, for submitting his time and efforts, and providing valuable information and feedback throughout the process of writing this thesis. We would also like to acknowledge the contributions of GCE NODE, especially with regards to Marit Dolmen, Magne Dåstøl and Bjørn Saltermark, for presenting us with the case, assisting with the selection process, as well as providing insights in the evaluation, and overall much appreciated feedback. Lastly, the informants and corresponding firms and organisations, deserve recognition for their most generous contribution to the data collection and evaluation.

Oslo, May 2017

Karan Man Hussain



Andreas Vyssios

EXECUTIVE SUMMARY

The objective for this thesis is to examine the composition of internal and external factors that shape the industry, and how such a combination can benefit firms in seeking potential markets. To answer this combination this thesis proposes a tool, EPM (Evaluation of Potential Markets). This tool offers a structured approach to evaluate new market opportunities, and seeks to determine the source of competitive advantage on the basis of fundamentals from two dominant theories within strategic management: Resource-based view of the firm (RBV) and Porter's industry analysis.

EPM is assigned to a case study, presented by oil and gas firms in the Southern part of Norway. This case is presented by GCE NODE, a business cluster comprised of 72 companies in the Southern part of Norway. The case study attempts to seek out the sources of competitive advantage within these firms and apply them to a new potential market, aquaculture. The study embraces a qualitative research method, where selection consisting of firms and clusters from both aquaculture and oil and gas, constitutes to the interviews, which is the main source of data collection.

Findings show, that a composition of contradicting perspectives regarding both firm- and industry specific factors complement each other, while providing valuable insights and analysis regarding competitive advantage. Findings provide a better understanding of where it excels and its shortcomings, and how it can be improved to something that can be applied in a professional environment. The shortcomings of EPM are in regards to its applicability, content and presentation. For EPM to be a tool that can answer the requirements of business communities, it must be improved in cooperation with the firms themselves. While not able to provide as much specificity and depth in terms of resources as intended, the analysis did uncover sufficient strategic impacts for firms to consider opportunities in new markets.

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1 INTRODUCTION

The field of strategic management has an extensive history which can be traced back to authors such as Taylor (1967), when first approached in a scientific way, commonly referred to as *Taylorism* (Furrer, Thomas, & Goussevskaia, 2008). By applying a set of principles, Taylor advanced the idea of work as a science and cooperation between managers and workers, and emphasised on internal focus within the firm (Grönroos, 1994). Many researchers then contributed to, or expanded on theoretical views already existing within the field. Thus enhanced the linkage between organisation and economic ideas (Furrer et al., 2008).

According to Hermann (2005), "In industry, breakthrough innovations, or technological discontinuities, initiate eras of ferment that end when a dominant design, or standard of the industry, starts an era of incremental change." (p. 125). In the field of strategic management, a generally accepted *definition of strategy* started an era of ferment, characterised by focus on the environment a firm is in. Hermann (2005) examines the evolution of strategic management and the need for new dominant designs, by tracing it back to the original definition of strategy and the origin of strategic management. The birth of strategic management goes back to the 1960s when credited to three authors and their respective works: Alfred Chandler's Strategy and Structure (1962); Igor Ansoff's Corporate Strategy (1965); and Kenneth Andrew's SWOT (The Concept of Corporate Strategy) (1971) (Rumelt, Schendal, & Teece, 1994). Furrer et al. (2008) claims that due to these authors, research shifted from what was known as a "one-best-way approach", to a "perception where organisations need to adapt to their external environment" (p. 3). Except for the SWOT analysis (Andrews, 1971), which still remains a teaching and consulting tool, most contributions to practice were provided by consulting firms (Herrmann, 2005). Most studies in this era were mainly in-depth case studies, and therefore limiting their results to be generalised (Furrer et al., 2008).

During the 1970s, strategic management shifted towards a research orientation, as a response to lack of generalisation in previous studies. During this era, Porter (1980) introduced his influential structured approach for analysing the industry structure and to determine its attractiveness (Furrer et al., 2008). This theory of Porter, looks at the competitive advantage from an external point-of-view, by looking at the industry a firm is competing in (Barney, 1991). According to Porter (1991), a firm's success at the broadest level is a function of two areas: the attractiveness of the industry and the firms relative position in that industry. This theory of strategy describes the link between environmental behaviour and market outcomes, and is necessary to explain the success of firms (Porter, 1991).

The 1980s entailed another shift in the field, where the focus went from the industry, to the firm as the unit of analysis. The focus was now on the firm's organisation, resources and capabilities, and the relationship between a firm's resources and its performance (Furrer et al., 2008). *The resource-based view of the firm* (RBV) (Barney, 1986; Rumelt, 1991; Wernerfelt, 1984) is another major theory in the field of strategic management. In this theory, a firm is viewed as a bundle of unique resources which can be sources of competitive advantage and to pursue sustainability by addressing the heterogeneous aspect of these resources (Spanos & Lioukas, 2001). Porter's (1980) generic strategies provided a dominant design, according to Herman (2005). RBV can be understood as a technical discontinuity in this field, which initiated a new era of ferment; often characterised by uncertainty and is very clear in the case of RBV, which poses challenges in operationalising and measuring resources. RBV shifted the focus towards resources and core competences as the source of competitive advantage, but has not achieved a dominant design status (Herrmann, 2005). Herrmann further argues that scholarly contributions will only achieve a dominant design status if managers are able to fully understand them, and thereafter adopt them. Therefore, to specify when research assumptions hold, scholarly contributions should integrate theories prevalent in this field with other theoretical perspectives; and when, how and where to allocate resources (Herrmann, 2005).

These two dominant theories within the field of strategic management, are rooted in contradicting assumptions. Environmental theories such as Porter's framework assumes that firms are identical in terms of their strategically relevant resources, and these resources are highly mobile. Whereas in RBV, resources are presumed heterogeneously distributed and immobile (Spanos & Lioukas, 2001).

In today's frequently changing markets, it is increasingly more important to understand the sources of competitive advantage. Dynamics within industries, forces firms to cope with the changing environments, thus increasing the need for awareness and understanding of adaptation and assessment. This is where a firm's strategy also becomes more relevant. Firms should be able to consider and evaluate new opportunities, and to do so they need to know what makes them competitive. Based on this, the research question is as follows:

How can a firm evaluate new market opportunities by applying a combination of dominant theories within the field of strategic management?

2 THEORY

This chapter will provide the reader with useful insights and criticism on some of the major theories within strategic management. The thesis will lead by elaborating on the terms strategy and competitive advantage, as these are central for understanding these major theories. Further, this chapter will describe how firms can gain competitive advantage, on the basis of the same theories, before presenting complementary empirical research for a composite framework. Lastly, *Section 2.4* will discuss the need for a structured tool when evaluating new market opportunities, and present and explain a market evaluation tool based on the theory.

2.1 Strategic Management

Competition is a central part of doing business; firms compete on different platforms and arenas, and try to stay ahead of each other to strengthen and maintain their position in the market. A central part in the field of strategic management is understanding why some firms succeed and why some fail. These questions encompass a wide variety of other important questions such as: why firms differ, how they behave, how they choose their strategies and how they are managed (Porter, 1991). Many researchers have answered questions regarding success and failure in business with different theories and frameworks.

2.1.1 Definitions of Strategy

There is considerable diversity in how strategy is conceptualised and its units of analysis. The term strategy has been applied to the world of business since the 1950's, where prior to that, mainly evolved around politics and warfare (Kiechel, 2010). Strategy has numerous different definitions, while Herrmann (2005) points to the original definitions, credited to Chandler (1962), Andrews (1965) and Ansoff (1965). Chandler (1962) defines strategy as "the determination of the long-term goals and objective of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals." (p. 13).

One of the major thinkers within strategic management, Mintzberg (1994), recognises Andrews' (1971) definition and points out four different ways that organisations commit to strategy: a plan to getting somewhere; a pattern of actions over time; a position, reflective of one's decisions; a perspective in form of a vision or direction. Andrews' (1971) definition of strategy, in his book *The Concept of Corporate Strategy*, clearly points towards patterns, plans and purposes as parts of corporate strategy, while it "…defines the range of business a company is to pursue" (pp. 18-19). Mintzberg (1994) further argues that strategy emerges over time.

Intended strategy will be affected by the reality, as it will also accommodate. Thereby resulting in that the organisation captures a sense of what works in practice (Mintzberg, 1994).

2.2 Gaining Competitive Advantage

In 1963, a framework made public by professor Kenneth R. Andrews at Harvard Business School, accounted for a major step in combining explicit competitive thinking with questions of strategy (Ghemawat, 2002). SWOT, an acronym for the four factors it includes: strength, weaknesses, opportunities and threats (Andrews, 1971), combining both firms competence level and market factors; both *internal* and *external* strategic factors (Ghemawat, 2002).

Theories developed to further explain the idea of *competitive advantage*, has somewhat occupied the attention of the strategy and management community. There has since then been presented two dominant theories of what competitive advantage is: Industry Analysis (Porter, 1979, 1980, 1985, 1991, 1996, 2008) and RBV (Barney, 1991, 1995, 2002; Rumelt, 1991; Wernerfelt, 1984) (Wang, 2014). These major theories have laid a foundation for tools and frameworks, widely recognised in the field of strategic management (Herrmann, 2005).

Porter (1980) defines competitive advantage as a result of one out of two strategic approaches: low cost advantage or differentiation advantage; referred to as *Porter's generic strategies*. Low cost strategy seeks to achieve a more profitable business than its competitors by minimising and controlling costs and increasing the utilisation of their capacity. On the other hand, differentiation strategy aims to gain competitive advantage by providing a product or service that is characterised as more valuable than the competitor's (Porter, 1980). According to Barney (1991), "a firm is said to have a competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors." (p. 102). A firm is said to achieve sustainable competitive advantage if no other firms possess the ability to duplicate the benefits of this strategy. Additionally, sustained competitive advantage is not defined by a calendar time, "… rather the inability of current and future competitors to duplicate that strategy." (Barney, 1991, p. 103).

Both researchers somewhat agree on what makes firms competitive; differentiation, hereby stating that low cost accomplishment can be a way of sticking out between competitors. In the words of Porter (1996), "Competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value." (p. 64). At the same time, they do not share the same idea for where this source of competitive advantage

is emerging from. This topic will be discussed further towards the end of this chapter, following a deeper understanding of their theories.

2.2.1 Industry Analysis and Michael Porter

Porter (2008) states that a good industry analysis looks at structural underpinnings of profitability while it is not intended to declare the industry attractive or not, but to fully understand the competition and why there is profitability. Competition is a part of doing business, and the strategist's job is to fully understand and then manage it. Strategy "can be viewed as building defences against the competitive forces or finding a position in the industry where the forces are weakest…" and an understanding of the "forces that shape industry competition is the starting point for developing strategy." (Porter, 2008, p. 12). These forces that Porter mentions, originates back to his book *The Competitive Advantage*, and the introduction to what is known as *the five forces framework* (Porter, 1979). The importance of industry analysis and an understanding of these competitive forces, should be as obvious to investors as to managers since the they affect prices, costs and investments. Even though this has implications for the firms balance sheets; a good analysis will not only showcase these numbers, but look at the industry as whole and provide strategic insights (Porter, 2008).

The Five Forces Framework

Porter (1979) identifies a framework where a firm's competitive advantage is decided by five industry forces. By considering all the five industry forces a firm is able to keep an overall focus instead of gravitating to one element in particular, which Porter (2008) mentions as a common pitfall. According to Porter (2008), the five forces that shape the industry are:

- Threats of entrants
- Threat of substitutes
- Supplier power
- Buyer power
- Existing rivalry

Porter (2008) also argues that factors such as growth rate and innovative environments are often mistaken to appear more profitable than they actually are. Fast growing industries often tend to draw entrants, as the "pie" is expanding. Rapid growth can also put suppliers in a powerful position due to an increase in demand (Porter, 2008). What Porter (2008) refers to as

"sexy industries" (p. 10); high technological, innovative industries such as software and internet technologies, has the tendency to draw competitors through promising potentials as attracting large markets.

The five forces framework enables firms to analyse the situation of the market, using a structured approach. Three sources of market power are frequently mentioned when describing a firm's performance: *barriers to entry, monopoly* (Porter: industry structure), and *bargaining power* (Grant, 1991). Barriers to entry, described by Porter (2008), appears in seven different forms: supply- ; and demand side advantageous of scale; switching costs; capital requirements; restrictive policies; distribution channels; and incumbency advantages not influenced by size or capital, such as technology, location et cetera (Porter, 2008).

The industry structure is important to understand given that the potential for profit is determined by how the value is divided within the industry (Porter, 2008). For a firm to gain competitive advantage it must be able to position itself and differentiate in the industry being analysed (Porter, 1996). It is also important that firms maintain the ability and power to bargain for this value between their suppliers, and also their customers. The five forces framework explains how a firm's profitability is influenced by the industry structure and its relativity to these five forces, and has since the introduction in 1979 been a principal model within the dominant school of thought (Herrmann, 2005).

2.2.2 The Resource-based View of the Firm

The resource-based view of the firm, introduced by Wernerfelt (1984), and later expanded on by Barney (1991), builds on the assumption that strategic resources among firms within an industry are heterogeneously distributed and that there is an immobility factor associated with these resources. RBV analyses firms' strategic resources to determine if they can be a source of sustained competitive advantage (Barney, 1991).

To have a better understating of this theory it is important to define the term *resource*. Barney (1991) defines it as follows: "A *strategic resource* is any form of strength or resource a firm can use to conceive and implement their strategies." (p. 101). A firm's internal attributes, strengths and weaknesses, referred to as resources and capabilities, are assets used by a firm to develop, manufacture and deliver their products or service, or both, to their customers (Barney, 1995). Resources can be catalogued into three categories; *physical capital resources, human capital resources* and *organisational capital resources*. A physical capital resource can be an equipment, technology, a plant, a firm's location, or any raw materials. Human capital

resources encompass training, experience, judgement, intelligence, relationship, and insights of individual managers and work force. Organisational capital resources can be a firm's formal reporting structure, formal and informal planning, control and coordinating systems, and informal relations with groups within the organisation and with other firms in its environment. It is important to point out that not every resource has significant strategic value (Barney, 1991). Grant (1991) defines resources as inputs to a firm's value creation. This is later described as inputs to the production process of a firm, by Thompson and Strickland (1999). Sources such as capital, finance, patents and facilities are examples of such inputs (Grant, 1991). Hafeez (2007) expands this definition of resources by explaining how individual skills and experiences also would be examples of resources. Skills in management, engineering and design are examples of resources a firm can employ or acquire, although not physically own. The definition of resources therefore remains to include all those assets which firms could employ or acquire in order to achieve its goals (Hafeez & Essmail, 2007).

The VRIO-Framework

Barney (1995), one of the central thinkers within RBV, introduces a business analysis framework, *the VRIO framework.* VRIO, a modified edition to Barney's (1991) original resource-based framework *VRIN* (valuable, rare, inimitable and non-substitutable), seeks to enable firms to analyse the potential of their resources of being sources of sustainable competitive advantage. For a resource to be the source of competitive advantage, it must be valuable, rare, inimitable and strategically organised to be exploited (Barney, 1995). Questions regarding a firm's resources prevail the link to sustainable competitive advantage to provide a better understating of a firms internal strengths (Barney, 1991). Barney claims that firms can achieve competitive advantage by addressing four important questions regarding resources and capabilities (Barney, 1995, p. 50):

1) *"Do a firm's resources and capabilities add value by enabling it to exploit opportunities and/or neutralise threats?*
2) *How many competing firms already possess these valuable resources and capabilities?*
3) *Do firms without a resource or capability face a cost disadvantage in obtaining it compared to firms that already possess it?*
4) *Is a firm organised to exploit the full competitive potential of its resources and capabilities?"*

The first question refers to the value of the resource. Changes in industry, technology or customers' preferences can make valuable resources and capabilities less valuable over time. A firm should therefore know which of their resources and capabilities add value even with changes in the environment. This assessment of resources and capabilities links internal analysis and environmental analysis, since a resource is only valuable if it exploits opportunities and neutralises threats in a market or industry. A valuable resource can only be a source of competitive advantage if it is not common, but rare (Barney, 1995).

There are at least two forms of imitation: duplication and substitution. Resources and capabilities that are valuable and rare may enable a firm to gain temporary competitive advantage, but the firm can only obtain sustained competitive advantage if competing firms have a cost disadvantage imitating their resources and capabilities. Reasons for why some firms will be at a cost disadvantage can be grouped into three categories: a firm's history and the historical events it has gone through; numerous "small decisions" made during development, nurture and exploitation of resources; and socially complex resources. Every firm has a unique history and obtain skills and resources through a unique path they have chosen. A firm's resources thus reflect their unique personality, experiences and relationships that exist only in a single firm. Other firms will therefore be at a cost disadvantage when imitating such resources. A firm's competitive advantage is not just based on "big decisions" made by upper management, but does also depend on smaller decisions made throughout the firm. These are not visible to other firms, hence making it difficult to imitate. Socially complex resources, such as reputation, trust, friendship, teamwork and culture; represent significance in inimitability as they cannot be bought unlike physical resources. These resources are "a *part of a firm's personality*" (Barney, 1995, p. 56). Eventually for any firm to obtain a sustained competitive advantage, it must realise the full potential of its resources and capabilities; by being organised in such a way that they can exploit them (Barney, 1995).

2.3 Criticism of Strategic Theories

These theories, primarily presented, by Porter and Barney, essentially address the same issue: how to gain competitive advantage. Porter's (1979) framework presents an "outside-in" perspective. A firm, within this framework, is adapting to the industry environment by seeking an attractive position in it (Spanos & Lioukas, 2001). On the other hand, RBV examines firms, and concludes that their resources are the source of their competitive advantage (Barney, 1991).

In contrast to Porter, RBV states that a "firm's performance is ultimately a return to unique assets owned and controlled by the firm." (Spanos & Lioukas, 2001, p. 908).

Regarding the generic strategies, Porter (1980) has been criticised for what he describes as "*stuck in the middle"*, where he suggests that the two forms of strategic approaches, low cost and differentiation, are inconsistent to each other. Here, Porter (1985) explains that pursuing different strategies will probably result in not being able to achieve a strategy at all; ultimately becoming unsuccessful. Wright (1987) and Hill (1988) debate that not only would it be possible to combine both strategies, but may also be a source of competitive advantage. Firms that adopt such a hybrid strategy has also been proved to outperform the ones that only pursued one generic strategy (Hafeez & Essmail, 2007). Porter (1991) acknowledges the possible advantages to hybrid strategies where he revisits the subject, stating that: "competitive advantages can be divided into two basic types: lower cost than rivals, or the ability to differentiate and command a premium price that exceeds the extra cost of doing so. Any superior performing firm has achieved one type of advantage, the other, or both" (p. 101).

RBV is based on assumptions that contradicts with those central to the five forces framework; where the focus remains on the industry itself and less on the differences between firms. Environmental models only account for half the analytical evaluation, since they only emphasise opportunities and threats presented within the industry. Even the most thorough analysis of the environment cannot, by itself, explain the success of a firm or how it gained competitive advantage. This is due to the fact, that a part of their success is rooted in their resources and capabilities (Barney, 1995).

Environmental models also assume that firms within an industry are identical in regards of their resources (Barney, 1991). In Porter's influential work *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (1980), much focus is on the environment, but less on the firm. Porters' interest in this book, is on the ability to engage in tactical ploys dealing with outside forces, rather than firm's capabilities and core competences, even though these are mentioned in his book Foss (1996). The five forces framework has later been subject to criticism related to the dynamics of the market structure. Porter assumes a classic, static market which is unlikely to be found in present day. Also, some industries may consist of complex inter-relationships that will make it difficult to analyse using the five forces framework (Wang, 2004).

RBV theory has been a subject of criticism because of poor managerial significance and applicability. According to Priem and Butler (2001), RBV does not offer an operational validity and lacks managerial implications. Barney (2001) acknowledges their arguments towards RBV, where they argue on the counts of: tautology, inapplicability and product markets in RBV (Priem & Butler, 2001), while praising Priem and Butler for bringing such criticism and thoughts to light, as they will only enhance and help further research.

Barney (2001) argues that the tautology critique is the most important of their critiques, and answers that all strategic management theories are tautological at a definitional level. The issue is not if a theory can be restated in a such way to make it tautological, which always can be done, but whether elements of that theory are parametrised in way that they can generate testable empirical assertions. He exemplifies this by stating that the reason for Porter's theory not being tautological is that Porter (1979) provides conditions of an attractive industry through the five forces framework; enabling one to make empirical testable assertions. Barney concludes by stating that the tautological critique of his 1991 article is unfounded by parameterising value, rarity and imitability as well as referring to empirical tests of RBV theory based on his original article.

Regarding inapplicability, Barney points out that RBV theory has value, as it can help managers gain strategic parity by imitating or substituting the value generated by valuable and rare resources the firm currently does not possess. Managers can also figure out what resources that can potentially give them sustainable competitive advantage, or nurture resources that are currently the source of their competitive advantage. He also argues for the all-inclusive definition of resource that only benefits RBV. Lastly, these critiques are a reminder that resources of firms should be considered in the market-context they are being considered for Barney (2001).

Miller (2003) further claims a limiting applicability of the VRIN framework; if VRIN-resources are sources of sustainable competitive advantage, then other firms cannot acquire them as they then would not be VRIN in the first place. So, in a sense no one can acquire VRIN-resources (Miller, 2003). Miller (2003) builds on the notion that firms without VRIN-resources should build on *asymmetries;* "inimitable differences between themselves and other firms that in their initial states could in no way be considered valuable." (p. 936). He argues that in a VRIN analysis, these asymmetries would be overlooked because they are not creating any value at their current state. Still, they hold the potential for becoming VRIN, if the firm is able to create value from them (Miller, 2003). Kraaijenbrink, Spender, and Groen (2010) denies

Millers' arguments by claiming that all resources or capabilities, of the firm or its employees, not deemed valuable in its current state, should also be considered a part of the RBV scope. The distinction between the definitions of resources and asymmetries is the very basis for Miller's (2003) arguments; whereas Kraaijenbrink et al. (2010) claims that RBV accounts for both, and that asymmetries are resources just as much.

2.4 The Committal to Provide a Composite Evaluation Tool

An understanding of competitive advantage and its origin has been a frequent topic of research within the strategy and management community. Traditionally, the focus has been on SWOT analysis basis, although Herrmann (2005) debates that Porters framework is perceived as the dominant design. Arguably, the field of strategic management has branched from SWOT analysis which contains elements of both internal and external factors, to a broader field characterised by different schools of thought. So far, this thesis has presented RBV and environmental models as based on contradicting assumptions. Further, this thesis will attempt to address the idea of a composition of these assumptions, by presenting a tool designed to evaluate new market opportunities.

2.4.1 Complementary and Empirical Studies

Regardless of the different assumptions and understandings of how a firm can gain competitive advantage, the frameworks of Barney (1995) and Porter (1979) complement each other in regards of explaining a firm's behaviour (Spanos & Lioukas, 2001). Porter's model can be understood as the "Opportunities-Threat" part of the SWOT-framework, whereas Barney's resource-based view supplies the "Strengths-Weaknesses" part (Foss, 1996).

According to Wernerfelt (1984), every product requires some resources and every resource can be used in some products. Thus "resources and products are two sides of the same coin." (Wernerfelt, 1984, p. 171). Foss (1996) complements the ideas of Wernerfelt by stating that the industry analysis framework presented in Porter's *Competitive Strategy* (1980) "is broadly complementary to the resource-based approach." (p. 20). Barney (1995) concludes that "sustained competitive advantage cannot be created simply by evaluating environmental opportunities and threats" (p. 60) rather it "depends on the unique resources and capabilities that a firm brings to the competition in its environment" (p. 60). As mentioned in *Section 2.3* some of the criticism towards RBV is its limitations regarding applicability, while Porter's model is poorly regarded towards the complexity and the dynamics of industry structures. RBV approach, in comparison to Porter, "is more oriented towards the longer run" (Foss, 1996, p.

19) . It allows firms to do a better competitor analysis, and may also decrease the danger of future competition through imitation. Porter, on the other hand, supplies an understanding of the short run external environment, in terms of business strategy (Foss, 1996).

Agarwal, Grassl, and Pahl (2012) propose a new decision making tool based on the original SWOT analysis, *Meta-SWOT*. This tool seeks to reinvent the original by, amongst other factors, build on resource-centred theory such as RBV and the VRIO framework. The authors argue this tool as more reliable for strategic decision making than traditional alternatives: "Maybe most importantly, ideas derived from the RBV of the firm make meta-SWOT more guided by the resources and capabilities of organisations than simply by market opportunities, without eschewing the importance of finding a good match between internal and external factors. Strategy-making is understood as a matching process driven by what an organisation controls and is good at rather than by often unattainable opportunities in the business environment" (Agarwal et al., 2012, p. 20).

The composition between internal and external factors is, arguably, even more present in the works of Spanos and Lioukas (2001), where they construct a conceptual framework that logically illustrates the combination of strategy-, industry- and firm specific effects, and how these affect the overall firm performance. The perspectives of both Porter and RBV agree that competitive advantage is a product of the firm's strategy. The strategy effects are results of how well the firm's offerings fit the market needs; industry effects are a result of how the firm is positioning itself in the market; firm effects are results of firms' unique resources and capabilities. Based on their results, Spanos and Lioukas (2001) continue to support the need for a framework that combines both perspectives of RBV and Porter, which are complementary in explaining firm's performance.

2.4.2 The EPM Tool

After providing arguments for a combination of both internal and external factors that ensures competitive advantage, EPM (Evaluation of Potential Markets) propose that the firm must assess their own resources and apply them to a competitive environment; based on how their characteristics fit in to VRIO and industry analysis. Consolidation, or composition, between the key aspects of resource-based theory and market-based theory is the very background for this thesis; hence proposing a structured approach in EPM. This tool should be applied with the objective to provide an overview of the current state of the firm, potential

markets, and the resources of the firm; not to be presented as a strategic decision tool rather a tool that presents key insights to strategists and decision makers.

The EPM tool, shown in *Figure* 2-1, is designed as a flow chart to capture the most central elements of market evaluation in a structured approach; consisting of three phases. The first phase, is solely based on the researchers' own understanding of how to establish an overview of the firm and the industry within it operates. Based on the findings the user should determine whether to seek new opportunities. The second phase, mostly based on the industry analysis of Porter, emphasises on competitive forces and factors of market attractiveness. Findings from this phase should enable the user to deem the industry attractive; if not the user should analyse a different market. Lastly, the third phase consists of a VRIO analysis of the firm's resources, and relate the findings to the new market. After completing this phase of the analysis, the user should have identified resources from where to gain competitive advantage in the new market, in combination with how the firm should position itself relative to these resources.

Phase 1

The preliminary phase, *Phase 1*, emphasises on the understanding of the current situation of the firm and the industry it operates in. This phase starts by *analysing the industry* by looking at key figures such as profitability, growth rate, increase in consumers, market entrants et cetera. This phase encourages the user to obtain the data necessary, to create an overview specific to the industry, the current state and future implications. Further, the *situation of the firm* is analysed. While it is often related to the state of the market, there is no certainty that the firm's performance reflects the situation of the market. Firms can be performing well in industries with decline or show poor performance in profitable industries. *Utilisation of capacity,* is another important factor that describes the state of the firm. Firms may have invested in either human-, physical- or organisational capital resources that are not fully utilised in their current situation. This can be due to shifts in demand, long term investments and ambitions, or similar reasons. Utilisation of capacity, can thus be the source of firms present financial or operational state, or both. Again, this is not necessary reflective of the market situation, making it critical to uncover. After completing the analysis in phase 1, the user should hold a decent understanding of the market situation, the firm and possible issues regarding capacity.

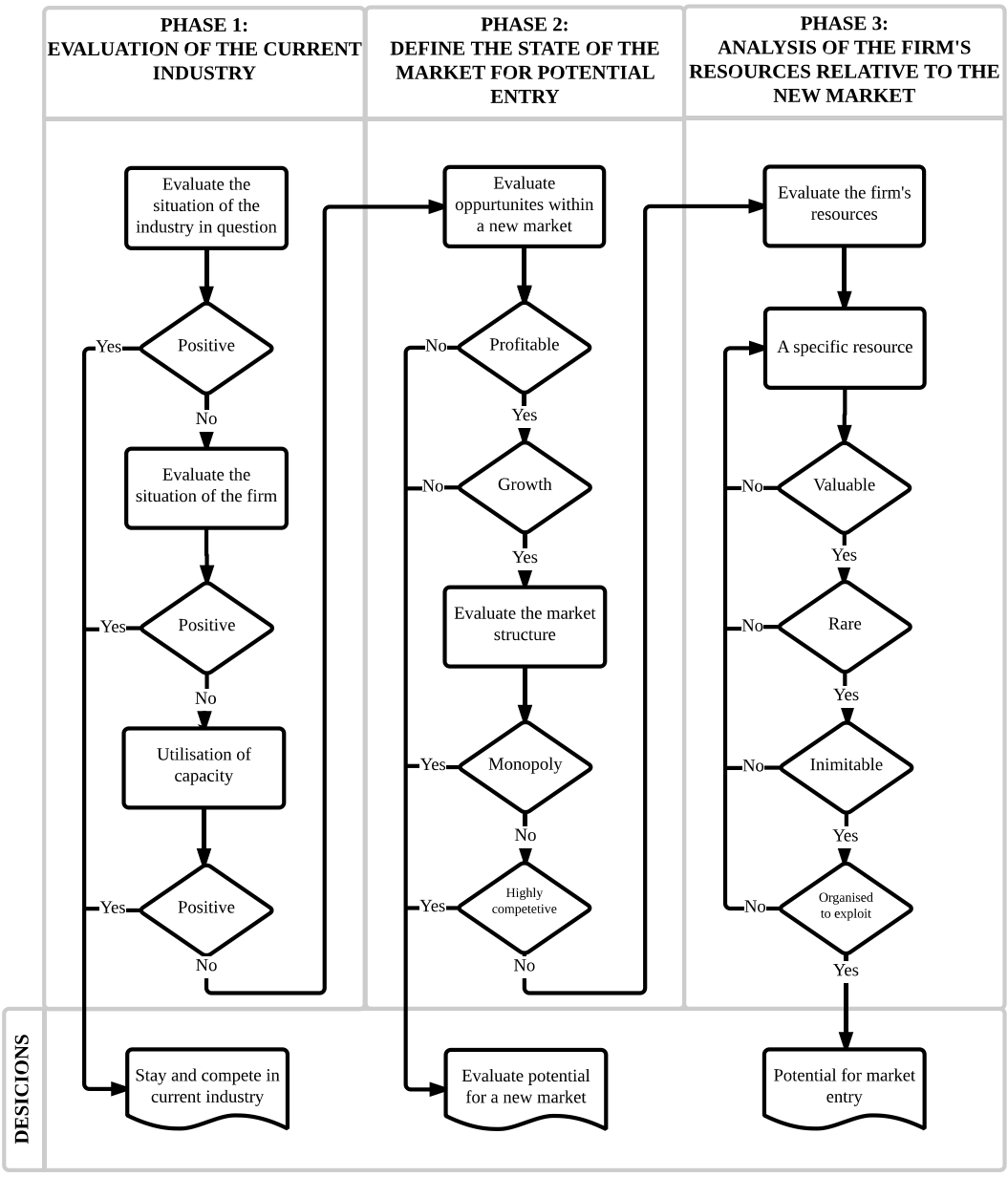

Figure 2-1 – EPM Tool

Phase 2

The second phase includes the evaluation of the potential new market. The market evaluation for this tool considers three factors: *profitability*, *growth* and *market structure*. This is based on Porter's (1979) five forces model. Forces that shape industry are, according to Porter (1979), threat of entry, threat of substitutes, power of suppliers, power of buyers and rivalry among incumbents. Profitability is perceived as one of the businesses objectives (Narver & Slater, 1990); the first step of this phase is to map the profitability of the new market, while the second step is uncovering growth. Both profitability and growth, are not sufficient

factors to determine an industry attractive or not (Porter, 2008); rather it will give the management an overview of the potential market. There are many factors that may affect the profitability such as number of competitors, regulations, demand and supply et cetera. Porter (1980) names the industry life cycle an essential concept for predicting the probable course of industry evolution. The industry lifecycle concept claims that an industry passes through a number of stages: introduction, growth, maturity and decline (Porter, 1980). Determining where the industry is at the time of evaluation will provide better grounds for a complete evaluation. Market structure: Monopoly or competitive markets, offers different challenges and opportunities to entrants. Market structure, or industry structure, is one of the factors Porter (2008) mentions when describing market power. One or few competitors indicate a monopoly or oligopoly, and in such cases, the entrant may face barriers of entry posing as disadvantages. Highly competitive markets, are characterised by competition for price, location, supplies and expertise, also representing barriers to entry (Porter, 2008). There is no definitive answer to how many suppliers or buyers a market should have access to, for becoming profitable. Bargaining power is dependent on the characteristics of the buyers and suppliers. Factors such as representation, size, capacity and distribution are all relevant for this phase. This analysis should therefore be based on a thorough review of relevant actors within the market: incumbents, suppliers and buyers. Ultimately, this phase should uncover a profitable industry with potential for growth, moderate competition and overall appear attractive to the entry firm. It should be emphasised that this tool does not provide guidelines for performance, rather to seek out potential markets where the firm can achieve success.

Phase 3

The final phase examines the firm, based on a VRIO analysis of the firm's resources. According to Barney (1995) the firm must assess its human-, physical- or organisational capital resources, and for these to be the source of sustainable competitive advantage they must be valuable, rare, inimitable and organised to be exploited. The firm must then discuss and assess these relative to the potential market, uncovered in the previous phase. At this point, new potential VRIO resources relevant to the new market may be discovered. In other words, resources the firm does not see as valuable at the point of evaluation, may qualify as VRIO within the new market. The firm should, at the end of this phase possess an overview of their VRIO resources relative to the new market; thereby deploy these insights to their strategic decision platform, integrated with insights from the previous phases.

3 METHOD

Revisiting the research question "How can a firm evaluate new market opportunities by applying a combination of dominant theories within the field of strategic management?" this thesis aims to present a tool which will enable firms to evaluate opportunities in new markets. To determine whether EPM meets the requirements, presented in *Section 2.4*, it must be tested, and evaluated. Evaluation should provide insights regarding the strengths and weaknesses of EPM, and implicate potential improvements. By doing so, EPM will be applied to a case study, following a presentation of the research design for this case and evaluation. Further, this chapter recaps the selection process for informants and explains the process for data collection. *Section 3.3* describes the process for testing EPM, which is obtaining the case findings, while the evaluation process for EPM is presented in *Section 3.4*. Lastly, the process for data analysis will be presented at the end of this chapter, in *Section 3.5*.

3.1 Case

The Norwegian oil and gas industry, specifically members of the business cluster Global Centre of Expertise (GCE) NODE, will be the subjects of this case study. GCE NODE or simply NODE, is a technology cluster consisting of 72 member companies located in the Southern region of Norway, and one of three GCE clusters in Norway. GCE has the following areas of focus: encourage innovation, increasing globalisation, host attractiveness, and improve access to fit-for-purpose capability and competence (GCE, 2017), while NODE further outlines their vision as to ″secure competitiveness, enhance the development of new products and services, and transfer knowledge and technology to new markets in a sustainable way"(GCE NODE, 2017).

A significant number of NODE members have been considerably affected by what has been commonly referred to as *the Oil Crisis* (Jacobsen, 2016). As of April 2016, there was reported more than 4600 terminated employment contracts and 650 layoffs for employees of companies within NODE. There has also been reported further layoffs from some of the major oil service companies in the Southern part of Norway (Berglihn, 2016). DNB Markets concluded in 2016 that close to 39,000 jobs in total, have disappeared from the Norwegian oil and gas industry (Jacobsen, 2016). Additionally, Statistics Norway (SSB) reports that between 2013-2016, 50,000 jobs have disappeared from companies affiliated with the Norwegian petroleum industry (Hungnes, 2017).

Halfway through 2014, the global demand for crude oil was stimulated by price of $107 per barrel. At the entry of 2017 the price per barrel was $53 (Yahoo Finance, 2017). This extreme change in oil prices was a reaction to changes in supply in several oil-producing super powers in addition to changes in total demand for crude oil (Bertelsen, 2016). An increase in domestic, American production has also forced members of OPEC to compete for other markets which ultimately has lowered the asking price for crude oil (Krauss, 2016). The oil and gas industry in Norway accounts for 47% of all export value in Norway, and in 2016 it amounted a total of 350 billion NOK (Petroleum, 2017). Based on these statistics, one can form an opinion about the state of this industry and the situation firms within this industry are in. This is an industry that has been in decline and firms seem to cut their costs of production, by reducing human capital resources.

It can be debated that suppliers within the Norwegian oil and gas industry possess the technology and expertise applicable to *aquaculture*. Petroleum industry in Norway has been a great contributor to development of advanced technological solutions and great knowledge about recovering petroleum from challenging environments. A report conducted by SINTEF (Holte, Sønvisen, & Ingunn, 2016), indicates that there is great potential for transfer of technology and solutions among ocean space industries. The report further indicates that technologies and solutions cannot be directly transferred, but needs to be scaled for the respective industry. Based on the response from 60 industry informants, 47% acknowledged a substantial transfer potential among offshore and aquaculture (Holte et al., 2016). Therefore, based on this report and dialogues with NODE, this study will address the Norwegian aquaculture as the potential industry to be evaluated.

To summarise, EPM will be applied to the case of suppliers within the Norwegian oil and gas industry, to analyse opportunities for these suppliers within aquaculture. The findings from this case will benefit the thesis, and should ultimately help answer the research question on how to evaluate new market opportunities by combing environmental and RBV theories.

3.2 Research Design

The research design for this study describes the research method, the selection process for informants, interview guide, and testing and evaluating the EPM tool. This study argues the use of a qualitative method as most fitting; specifically select interviews as the main source of data collection. *Figure* 3-1 illustrates the research design.

Figure 3-1 – Research Model

3.2.1 Qualitative Method

The study will commit to a qualitative approach for data collection. The proposed tool, EPM, requires a profound understanding of the industry, the firm itself, and the potential market being evaluated. The tool is designed in such a way that firms must assess themselves since they possess the deepest knowledge of their resources, goals and strategy; factors crucial in this analysis. Terms such as strategy, resources and competitive advantage, have different definitions both within the research community and the world of business. Therefore, different people within a firm may have different perceptions of such terms. Their answers will be based on their position in the firm, their understanding of the firm's processes and to what extent they have access to privileged information. Arguably, semi-structured one-on-one interviews with key informants from firms will therefore provide a better understanding of what may be sources of competitive advantage. For the evaluation of EPM, a second interview will be conducted with the same informants. Again, the study argues that qualitative interviews are the best fit to gain insights from the informants, in order to answer the research question. Interviews as a form of data collection will allow informants to address the topics freely without constraints. This allows the researchers to converse with informants to better understand the context by reading the informants gestures, asking follow-up questions et cetera.

3.2.2 Selection

Phase 1 of EPM, addresses the current situation of the industry and the firm, thereby selecting informants from firms within NODE. The selection is conducted in cooperation with key informants from NODE. One important factor, in particular, is selecting informants with an interest in market opportunities outside the oil and gas industry. This is considered a precaution, so the research could to best dispose of the time available to the study and to withdraw most value from the interviews. Initially, potential informants were provided by NODE, while the final selection is based on key characteristics that should prove beneficial for the research. These characteristics are revenues, number of employees and core business. The final selection consists of four firms that are unlike each other, with regards to these characteristics, to provide a more diversified database. *Table* 3-1 shows key information about the firms and their informants.

Table 3-1 – Informants Group I

Firm	Number of Employees	Revenues (2015) NOK, in thousands	Type of Service	Informant
A	200	2 841 982*	Loading and Mooring	*Top Management / Technical*
B	>10	7 480	Simulation	*Top Management*
C	100	352 924	Surveillance	*Top Management / R&D*
D	20	89 920	Subsea	*Top Management / Technology and Market*

**Translated into NOK from USD using average exchange rates from 2015*

The objective for Phase 2, is to evaluate the new potential industry, aquaculture. Thus, the selection consists of key informants from firms and organisations affiliated with the aquaculture industry, either as the buyers, suppliers or other actors of relevance. Ultimately, this selection would consist of suppliers in aquaculture, as this would benefit the VRIO analysis in Phase 3. Due to limitations and complications with getting in contact with these suppliers, other measures have been accounted for. Both in dialogues with NODE and extensive research in terms of *snowball sampling*, the final selection consists of two informants, shown in *Table* 3-2.

Table 3-2 – Informants Group II

Firm	Type of Service	Informants
E	Seafood Production and Distribution Company	*Top Management / Technical*
F	Business cluster – Aquaculture	*Top Management*

The selection for Phase 3 is identical to the selection for the first phase. There is already established contact with these informants, as well as them having relevant positions within their firms and overall considered valuable as informants. Not to mention, that this will ease the research by avoiding a new process for selection.

3.2.3 Interviews

The interview method chosen is semi-structured interviews. The informants will be introduced to the research and the objective of the interview, while not feeding the informant

with any thoughts that might alter their response. The objective of the interviews is to gather as much information as possible on the topic, while letting the informant's answers guide the interview instead of asking questions in a sequential order. This will create a natural flow in the conversation and make it easier for the informant to share information as it comes to their mind. The interview will be concluded with a review and informants will be informed of the progress and future research. In total, ten (eleven*) interviews are scheduled:

- Obtaining case findings:
  - Four interviews with firms, members of NODE
  - Two interviews with key informants from the aquaculture industry
- Reviewing and evaluating EPM:
  - Four interviews with firms, members of NODE
  - Review with key informants from NODE*

Interview guides will be prepared in advance with key questions regarding the topics relevant for the research. Each interview guide is tailored to the respective purpose of the interview: obtaining case findings, evaluation, groups et cetera (*Appendix II-IV*). Phase 1 and 3 are aimed towards the subject, the firm. The objective is to obtain information by asking questions about their current situation, how they consider the industry they are currently operating in, capacity utilisation and their own resources. Phase 2 requires information about the potential market, which in this case is aquaculture. Informants will be asked about the market situation and future prospects. Findings for this phase should uncover issues the industry is currently facing, and available resources within the industry. Interviews for evaluation will be conducted after testing of the EPM tool, Informants will at this point have been presented the EPM tool, thereby asking the informants question about their thoughts on the model, positive and negative remarks and whether it is something they would consider applying.

3.3 Testing EPM

EPM will be tested while obtaining findings from the presented case. Activities for each phase are conducted simultaneously, while treating them in the presented order. For Phase 1, preliminary research grounded in online sources will be the starting point to form an understanding of the oil and gas industry and the situation specific to the suppliers located within the NODE region. Interviews will then be conducted to obtain deeper insight into the

firms' situation and their views on the industry. Instead of scheduling for several interviews for with each informant, findings from both Phase 1 and 3 will be obtained from the same interview. This is considered a more practical approach in terms of scheduling, alternatively two interviews would more likely be preferred with regards to the preparations for each interview. The firm will therefore also be questioned about their resources in the first interview. The interviews will not mention the VRIO framework, any other strategic framework or terminology, as this will have the possibly of leading to poor communication and limited understanding. Other sources such as a firm's financial statements, published statistics, and news articles among others will be used to confirm findings from the interviews.

Phase 2 requires interviews with organisations, firms or key informants with knowledge of the aquaculture industry. Before interviews, research will be conducted to form an overview of the industry as it is today, prospects et cetera. This information is likely to benefit the findings obtained from the interview. An extensive research based on online sources and secondary sources will supplement and confirm findings from these interviews. Finally, these case findings will be discussed and analysed and concluded.

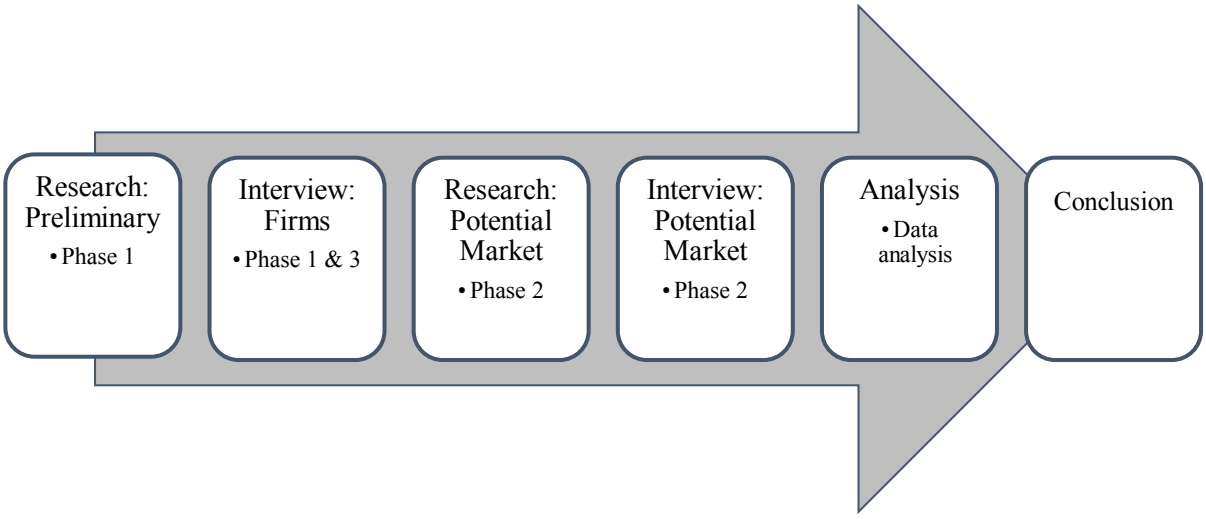

Figure 3-2 – Testing EPM

3.4 Evaluating EPM

Findings will be obtained from interviews with member firms from NODE and a review with key informants from NODE itself. The findings should provide overall feedback on EPM; with the objective to suggest improvements for EPM. This section details the process and criteria for the evaluation.

3.4.1 Evaluation Process

The first step in this process will be to present the results to NODE, and then get their opinion on the findings and the EPM tool itself. NODE has extensive knowledge about their member-firms and oil and gas industry, thus their insights are very valuable. They may have an idea of what these firms are capable of and markets that would be attractive for them. The next step is to conduct a second interview with firms. Firms selected vary in size and their current process for looking for new markets may vary as well. It is possible that some of these already have a similar tool or process present. Firms will also be asked if they actively look for new opportunities or have a more reactive strategy. They will then be asked to review and evaluate EPM. After conducting the interviews, findings will be analysed and used to evaluate the tool based on three criteria: presentation, content and applicability. Finally, these findings will be discussed in light of the theory presented and researchers expectations of EPM.

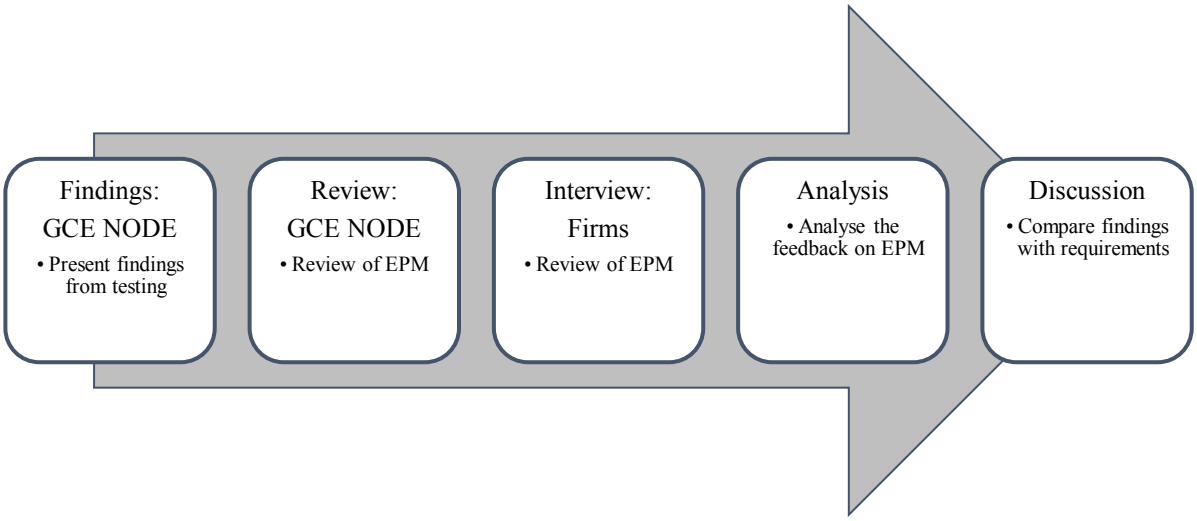

Figure 3-3 – Evaluating EPM

3.4.2 Criteria

EPM will be evaluated on the following criteria: presentation, content, applicability.

Presentation

The criterion of presentation includes the overall appearance of the tool and determine if a flowchart is the best way to present it. Such a tool must be created in such way that anyone can understand it and that it is clear and self-explanatory.

Content

The tool is based on recognised strategic frameworks and incorporates factors that are relevant to answer the research question. As this tool is based on theory it might not reflect reality as it is intended to. The factors that are included in EPM, while accounted for in theory, are in no way the definitive factors in a market analysis. Firms and its employees may have different views on what factors that should be considered, based on their background and knowledge. This criterion will uncover eventual factors that should be included, or are irrelevant for this analysis.

Applicability

EPM will have little or no value if it cannot be applied as intended, or applied at all. Even if EPM should consider the relevant factors, while capturing simplicity, it is not a certainty that it will provide answers as intended. Therefore the researcher must analyse the findings of this tool, while also assess the feedback and reviews, to conclude if EPM does answer the questions regarding the firm's situation, potential market structure, VRIO resources et cetera. EPM should also be sufficient, in that the user would have the understanding and prerequisites to apply the tool without difficulties. Also, findings should implicate if EPM does present some additional value to the user.

3.5 Analysis

Data analysis is an ongoing process that will take place from the very beginning of each interview till the data is obtained and processed. Post interviews, the data will be transcribed and structured. Due to the combination of semi-structured interviews and a relative small selection, the data will be structured manually using matrixes and by applying key words and phrases from the EPM tool.

The data consists of two parts: data obtained from the case, and data obtained from the evaluation of EPM. The case data is interpreted and compressed, so that each statement contains information valuable to the findings, while numbered facts is compared and verified by secondary sources, web search i.e.

4 FINDINGS

This chapter is divided in two sections: case findings and EPM evaluation. The first section of the chapter presents findings from the case study segmented for each phase following a summary of these findings. The second section of this chapter presents the findings for the evaluation of EPM.

4.1 Case Findings

This chapter presents the results for each phase achieved when testing EPM, and will conclude with what opportunities oil and gas suppliers might have in aquaculture. Uncovered in method, a total of six interviews were conducted to obtain case findings: respectively four interviews with firms currently working within oil and gas, and two interviews with key informants from the aquaculture industry.

4.1.1 EPM: Phase 1

Evaluation of current industry

There seems to be a mutual understanding throughout the industry on future expectations for oil and gas. Every informant has witnessed a decline in price for crude oil, and confirms that their firm had been affected directly, or indirectly, through the impact on their partners, clients or suppliers. Several informants state that the downfall may have reached its lowest, here exemplified by Firm D:

"While there has been a pretty dramatic downturn the last couple of years, with regards to new tasks and projects, we are now seeing signs that we might have reached the bottom."

Oil and gas has been an important source of income for Norway, and will be in the coming years, but the drop in oil prices and the effects of the crisis has been significant to the Norwegian economy. There has been a substantial increase in unemployment, especially in the Southern and Western regions. The situation is described in the most recent report to the Storting, Meld. St. nr. 2 (2016-2017) (2017):

"The petroleum industry will be important for the Norwegian economy for decades, but it will contribute less to growth than before. Therefore, other profitable industries should be facilitated to take over as main sources of growth. Because of the most serious fall in oil and gas prices in 30 years, this restructuring came faster than expected. Reduced activity in petroleum-related industries has led to higher unemployment, especially in southern and

western Norway" (p. 5) "…the oil price has risen considerably since the beginning of last year. Prices for future deliveries of oil indicate that oil price will rise a little further" (p. 11)

The firms that were interviewed, are suppliers of either products or services to oil and gas operators or oil service companies, and thereby their operations depend heavily on the frequency of new projects assigned to them. The firms recognise that this frequency has been lowered. Here summarised by the informant from Firm C:

"It has been a significant challenge in finding work and new projects. Many projects have been cancelled, many have been delayed and the initiation of new projects has been much slower. We have seen signs that the decline is flattening out, but no signs of an upturn as of yet."

Investments in the petroleum industry hinge on the future estimates and expectations of oil prices. There are indications of a rise in new projects, and ongoing projects do seem more profitable; stated in Meld. St. nr. 2 (2016-2017) (2017):

"Investment estimates for the future are higher than those estimated in the National Budget for 2017. Efficiency and lower prices as factors, are reasons for why more projects appear profitable and that new projects can start earlier. Uncertainty in these estimates is great. Investments may be delayed or dropped, if companies' expectations for long-term drop in oil prices." (p. 23).

Evaluation of the firm

The decline has affected the firms' workforce more than anything. In 2013, the Norwegian petroleum industry, accounted for 232,000 employees (Statistisk Sentralbyrå, 2016b). Repeatedly, according to SSB (Hungnes, 2017) 50,000 of these have been terminated by the reduction in investments in the petroleum industry, between 2013-2016. Usually, these firms take on projects that take years to complete, and thus need to adjust their capacity according to future workload and income. Firms are being forced to prioritise which workers to keep, and how to distribute the projects they are currently working on. The informant from Firm C explains:

"For us, it depends on how you look at it. We have been pursuing more challenging projects than before, so we have a lot of activity in our R&D department. If you consider our organisation as a whole, we are more or less reduced to half the staff compared to what we were two years ago. We have tried our best to keep as much skilled personnel as we can, and

tried to reduce the impact on the individual worker by equalising the workload. The departments that has suffered the most are in the administration and production units, while we have done our best to shield R&D and support."

Sales and marketing are areas most of the firms have been tested on during the decline. The oil and gas industry in Norway has been characterised by frequent distribution of projects keeping the suppliers occupied, thus the focus on seeking new opportunities has been given a low priority. An active marketing department is recognised as a common factor in firms less affected by the decline. The informant from Firm C states:

"We have a model that emphasises on a very active sales force. We have basically had it all the way, and I think that may be one of the reasons for why we haven't been as badly affected from the decline as many others."

Firm D recognised this about three years ago, when they saw the need to change their platform and the way they acquired new projects. They are, among the firms interviewed, the one firm not directly affected by the decline. They also also point to a solid marketing department:

"We have been searching for new markets both on a technical and geographical level, and is the reason for why the decline hasn't hit us. Marketing is definitely one of our most valuable resources. We have allocated so much of our time and efforts to uncover capacity in the market, and we no longer just sit around and wait for clients to approach us. We target them."

As layoffs are clear indications of difficult times it is still too soon to draw conclusions from a financial standpoint. Several firms, recorded their all-time highest revenues in 2016, due to their backlog. Some projects that were initiated three, four or five years ago were delivered in 2016, resulting in high revenues. This is the case for both Firm A and D.

Capacity utilisation

Firm D, being the one firm that has not committed layoffs during the decline, is also the firm that has been quickly able to move operations outside the oil and gas industry. This has caused an increase in projects, which have created some challenges regarding their capacity. Here is what the informant from Firm D says about it:

"We are bringing in more people. We seek to separate between project delivery and development. That is something we have not been able to do up to this point as we have not had enough resources to manage both areas. Our delivery system sort of leaves us with our hands full. We wish to allocate more resources to R&D, and this is the time to do it."

Not only is the magnitude and frequency regarding layoffs factors that characterises the current industry; firms are also aiming to further utilise their capacity. By reducing their workforce, the firms are hoping to maintain a workforce that is equivalent to the workload. Considering that the firms A and C has suffered the most, in terms of layoffs, this is what the informant at Firm A has to say:

"We have tried to estimate our workload for the following year and tried to reduce capacity to a level that we think answers to that. Although… if you would see the whole offshore market disappearing, we would have a hard time employing 200 people."

This statement from the informant at Firm A, explains some of the underlying perception within the oil and gas industry. Not only have projects offshore shown extremely profitable, but there is at the same time no industry that can offer projects of the same magnitude. Especially for a larger firm, this represents some great challenges when trying to keep their businesses going.

The decline has also affected the culture within this industry. Most of the firms in this industry have in the previous years been very profitable, and since maintaining that level of profitability is almost impossible; firms are now more open minded. Informants from both Firm A and D complies that the firms are now looking towards new and cost-efficient solutions.

"There has never been this much openness and willingness to discuss new products and solutions to save money, as there is right now." – Firm D

"The way I see it, the industry in general is more open to look at new ways of doing things. It is more openness now, in the way that it is full discretion when it comes to developing solutions that proves both effective and safe." – Firm A

4.1.2 EPM: Phase 2

Profitability

The dynamics and situation of the aquaculture industry directly affects the profitability and growth for suppliers in this industry. According to SSB (2016a) over 1.3 million ton fish for food was sold in 2015 at a first-hand value of 46 billion NOK. Compared with the year before, these number increased with respectively 4% and 6% (Statistisk Sentralbyrå, 2016a). Norway produces more than half of all Atlantic farmed salmon with a total export value of 61.3 billion NOK (Steinset, 2017). Statistics published by Norwegian Directorate of Fisheries (2016) confirm that aquaculture firms had an average operating profit of approximately 77 million NOK in 2015. This report is based on information provided by 88 participant firms, who control over 64,5% of ocean farming licences in Norway (Norwegian Directorate of Fisheries, 2016). When asked about the future of this industry and the financial side to it, the informant from Firm F states:

"Globally, the challenge with fish farming is that it is a low-income industry, whose purpose is to feed a hungry population, in the same way as agriculture has been. In Norway, we have managed to industrialise this industry, and gained success with salmon becoming a high value product. This trend is now happening globally as well, thus there will be an increase in demand for technology and equipment on a global level, which is not there today. In the future, the increase in demand for salmon and other fish globally, will have a very positive effect on this industry. For this industry to be able to meet the demand, new and better technologies will be needed."

Growth

Secondary sources confirm that this is an industry with a great potential in the coming years. This assumption is based on the premise that the end-product is food, which is vital for human survival. The world population is projected to reach 9.7 billion by 2050, and feeding this planet while safeguarding its natural resources for future generations is a challenge that must be confronted (FAO, 2016). This projection for an increased population in the future was also mentioned as an argument for a growth in the aquaculture industry. This statement from the informant at Firm F summarises the view on the future demand:

"We will then have an extreme increased need for access to calories. The earth's surface is almost exhausted and we must look to the ocean to provide us the calories we need."

Fish to 2030 report, based on results of the IMPACT (International Model for Policy Analysis of Agriculture Commodities) model of International Food Policy Research Institute (IFPRI), presents its projections for 2030. This model projects that for the most plausible scenario; in 2030, total fish supply will reach 187 million tonnes and total fish consumption will be at 152 million tonnes. Aquaculture will provide 50% of the total fish supply and 61% of total fish for food consumption (FAO, 2014). Human consumption of fish in 2014 was 146 million tonnes, and the total fish production was at 167 million tonnes, where 44% of this was from aquaculture (FAO, 2016). Informant from Firm E speaks on the industry's future, and how future demand can be met:

"We need food. We have food production that takes place in the ocean, which as you know covers 70% of our planet. So, there are countless resources and very few limitations... it cannot come from the natural fisheries because they are fully utilised globally. It will have to come from aquaculture."

As the industry holds promising potential in terms of growth, there is still some issues regarding growth today. Informant from Firm F claimed that there has not been any growth in the industry in the recent years:

"The biggest challenge for the fish farming industry today, associated with growth, is that there has been no growth in the industry since 2012. The government have limited further growth in fish farming, because of today's environmental issues… mainly related to salmon louse."

This phase of slow growth will reportedly pass soon, based on the opportunities ahead. AKVA Group (2016), one of the larger aquaculture suppliers has reported that a strong order inflow in 2016, and concludes a record year with an order backlog of 998 million NOK. This can be considered as an indication for future opportunities and growth, which will result in higher demand for technology and equipment (AKVA Group, 2017). This statement from informant from Firm F claims on the growth as of today:

"So, as of today, it is an industry that is not growing. But looking back to the 90's or especially since 2003, there has been significant growth. Opportunities ahead are also significant, and the limited growth since 2012 is passing."

The technology itself is basic and has been what was needed until now. But as the demand is increasing, everything is getting bigger and more complicated. There is also an understanding that an upscale of current technology is not enough, and new and better solutions are needed. This statement from informant from Firm E, summarises it:

"The technology is simple, well proven and has been what we have needed up till now. And it is relatively inexpensive... But everything evolves, gets bigger, and becomes more complicated. Operations will be moved further and further out in the open waters…, which further enhances the need for R&D. It feels like we have reached a point in time where an upscaling of today's equipment is not enough. We have to think "new" again."

New areas of innovation have been monitoring, and remote control options. These will enable aquaculture to scale up production to meet future demands. There is great potential in this industry, which seems to be an agreement amongst industry incumbents, while one of the challenges to fully reach this potential is to further develop new technological and biological solutions. Informant from Firm E talks about the direction industry is headed in:

"And of course, we have some challenges before we can get there and some of these are concerning technology… But there is tremendous development when it comes to monitoring, and remote operations. More and more of our fleets and plants are controlled from control rooms on land near urban areas. From there one can monitor and feed different plants from the same control room."

Industry structure

The Norwegian aquaculture industry is quite established and sea-based production is license-based. Firms can either acquire a license from the Norwegian government or buy it from an entity who already owns a license. Both alternatives are close to impossible, since the government is not giving out any new licenses and no one is willing to sell one because of its rarity and value. According to the informant from Firm E, new entrants at this point are firms that operate closed land-based aquaculture. The government is granting licenses for innovation purposes, and this has been a very active segment in the industry lately. Innovation has promoted solutions to the challenges that the industry is phased with, primarily salmon louse and breakout. This statement from the informant from Firm E can be used to summarise:

"It is quite established, and currently a consolidation is in progress. The industry is going from many companies to few, through acquisitions and mergers and so on… And where we really

see the newcomers are those who operate closed land-based aquaculture… This is because of licensing arrangement. You must have a license to be allowed to be involved in farming and the government does not distribute new licenses. That's why the government now has introduced what is called development licenses. The government says that if you have an exciting new technology project, then you can get licenses to operate and test your R&D concept… and it has been tremendous activity in that area."

Looking at the supplier side of the industry, it can be described as fragmented. The reason for this fragmentation is its history and culture. AKVA Group is the world's largest total supplier in aquaculture, according to informant from Firm F. They are still considered a very small organisation on a global scale, compared to suppliers from other industries. The informant from Firm F states this about the industry and suppliers:

"The industry consists of many small fragmented companies… Roughly speaking there are one, maybe two, total suppliers here in Norway. Other than these, the industry consists of smaller, specialist companies and tool providers. Historically this is an industry which has been consistent on buying from local suppliers. This is the reason why there are many suppliers along the cost who supply the exact same product, but only differentiate because they are serving their local market. This culture is changing and there has been an increase in procurement from national and international suppliers."

This trend is now changing as the industry is moving towards large publically listed firms, from what has been smaller family owned businesses. And these bigger firms procure and trade in a different way. As this trend is changing, aquaculture in general will also look globally for suppliers who can deliver what they want at the right price. This will increase the competition between Norwegian suppliers. According to informant from Firm F, innovation and location are factors that have been important for the suppliers in aquaculture. This again goes back to the fact that this has been an industry with a culture of local procurement. This statement from informant F elaborates this.

"I don't think that there is on uniform attribute that characterises the suppliers, but I think being innovative and geographically close to the customer is very important. This is an industry that procures locally. For large companies, it is still important to have sales and service offices near their customer, to be considered as a local supplier.

Regarding future implications and the direction the industry is headed in, informants sees that most of the operations will be similar to what it is today. Still, to meet future demands, production must be supplemented by new solutions and supplier activity:

"Production will mainly be as it is today, in open fish cages, close to the coast and not offshore. There will also be more of closed farming plants… So I think, in the next 5-10 years you will have a much greater degree of post smolt production in closed systems." – Firm E

"I think we will see a much diversified development in the years to come, regarding production locality. Production today takes place in relatively close to the coast, which we will also see in the future as well. But we will have a greater share of production on land. " – Firm F

4.1.3 EPM: Phase 3

Employees and core competence, are recurring answers when firms are asked about their most valuable. The reason being that these firms provide high-technological engineering solutions, and their engineers are the main component for these. This statement from the informant from Firm C, is an example of such views:

"Our most important resource is our employees, since we are a company that customise almost every delivery. The staff is our most important resource… We have very diverse competences from production workers to logistics, sales of course, service and development. We provide turnkey systems so we have a wide range of people and competences. On the engineering side, we have expertise in audio and video… Not a single patent."

Physical resources and location are important factors in these firms' businesses, but there is a common understanding that these resources only serve as enhancements to the people working in each firm. A simple way to put it would be to use the statement from the informant at Firm B:

"If you would set this building on fire and burn it to the ground, it should not be that hard to restore business in short time. There are more things to us than that."

Rarity of resources are factors that are recognised differently in each firm, specifically how unique a resource is. Still, they point to one or several core competences as what competitors would struggle to obtain the most. Repeatedly, there is also the combination of

technology, experience and competence that makes a good combination. This statement from Firm D is a good example:

"We do possess some uniqueness, in that we work with material technology, but it has also been a long-term build-up of people, where the people we hire have obtained knowledge in our expertise. There is no education that provides the knowledge we have… education in composite materials is close to nothing. We need people that are skilled in basic engineering, and then we have to transform them into what we do, which is a niche… So far we have been very fortunate with the people we have hired".

Some of these competences takes years to obtain, which the firm recognises as what can be interpreted as an inimitability factor. The informant from Firm C explains how this experience is hard for competitors to obtain:

"We have 30 years of experience. Our tolerance levels sometimes boil down to a thousandth of a millimetre. We also see that when releasing a new product, we spend about 9-10 months reviewing it with our own suppliers, to ensure the quality of the product. In other words, this is not a simple field to pursue for outsiders. Also, everything is regulated by international standards."

This statement from Firm D illustrates that, even within an industry characterised by layoffs there is expertise considered so valuable and rare that they cannot afford to lose. Some competence is also so rare that firms will have to pursue it from outside Norway. Informant from Firm A explains this:

"We possess some expertise that is hard to get hands on, as a result we have hired people with 15-20 nationalities. Some expertise consists of people with knowledge in geotechnics, which we are still looking to hire, since they are not so easy to hold on."

Patented technologies and solutions are still valuable resources to some of the firms, this does not take away the value of the people behind these technologies, as elaborated on by the informant from Firm D:

"Some things are patentable, some things are obviously easy to get hold of, but most reason for good performance is not necessarily to protect yourself with patents… it is moving faster, and being better to find solutions. We have some very talented engineers, who are able develop what we call out of the box-solutions… think new, do things cheaper and simpler…"

It is also interesting to see how these firms evaluate the applicability of their resources outside the oil and gas industry. The engineering expertise as a resource is fully utilised at these firms. Most firms also argument for the applicability of this resource to other markets. The informant from Firm A explains:

"Even if you are to dock an oil production ship in the North Sea or a fish farming installation somewhere else, you will still need anchoring. It depends on the same knowledge and competencs… Well, there are some variations to it, but in the end, you are doing the same thing. Engineers are fairly, with lack of a better word, omnivorous. Give them a task or a challenge and they will find a way to solve it. Considering our organisation, the way it is build and the way we do things, it is easy for us to switch to other areas or markets. The question is; is there something for us there?"

Informant from Firm B also recognises the applicability of their technology to other markets. The following statement summarises:

"It is a free world, and we can't stop others stop from doing what we do. You have to accept that customers sometimes wish to do things their own way. I still believe that what we do is applicable in so many industries, and combined with the cost efficiency of it, the market should only increase. Flow analysis is such a specialised field, while others are responsible for total design of the project… But we are still very relevant, because it is a very specialised field we are dealing with. We are well aware of what we can deliver and what our tools of analysis are worth. That means that we can enter both areas where they already to the same types of analyses, and areas they don't… And after a while we can convince others that what we do is actually pretty smart."

Furthermore, brand name and recognition are considered as valuable resources. While different in size and revenues, most firms have been able to specialise in their field. By doing so they are creating state of the art products and solution, and in combination with their extensive history they have reached a certain position. The informant from Firm C explains this about their firm:

Our brand can be compared to Rolls Royce within the market when it comes to what we do, in heavy industries. So, we have a close dialogue with the project owners… Many of these projects have an extensive time span; where it is outsourced to a certain number of contractors, who then outsource it to subcontracts who then buy different solutions and

parts… But, we are unique in a way, that we often have a direct contact with the owners, and the owners command that their contractors or subcontractors buy from us. They know that the reliability is good and we have a good reputation for customer support."

This informant further explains reasons for why their firm is synonymous with quality:

"We have many international competitors, but because of our turnkey systems and support throughout the years is probably the reason we are doing well. So, if one of the subsystems goes down, it's not just that you give workers a day off. If a platform stops working, then the company will lose quite a lot of money. So, providing unlimited support it is quite important in these industries that produce as large volumes as they do. There has been a certain focus on service. Our service department has always supported 100% on calls. Our service engineers travel almost all the time. When customers call, they will receive help. Period"

The informant from Firm A also claims recognition as a valuable resource, in that they are considered one of the world leading firms within their market segment:

"We are known to have expertise in mooring and loading, offshore... We have a lot of patents and we have some systems that we are the best in the world in dealing with. So in that way we are market leaders in what we can. In the 5 years from 2010-2015, I think we had over 30% of the world market on what we are doing. So, we are niche, yes, but are good at what we can. People with knowledge of the market know well who we are. Both technology and the people who have developed that technology are the most important… and also infrastructure, in that we rely on our international offices."

The informant from Firm D argues for some of the same characteristics when describing their products, and how they are perceived in the industry:

"The combination of production, solutions technology and market knowledge – there is really no one that can match us on this. We operate with a technology that in Norway is close to nothing. Within our niche, this competence is what gives us the depth of a larger firm, but we are able to maintain agility and flexibility because of our size. By focusing on long term returns we are able to keep production costs at a very competitive level."

These interviews uncover insightful findings on what role the organisations size and ownership have on exploiting its resources. Bureaucracy and heavy leaderships in larger

corporations has a way of making decision making more difficult and reduce the agility and flexibly necessary to pursue new markets. The Informant from Firm C states:

"Right now, we are in a situation where we are not very flexible and free to act, as we are part of a larger corporation. There are bureaucratic challenges in that there a lot of people that have a say in every decision, which slows down our reaction time. On the other hand, we possess the capital which provides us with the kind of economic stability, that we probably wouldn't have otherwise."

The informant from Firm B, a relatively much smaller firm, describes some of the benefits to their organisational structure:

"We have the flexibility to pursue areas in a way that larger firms would not be able to… We possess good calculation resources, which takes time for others to obtain. We don't have anything that is characterised as unique, but there are still barriers to get where we are. It is also very important for us to expand the use for those areas we deliver services. We have become very good at calculating things that has to do with different types of flow, whether it is within air or water…"

Corporate networks and relationships can also be considered resources. And this has great value to some firms. These relationships help these firms better their reputation and increase their possibilities for new project. Informant from Firm A explains how much they value their ability to keep relations:

"You can say that we are not producers of anything. We design, we follow up, and we deliver fully composed systems. It is therefore important for us to keep having good relations with suppliers to make sure you get the product you are looking for. Since we are working within a niche, our impact is most visible at the beginning of projects and directly involved with the technical departments with our customers."

Revisiting the culture of the oil industry, the informant at Firm C explains that the potential for their resources might be more than they realise at this point:

"We have not tried to pursue new technologies and areas of expertise. What we have done, is that we have tried to move our products and services outside the oil and gas industry, for example windmills, shipping and other marine fields. These are fields that present some of the same challenging working environments as our previous experience with offshore installations.

When you have been working in the same market for a long time you might not see the full potential of your competences and what you can achieve. I think we possess the qualifications that makes us suitable for other markets and suppliers of different technologies, as well. It is also a factor that many of our clients are considering new markets as well, which forces us to do the same."

VRIO Analysis

Tables 4.1-4.4, show detailed VRIO analyses for Firms A-D. These are based on the data obtained from interviews supplemented with additional public information about the firms. After each table a short summary is presented that describes these VRIO resources.

Table 4-1 – VRIO Analysis, Firm A

Resources:	Value	Rare	Inimitable	Organised to Exploit
Brand Name and Recognition	*Yes*	*Yes*	*Yes*	*Yes*
Engineering Competences / Expertise	*Yes*	*Yes*	*Yes*	*No*
Technology and Patents	*Yes*	*Yes*	*Yes*	*No*
Certifications	*Yes*	*No*	*No*	*Yes*
Sales and Marketing	*Yes*	*No*	*No*	*No*
Size and Scale	*Yes*	*Yes*	*Yes*	*Yes*
Infrastructure and Facilities	*Yes*	*No*	*No*	*No*
Network and Connections	*Yes*	*Yes*	*Yes*	*Yes*

Summary: World leader, well recognised within loading and mooring. Patented technologies. Long and proved experience in challenging areas and environments – offshore. Part of a larger corporation that provides good relations with suppliers, customers, partners and classification societies.

Table 4-2 – VRIO Analysis, Firm B

Resources:	Value	Rare	Inimitable	Organised to Exploit
Engineering Competences / Expertise	*Yes*	*Yes*	*Yes*	*Yes*
Certifications	*Yes*	*No*	*No*	*Yes*

Physical Property / Hardware / Software	*Yes*	*No*	*Yes*	*Yes*
Management	*Yes*	*No*	*No*	*Yes*
Flexibility in Organisation	*Yes*	*Yes*	*Yes*	*Yes*
Network and Connections	*Yes*	*Yes*	*Yes*	*No*

Summary: Market leader within simulation and flow analysis in marine conditions. High performance computing hardware and software, that allows for capacity and complex simulations. Well established service provider, with strong connections in academics and research. Small organisation that let on flexible and adaptive thinking.

Table 4-3 – VRIO Analysis, Firm C

Resources:	Value	Rare	Inimitable	Organised to Exploit
Brand Name and Recognition	*Yes*	*Yes*	*Yes*	*Yes*
Engineering Competences / Expertise	*Yes*	*Yes*	*Yes*	*Yes*
Technology	*Yes*	*No*	*Yes*	*Yes*
Certifications	*Yes*	*No*	*Yes*	*Yes*
R&D	*Yes*	*No*	*Yes*	*Yes*
Service and Support	*Yes*	*No*	*No*	*Yes*
Sales and Marketing	*Yes*	*Yes*	*Yes*	*Yes*
Network and Connections	*Yes*	*Yes*	*Yes*	*Yes*

Summary: Recognised as a world leading provider of surveillance systems. Reliable, low maintenance technologies. Flexible and tailor made solutions. Proved and certified for extreme conditions and environments. Superior within service and support. Strong focus on R&D within the organisation. Access to a wide range of buyers and clients.

Table 4-4 – VRIO Analysis, Firm D

Resources:	Value	Rare	Inimitabile	Organised to Exploit
Engineering Competences / Expertise	*Yes*	*Yes*	*Yes*	*Yes*
Technology and Patents	*Yes*	*Yes*	*Yes*	*Yes*

Certifications	*Yes*	*No*	*No*	*Yes*
Management	*Yes*	*Yes*	*Yes*	*Yes*
Sales and Marketing	*Yes*	*Yes*	*Yes*	*Yes*

Summary: Market leader within their niche, materials technology and subsea solutions. High quality products, certifications within ISO-standards, environment and quality. Highly qualified and experienced personnel. Well established and active marketing department. Adaptive, flexible and proactive management.

4.1.4 Summary of Case Findings

There is a common perception among the firms that the downfall in the oil and gas industry seems to be flattening out and has reached its bottom, which is also confirmed by secondary sources. The *Business Survey and Economic Outlook for South-West of Norway, Spring 2017* (Knudsen, 2017) outlines the optimism within the regions. There is reported index of 51%, which translated into that more than half of the firms are optimistic about the future of oil and gas industry. It also reported that they are more optimistic compared to last year. Firms that obtain more than two thirds of their revenues from oil and gas, still expects downturn in 2017; showing an index of 43%, which is below the neutral level of 50% (Knudsen, 2017).

Based on the findings, aquaculture is considered an industry with great potential for future growth and cash flows. One of the basis for this is that the world population will continue rapid growth and the demand for food along with it. Aquaculture offers a relatively faster food production, and operates on water where there are fewer limitations in contrast to land. But, at this point the Norwegian aquaculture industry is not characterised by growth, due to regulations set by the Norwegian government. Another reason for the limitations in growth rate, are the challenges the industry is faced with; infection, salmon louse and breakout. Resolving these will eventually promote future growth. That of course, currently represents a challenge to potential entrants. As for now, only three development permits have been issued, while thirteen has been declined and 43 are under evaluation (Fiskedirektoratet, 2017).

Findings show that Firm A, the largest firm in terms of both revenues and employees, indicates that they do consider their resources to be applicable to other industries. What separates them from the other firms is that they do not consider aquaculture, or any other domestic industry for that matter, to be sufficient in terms of scope and cash flow. The

impression is that this might be an attitude that is spread throughout the industry, especially with the larger firms, highly exposed in oil and gas.

Firm B, a relatively much smaller firm, compared to the others is, provides flow analyses primarily applied to marine technologies. They recognise their ability to provide a product that fits a wide variety of applications. What they lack in patents and technologies, they make up for in establishing themselves in a much-specialised field and experience. Further, this is a firm that enters projects in the design and test phase, which allows the customers to obtain simulation data for different environments before deploying various installations; that allows for cost-effectiveness. With the degree of innovation and motivation for better and rigid solutions characterised by the aquaculture industry this is a service that would also prove valuable to suppliers within that respective market.

The firm that is probably most bounded by its organisation, Firm C, presents some of the challenges with ownership. Such circumstances can make it difficult for an organisation to seek new opportunities, as everything must be approved from a higher and different standpoint. In other cases, strong and good ownership, can also be a vital resource if they have a good understating of the industry and support their managerial decisions. They also represent some of the benefits of being part of a larger organisation, in that they have access to a larger network of potential clients and supplementary products. Firm C, in this case are still able to perform well during the decline, as they maintain focus on support and R&D within the firm.

Firm D has been least affected by the industry situation. They have been able to find other profitable use for their technologies and engineering competences, instead of focusing on the oil and gas industry. Based on the findings, many firms within oil and gas are in possession of resources, applicable to other markets, such as aquaculture. Firm D might also present some valuable insights in terms of understanding the adaptive culture they have been able to show for.

An overview of the VRIO-resources for each firm is presented in *Table* 4-5. Two of these firms have brand names and recognition that might initially provide them with a “stamp of approval” of some kind. These two firms have an extensive history of being offshore suppliers, specifically within oil and gas. As aquaculture operations, reportedly, will be moving production offshore, these firms possess the knowledge and competences required for innovative solutions applicable for the challenging environments, that is, offshore. This poses

as an advantage for oil and gas industry suppliers, as also do not need to serve as local suppliers but can still retrieve contracts by offering better products at better prices.

Engineering competence and expertise within their respective field, is a common factor for all the firms in this selection. The aquaculture industry will require similar expertise before it can grow any further. Based on the findings, the technology in aquaculture has been simple and served the past needs, but for it to grow any further new solutions must be made, and one cannot just scale up technologies that already exist.

Some of the firms are better built to cope with the dynamics of business, such as up- and downturns. Based on the findings, smaller firms are more flexible in that sense that they can take on new projects, or take new directions without having to go through long decision making processes. Larger firms should follow a decision process that involves many stakeholders, such as managers and shareholders, with different agendas and different views on the future of the firm. Management also proves to be an advantage, as with Firm D.

Table 4-5 – VRIO Resources Summary

Firm	VRIO Resources
A	*Brand Name and Recognition, Size/Scale, Network and Connections*
B	*Engineering Competences/Expertise, Flexibility*
C	*Brand Name and Recognition, Engineering Competences / Expertise, Network and Connections, Sales and Marketing*
D	*Engineering Competences/Expertise, Technology and Patents, Management, Sales and Marketing*

Overall, there is a huge gap between the industries of aquaculture and oil and gas, in terms of profits and production. Therefore, aquaculture is not an industry that could replace all operations of the suppliers within oil and gas. Still, based on the findings, some firms have been successful with moving some of their operations outside the oil and gas industry, regardless of what their motivation is. Even though there seems to be an agreement that the oil and gas industry is stabilising, Firm D especially, might serve as inspiration with regards to their skills in marketing and adaptive thinking, to find new sources of income in such situations. In the end, the case findings have also uncovered some weaknesses in the oil and gas industry; the past years has shown profits beyond measures and that the continuity of projects is so much more frequent compared to other industries, that marketing and sales has been critically deprioritised.

4.2 Evaluation Findings

This section presents the findings obtained from the review with NODE and the evaluation interviews with the respective firms: A, B and C; with the exception of Firm D. Further, it explains the firms' current evaluation processes and implications for what elements should be presented within this type of tool. Lastly, these findings regarding EPM are presented in a summary matrix (

Table 4-6) containing the most relevant feedback.

4.2.1 GCE NODE: Review of Case findings

Regarding the current industry and firm situation, there is nothing new of interest to NODE. There is an overall agreement amongst anyone who has some association with the oil and gas industry about its current state and decline lately. Findings from the second phase, about aquaculture, seem more interesting to NODE. But the fact that there has been limit in growth lately, because of the environmental issues aquaculture is faced with, seems interesting to NODE. Aquaculture requires new revolutionary new solutions for it to head forward in the right direction, and these solutions is where engineering expertise from the oil and gas industry will prove to be very useful. The VRIO analysis exhibited resources NODE were somewhat aware of, but still the findings were able to provide some deeper insights to what might be sources of competitive advantage or these firms. Overall, the findings obtained from the case, does present NODE with an overview of the opportunities these firms may have in aquaculture, and information about the market required when considering a transition.

4.2.2 GCE NODE: Evaluation of EPM

For this case in particular, this phase would not be necessary, due to the already well known status of the oil and gas industry. As for other industries and markets, this would be a natural starting point and vital for such analysis. NODE acknowledges these factors as important, but states that other external factors i.e. political conflicts, war or climate changes, should also be considered when analysing a market; as these factors will have a huge impact on any market, and a firm's decision to enter or compete. NODE considers this method of analysis to be a good approach when evaluating firms. NODE points out that valuable resources that these firms have, may not be enough to enter a new market. Even if a firm has the resources, it would still need to consider the cost of modification or entry as a factor before making a decision. And in some cases when entering new markets, firms would consider partners or strategic alliances to strengthen their position. Culture is also an important factor, since a successful entry would require a firm that can tackle and accept changes, and new opportunities. Larger firms may seem less flexible in some ways as opposed to smaller firms which will have a less "bureaucratic" structure. Firms that are a part of a larger corporation or have international owners, may have a tougher time when looking for new opportunities, since these changes must be accepted by these owners. This can also be an advantage in some case,

when the ownership backs focus on new areas, and can provide economical support. According to NODE, these factors should also be considered.

NODE claims that new market evaluation itself is a process every firm goes through, and therefore firms should possess a tool that will help them maintain a structured approach. Even if these firms do not possess such a tool, they are still most likely go through this process. EPM captures this process, illustrates important factors, and structures these factors in a way that makes it easy to understand. They also suggest that the tool would be presented using a different model than a flowchart.

4.2.3 Firms: Evaluation of EPM

Current process for seeking opportunities

Every firm has their distinct way of seeking new opportunities either in their current, or new markets. This evaluation sample consists of two relatively large firms, and one small in in terms of both employees and profit. Both informants from the large firms mentions that they rely on their sales teams and their infrastructure in addition to their current customer base, when seeking new projects.

"We have a "business development group" who actively are out in the market selling our technology and brand, and keep us updated on changes in the market and new projects that are coming up and so on. We do also get requests from our customers. Our process is a combination of these, and activity within these two options depend on the industry situation, whether the industry is "hot" or "cold" ... We try to use all options and our professional network, such as research institutions who might have a feeling of the direction oil industry is heading, in combination with direct communication with oil firms. And eventually use all the information to various sources to head in the direction we think is right." – Firm A

"There are mainly to ways; firstly, our technical sales team. They are at various conferences, and trade fairs and visit our customers. Second, our sales offices around the world. As of today, I think we have offices in around 93 countries. People at these offices are able to pick new leads, which are sent to our sales team, who then can contact these to find more information." – Firm C

When searching for new markets, firms focus on what their employees are capable of as they evaluate possible markets. As confirmed by Firm A there are several ways these

opportunities arise. The informant from Firm C stated these can amongst others arise by following their customers:

"There are two ways here as well. Based on our staff and what they say we can do with our resources or by following our customers into new markets. This is accomplished through good dialogue with the customer, and telling them how we can adapt, and looking at how that will help them." – Firm C

"Our technology department continuously seeks new opportunities and areas of application for our technology, and other markets that pose interesting to us. This is a part of our process… Sometimes new opportunities arise by themselves, and sometimes as governed by policies made by government and authorises… We try to keep ourselves informed in such opportunities and see how it fits into our business portfolio." – Firm A

Informant from Firm B states that they rely more on their gut-feeling, in combination with their knowledge, experience and customers when searching for new market segments. They do not have the same need for the types of procedures and detailed processes as larger corporations considering new opportunities. They have fewer employees, fewer managers, thus fewer people to include in decision making.

"Yes, we do seek new opportunities, but always with a form of anchoring in our core competence. We have a certain idea of areas in which we wish to develop our competence. In some cases, we can be contacted based on core competences that we are known for. Then we inform them that we are also able to do this and that; …would that be of interest to you?... We do not have a specific tool, but we have an overall idea of what direction we want to go. There is no need to discuss what we want to work with in detail, since fewer of us has a say in it. Thus, the process is quite brief. Although, as mentioned before… we do have an overall idea of what we want to do, and would not do everything."

Criterion: Presentation

The feedback regarding presentation, can be grouped into layout and how the different terms are presented. The layout is described as complex as the informants state that flow chart does not seem to be the best option, or that the flow chart is not presented as intended to. An informant suggests that a checklist would be a better choice, as it will be easier for anyone to

follow such layout when using the tool. An explanation for each factor in the flow chart would be very helpful as well. These could be provided either as a supplementary sheet or some keywords by each factor in the flow chart. This statement from informant from Firm A summarises this:

"It would be better if you could explain these boxes in the flow chart, maybe by adding some keywords to further explain the factors here… Growth itself may not be a market in growth, but could be growth in potential for the firm in this market. So, I would agree with these factors and the terms used, but explaining what the intended meaning would help the firm when using this tool"

Regarding Phase 2, an informant points out that monopoly or highly competitive are not the best way to categorise markets when evaluating them. He further explains that there are few instances of fully monopoly markets, but what you often experience are markets with few, very powerful firms and evaluating how dominant they are is as important. Following this statement from the informant from Firm A:

"Based on my experience, the issue is not that there is someone who has a monopoly. Rather, there are few very strong firms that dominate some industries. This creates a strong barrier to entry, which in a way is the same as a monopoly, but not quite the same since if it is a monopoly then you can ultimately just give up. For us, it is as important to understand how strong or dominating individual firms are. But if you have some kind of game changing technology than you can challenge and possibly end existing monopoly."

Regarding the previous statement, they are consistent with the ones from the informant at Firm B, in that it is not about someone having monopoly, rather that some firms are dominant and powerful in certain industries. The informant further explains that in some cases some methods for doing certain activates have monopoly in certain markets, because the powerful and dominating firms use those methods, as expressed in this statement from the informant at Firm B:

"My experience with monopoly is that it can also be that certain methods in certain industries are preferred. Because larger and dominant firms do it that way. So, yes it does make sense to look at that, and I can see myself in such a situation. It can therefore be more challenging to enter certain markets sometimes."

Criterion: Content

Regarding the overall content of this tool, it is somewhat similar to tools and models used by larger firms. But its shortcoming is that it is simpler and does not include every aspect a firm looks at when evaluating new markets and areas of interest, as pointed out by the informant at Firm C:

"This tool is partially similar to our process for evaluating new areas of interest. Like all big corporations, we have processes and tools that we use in such situations. Our model for such evaluation is divided into five phases, unlike yours which has three phases... And our model is more technical as well, compared to this tool which can be understood as more of a financial analysis."

Factors considered in the first phase of the EPM seem to cover some of the more important aspects when a firm evaluates itself, and is considered a good starting point to determine whether a firm should or needs to look at other markets. According to EPM, a firm does not need to seek new market opportunities if: it is in a relatively good industry; the situation of the firm is positive as in it is generating profits and in a good direction; the resource utilisation is at an optimal level in accordance with firms' objectives and goals. A firm should not rely too much on one industry or few customers, even if the industry is in growth, the firm is utilising all its resources and very profitable. According to the informant from Firm B, this can in some cases be a fatal error and a firm should always look for new opportunities:

"Just simply, for one to be a bit more robust and have other options if an industry dramatically changes and goes into decline... It is very risky to let one customer account for more than some part of your business... In the worst case, you should afford to lose a customer or maybe even a market, without it destroying your entire business. It is also important to pursue different forms of activities which will prove meaningful to the field. One should always keep their eyes open to other opportunities in the current, and related markets. But of course, it is difficult to think about this, if and when everything is perfect. But I would still keep an eye out for new opportunities."

The overall feedback on the second phase seems to be that EPM is creating a general overview of a new industry without much depth. It lacks other important factors, such as interests, preferences, associated acts, capabilities and firm's appetite and tolerance for risks,

are usually considered when making strategic decisions. This statement from informant from Firm B, summarises some of these:

"Of course, one do tend to follow the cash, but in combination with what one is capable of doing and not just taking on everything... This can be based on the firm's interests, and what the firm is able to do based on the competences... So, a combination of possibilities and how strong the firm feels about these competences. Thus, with what a firm is already associated with and within areas it already has a certain position, would make good choices."

Informant at Firm A, explains that when evaluating opportunities one should also consider risks associated with these, in relation to profits. Every firm will have different levels of risk tolerance and this factor should and will eventually impact their decision process, as the informant explains it with the following statement:

"You evaluate projects that would be good projects for you, as in the technical and financial side of it. Projects with high risk and low profit, will receive low priority... Eventually you have to find the balance so that your profit justifies both the work and the workforce needed."

Growth is acknowledged as a reasonable factor in the tool, but still industries without growth could still be very promising if one is able to revolutionise or change the industry with something that did not exist in it previously. The informant from Firm A explains:

"When evaluating markets, it is often analysed based on where it is in its life cycle. But, it is possible that you still can be very profitable even if there is no growth. It could as well be a fully developed market or a market in decline. But, still create profitable opportunities for you if you can offer something that is game changing... So, yes choosing a market with growth is an advantage, but I am not sure if this is a yes or no question... But, as a preliminary evaluation it should be included as a factor, since a market with growth is absolutely much better than one in decline."

Lastly, one should also consider the possibility of partnership and alliances, in addition to the core resources of the firm. Doing so, firms can complement each other and offer a product or service superior to competitors. The firms acknowledge this as a factor that should be considered in addition to these VRIO-resources, which seems to focus to much on the isolated firms. This statement from informant from Firm B elaborates on this.

"We should focus a little less on our resources. Let us say, if we wish to enter a new market and want to be more complete and offer something better, we need such and such expertise. You could then recruit new employees with that specific expertise. Or, if you still want to be a small firm, and focus on what you do, you can form some sort of alliance with other firms that already have those resources that complement your resources... We are experts in some certain areas, while others are experts on other areas. And if the total package requires both, it would be reasonable to say; alright, let's do this together."

Even having the best product will not be enough when entering a new market if you do not have access to this market. You can have restricted access because of various reasons such as laws, policies, but it can also be business contacts and partnerships. The informant at Firm C shares the following:

"A factor you are missing in this tool is a way to look at the access to this new market. Access to a market, as in regulations and policies, but also the right contacts that can help you push your product out. So, you can have the best product in the world, but without access to the market there is not much you can do."

Criterion: Applicability

EPM is perceived as an overall quick assessment tool compared to what some informants use at their firms. Informants, especially from larger firms point to EPM as simple and has a narrow scope, as stated by the informant at C:

"This is a good outline for a start of an evaluation. This could be a quick assessment tool for us, based on the flow and factors included... Our tool is quite extensive. This model is the same size of instructions for our tool. There are hundreds of documents and tools that would have to be used in such analysis, which goes down to a technical and resource evaluation on an employee- and machine level. Our model consists of five phases and this tool covers the first two."

Most of the feedback regarding its applicability can be categorised as prerequisites. It can therefore be argued that this critique is not a result of presentation but to how applicable the EPM is with regards to qualification and knowledge of the theoretical background. The overall view is that it seems complicated since the users do not have any knowledge about theories such as VRIO, resulting in not quite understanding what the intended meaning is for

each factor. An informant points out, that this tool should be supplemented with some definitions or instructions on how to properly use it, which will benefit the user and the tool. This statement from informant at Firm A, sums up some of the criticism:

"Evaluating a firm's resources to determine what would give it an advantage is a good way to go. But, I am not sure if I would have used the same terms as used in this tool... I think this tool would be very easy to use for someone who is familiar with it, compared to someone else who is handed it to him or her, without knowing anything about it. But as it has been explained to me, it is now easier for me to use it... Different industries may have the perception of words growth and profit, but whether something is valuable or rare can be understood very differently."

The applicability of this tool would depend on various factors. As stated by informant at Firm A, the person using this tool should have some knowledge about it and maybe also some knowledge about the theories it is based on. The informant at Firm C, summarises his views on whether this tool is applicable:

"I think this will be a very good tool for many companies, but maybe not for us because we are in a different situation than most. We have many years of experience behind us in this market. And we have diversity in our business… But for firms in the typical supplier industry, who deliver on orders. I think that this tool will be very, very beneficial."

Table 4-6 – Review Summary

Presentation	*Not sufficient, may occur confusing* *Should include an explanation of different factors* *Few dominant firms vs. Monopoly*
Content	*Too simple: Main focus on financial analysis* *Phase 1: A firm should at all-time be aware of new opportunities* *Phase 2: Also consider risk tolerance, interests, what the firm is capable of and what they want to be associated with.* *Phase 2: A market without growth can be profitable as well.* *Phase 3: VRIO is a good way to evaluate resources but does not include i.e. access to market* *Phase 3: Complementary resources and alliances*
Applicability	*Knowledge about VRIO-theory* *The intendent definition for factors should be explained* *Overall, a decent tool for relatively quick preliminary evaluation*

5 DISCUSSION

With regards to the research question, this chapter will present arguments for and against EPM, including shortcomings and limitations; if and how the theoretical framework has been applied and to what degree it contains additional empirical value. Results based on the case study data, will show if and how EPM can supplement a firm's decision platform and complement their existing, traditional management frameworks. Finally, this chapter will address how additional theoretical framework may supplement the shortcomings of EPM.

Designing a tool for market evaluation

The purpose of an evaluation tool is to help businesses seek new market opportunities, in which they can gain competitive advantage. Thus, pursue opportunities that seemingly fit the firm's goals and visions. The field of strategy seeks to improve businesses by helping them understand the organisational and environmental factors that may impact their position within markets. The first question a firm should ask itself is when it should seek new markets. The findings show that a firm should always be aware of new opportunities, while not actively move towards them. Kalb (2013) argues that continuous innovation is a common factor for firms that can turn from failure to success. An innovation culture should be a part of the business, and also be a part of job descriptions and procedures within the organisation (Kalb, 2013). There are numerous examples of successful innovators, such as Polaroid, Nokia, Sun Microsystems, Yahoo among many others, who fail to sustain their performance, similar to what the findings show for the Norwegian oil and gas industry. The common factor for firms that have issues with innovation improvement is the lack of an innovation strategy. Every firm should be clear on how they innovate and create value for potential customers (Pisano, 2015).

Firms with a focus on R&D, sales and marketing have been affected to a lesser degree by the oil crisis. Positive outcomes have been found with firms that have focused on reaching new potential customers while still using their existing technical competences and knowledge; and maintained focus on R&D to generate new solutions by leveraging existing competences and knowledge. It can be argued that these firms are in some sense innovating, and the positive outcomes for these firms through the decline is a clear indication that one should always seek to new opportunities, and not only during decline.

Revisiting the purpose of this thesis, the EPM tool was proposed as a solution for firms to evaluate new market opportunities based on industry analysis and resource theory. In that, the research find that EPM can present valuable information to the firm in question, while

benefiting from the theoretical compounds it consists of. Results from a study conducted by Spanos and Lioukas (2001), supports the notion that a framework that incorporates compounds of both internal and external factors is needed. Industry and firm specific effects are complementary and contributes to a firm's performance (Spanos & Lioukas, 2001). EPM is designed, based on the belief that the two dominant theories of RBV and Porter, would complement each other. Findings shows that consideration for both the industry structure and the firm's resources will provide a better understanding of the market being evaluated, based on the evaluation of the EPM tool.

The second phase of EPM, is based on the works of Porter and examines three key factors: profitability, growth, and industry structure. Findings show that other external factors may have a considerable effect on the market, such as climate change, war, politics, laws and policies. These are all factors that could have an impact on firms' strategic decisions. The limited, or absence of growth in the aquaculture industry due to environmental issues and governmental policies, confirms the notion of including analysis of such external factors. Here, we argue that EPM does consider such implications as they are represented within the three factors in Phase 2. What EPM does not include, is that firms may choose to distance themselves from markets that are associated with negative implications, not for reasons of profits, growth or structure. As the analysis shows, brand name and reputation are examples of VRIO resources, which might be compromised if engaging similar markets. A global survey of more than 300 respondents from large corporations shows that reputational risk is their number one concern. This is due to the large measure of media coverage that enables communications to make harder impacts on companies to control how they are perceived in the market (Deloitte, 2013).

Hillson (2006) claims that while risk has become widely integrated in the world of business, many of the institutions that humanity has created could be viewed as to be addressing uncertainty. Thereby, not only is risk everywhere, but also *risk management* (Hillson, 2006). Findings demonstrate that one of the major drawbacks of EPM is that risk is not considered. Based on the statement of Hillson (2006), it is apparent that risk should be part of a market evaluation tool. Additionally, every firm has a different level of risk tolerance and appetite, and this would arguably make good contributions the tool. Clarke and Varma (1999) argue that risk management practices are sources of completive advantage, such as risk processes, culture, incentives, training and organisation. To gain competitive advantage, the firm must address the two elements of the risk; stake and uncertainty. A firm must be able to manage these with

management competences such as: unique technology to reduce stake, influencing law and policies to reduce uncertainty, and alliance skills to share both stake and uncertainty (Clarke & Varma, 1999). The risk management process is according to ISO Guide 73:2009: "a systematic application of management policies, procedures and practices to the activities of communicating, consulting, establishing the context, and identifying, analysing, evaluating, treating, monitoring and reviewing risk" (3.1, 2009). The typical risk assessment process can be divided in four phases: identification, quantification, management and monitoring (Banks, 2009). With regards to the development of a market evaluation tool, risk identification and quantification would be considered valuable supplements. Risk identification based on a new market, would undoubtedly provide improvements to a firms' decision platform, but at what cost would it be sufficient and at what stage in the process. Revisiting the purpose of the EPM tool, incorporating elements of risk would presumably overstep the objective to provide an overview of a potential market. Risk management is an entire field of its own, that separately demands much time and resources. This thesis therefore implicates that while providing useful insights, it is not meant for the development of such a tool. If so, then this study also engages further researchers to pursue a framework where strategic market evaluation and risk would both make valuable components.

With concern to the growth factor, it can be debated that a market without growth can pose attractive to firms, if they can bring a disruptive technology or service to revolutionise the market. For that reason, fast-growing industries should not always be deemed attractive. Porter (2008) supports this idea, since this type of industry can mute competition and at the same time increase the power of suppliers, and eventually draw entrants which makes the industry less profitable. All three factors in Phase 2 should be considered, and will thus give a better overview of the market. When evaluating a market a firm should not only look at the direction it is heading, but at how the firm can capture most of the value or grow the market for them by entering it.

A firm can have a better product than its competitors, but it is worthless if the firm has no access to the market, clients or consumers. There are various reasons for a firm to be in this situation: the firm could be small in size and does not have a brand name or reputation similar to its competitors; policy or regulations limiting the firm; or entering these markets would be too costly. In such cases then partnerships, alliances and networks can be used to help the firm enter a different market. It is debated that EPM does not consider access to market, as in many cases it is important for firms to cooperate. This is accounted for in the theoretical background

for EPM, but evaluation shows that it is not that intuitive. Everyone within a firm might have a different understanding and view on the term resource, based on their job description, knowledge about the firm and information they are privy to. A CEO may look at firm's partnerships and network as important resources as well as patented technology or its technical competences; a technical manager may imply the latter as the most valuable resources. According to Barney (1991), "A strategic resource is any form of strength or resource a firm can use to conceive and implement their strategies". It is naturally to assume that partnerships, alliances and firms' professional networks will and should be considered a strategic resource. In the end, what people perceive as their most valuable strength, is subjective.

With regards to the firm's network, it should be mentioned that there is introduced a possible sixth market force, *complementors*, to the original five forces framework. Complementors, credited to Brandenburger and Nalebuff (1996), claim that firms can add value to themselves and mutual customers, through complementary products and services. In a way, these complementors, can be argued as being resources to the firm, but again it is all relative to the subject's perception of what falls under the term resources. While complementors and network effects present positive contributions to the theoretical framework that supports the EPM tool, there is no need to include them as factors, as they are in fact resources. This is confirmed by the definition of resources presented by Barney (1991); "…informal relations among groups within a firm and between a firm and those in its environment" (p. 101). Porter (2008) acknowledges complementors as a part of the analysis, but does not recognise this as a sixth force. Complementors impacts the profitability indirectly through the five forces, by affecting entry barriers, the threat of substitutes et cetera (Porter, 2008).

Evaluation indicates that there are factors EPM does not cover. Reeves and Deimler (2011) argue that sustainable competitive advantage does no longer arise exclusively from market position or first-order capabilities such as producing and delivering products and services; instead of doing one thing good, managers must be good at doing new things and learning how to. Taking Reeves' arguments into account, compliments of EPM may perhaps be presented by another theory within management: Dynamic Capabilities (DC) (Teece, Pisano, & Shuen, 1997). DC emphasises on asset accumulation and firms' ability to capture value; such as to build, integrate and create innovative forms of competitive advantage. While Porter and RBV builds on fundamentals of structural conditions and resources; Teece builds on the existing theories, by analysing business processes, market positions and expansion paths

(Teece et al., 1997). Barney (2002) recognises one of the limitations to the applicability of RBV by stating that the rules of RBV only applies as long the industry remains unchanged. In environments characterised by rapid change and uncertainty, one needs to include other sources for why a firm can achieve sustainable competitive advantage (Barney, 2002). Several industries today are characterised as dynamic and fast-changing, which most certainly explains the need for capabilities described in DC. Still, this thesis argues that such abilities, or capabilities, are resources themselves. Hafeez (2007) explains resources of being either static tangible or intangible assets, while capabilities is the dynamic mix that takes part in business operations. Teece's (1997) own definition of resources includes: "firm-specific assets that are difficult if not impossible to imitate" (p. 516). Teece et al. (1997) claims DC to provide a framework that integrates existing conceptual and empirical knowledge, such as RBV (Teece et al., 1997). The present thesis, therefore debates that EPM already incorporates these resources and capabilities by making RBV theory a central element of analysis.

Further research

This thesis questions the applicability of the VRIO analysis, and that the role and background of the informant and researcher can deeply affect what data that can be obtained from it. Some of the reasons for the lack of detail in the VRIO analysis for the present study, derives from the lack of diversification in the selection of informants. As the selection shows, informants with background from finance, HR or sales were not represented, which seemingly has impacted the results and evaluation of EPM. Informants from the selection mainly point out engineering competences as their most valuable source of competitive advantage. Once again, informants from different fields will presumably answer differently to questions regarding resources and capabilities.

A reason for what may be perceived as a lack of depth with regards to the VRIO analyses is how the researchers are equipped to understand key aspects of a firms' resources; on different levels of the organisation and within different fields of expertise. The thesis therefore encourages firms to conduct VRIO within the boundaries of the firm and take advantage of the available expertise. Thereby, fully reaching the potential of the analysis. Mapping a firm's resources, is a demanding and challenging process, especially from an external point of view. Findings show that the VRIO framework offers poor managerial guidance and direction on how to conduct a thorough analysis, thus leaving unanswered questions to the researcher on how to approach it. These findings are consistent with the arguments of Connor (2002); whereas RBV is of a descriptive while not explanatory nature; thereby not presenting strategists

with practical propositions for how to achieve competitive advantage. The findings from the VRIO analysis, while presenting relevant and useful insights, do not involve as much details as intended, which was also appointed in evaluation findings. Hereby, revisiting a statement from *Subsection 2.4.2*, that EPM should be applied to provide an overview of the firms' current state, potential markets, and the respective resources of the firm.

The research was not able to provide an analysis of the resources within the potential market. This critique must be viewed in the light of a challenging selection process, where it resulted in alternative solutions to obtain data from aquaculture. The case findings would be more prominent, thus likely a better test for EPM, if it would be able to conduct a VRIO analysis for both industries and compare the findings. In that way while also obtaining a better grasp of possible competitive advantage with regards to both Porter and RBV. Perhaps in combination with a more sufficient research design, these implications would bring further empirical value to this study.

EPM also needs to be tailored to the firm's vision and values for it to conceive understanding amongst the managers that would apply it. One question to bear in mind, is how the results from the evaluation of EPM would apply to other industries; or if the findings from oil and gas industry as a case study and evaluation, would allow it be generalised. The oil and gas industry has without doubt been the most profitable and influential industry in Norway the past decades. There is for this reason, worth questioning how familiar these firms really are with searching new market opportunities. Further research should therefore address this question, and contribute to develop a larger, more diversified knowledge base on how firms deal with market evaluation.

Perhaps, the most valuable contribution presented in this study, is how a tool like EPM should be more intuitive. The SWOT analysis is still very much recognised today, because of its simplicity and for the many settings it can be applied to. Findings show that EPM seem somewhat confusing, both due to its presentation as a flow chart and content. For the tool to be applied it must answer both these criteria. The firms also question the applicability of the EPM tool, as the VRIO is not a familiar framework outside the scholarly world. This way of looking at it is consistent with the ideas of Herrmann (2005) where he claims that scholarly contributions can only achieve dominant design status by being understood and adopted by firm managers. In the case of EPM, it does not contain material or presentation to achieve such status. Further on, he explains that for firms to benefit from the scholarly work, they must be presented with clear and prompt identification of theoretically sound designs (Herrmann,

2005). For a strategic tool to be simple and easy to understand, the researcher must emphasise on developing a tool that is meant to be used by anyone who is not a researcher, as this thesis seems to confirm.

6 CONCLUSION

A review of the findings reveals that, a tool emphasising on the attractiveness of new markets combined with resource theory is accepted by firms as prominent for projecting possible opportunities. In that, it does provide empirical value to the presented theoretical frameworks, as to the traditional SWOT framework. By addressing the findings from four firms in a challenged and price-sensitive industry, arguments can be made that a tool which builds on both external and internal factors of competitive advantage, is a desired approach to supplement strategic decisions in firms. It must though be accounted for that such a tool would not be sufficient without appealing intuitive to the user; and fit the preferences and characteristics of the firm in question. The EPM tool still needs to reply to the subjective judgement and point of view of the user. As presented in the theoretical framework, EPM analysis contains challenges in terms of applicability, as it is confirmed by the case study. Still, findings show that EPM is sufficient to provide an overview of new market opportunities, while considering factors of both market structure and VRIO resources. Thus, a more practical and sound theoretical evaluation tool would provide additional value to firms' strategic decision platform. Still, it must be accounted for that EPM does not answer its intention, by not being applicable in its current form, and therefore not sufficient as a market evaluation tool. The present study suggests that future research should improve the applicability issue, by building on the valuable insights shown in this thesis.

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APPENDIX

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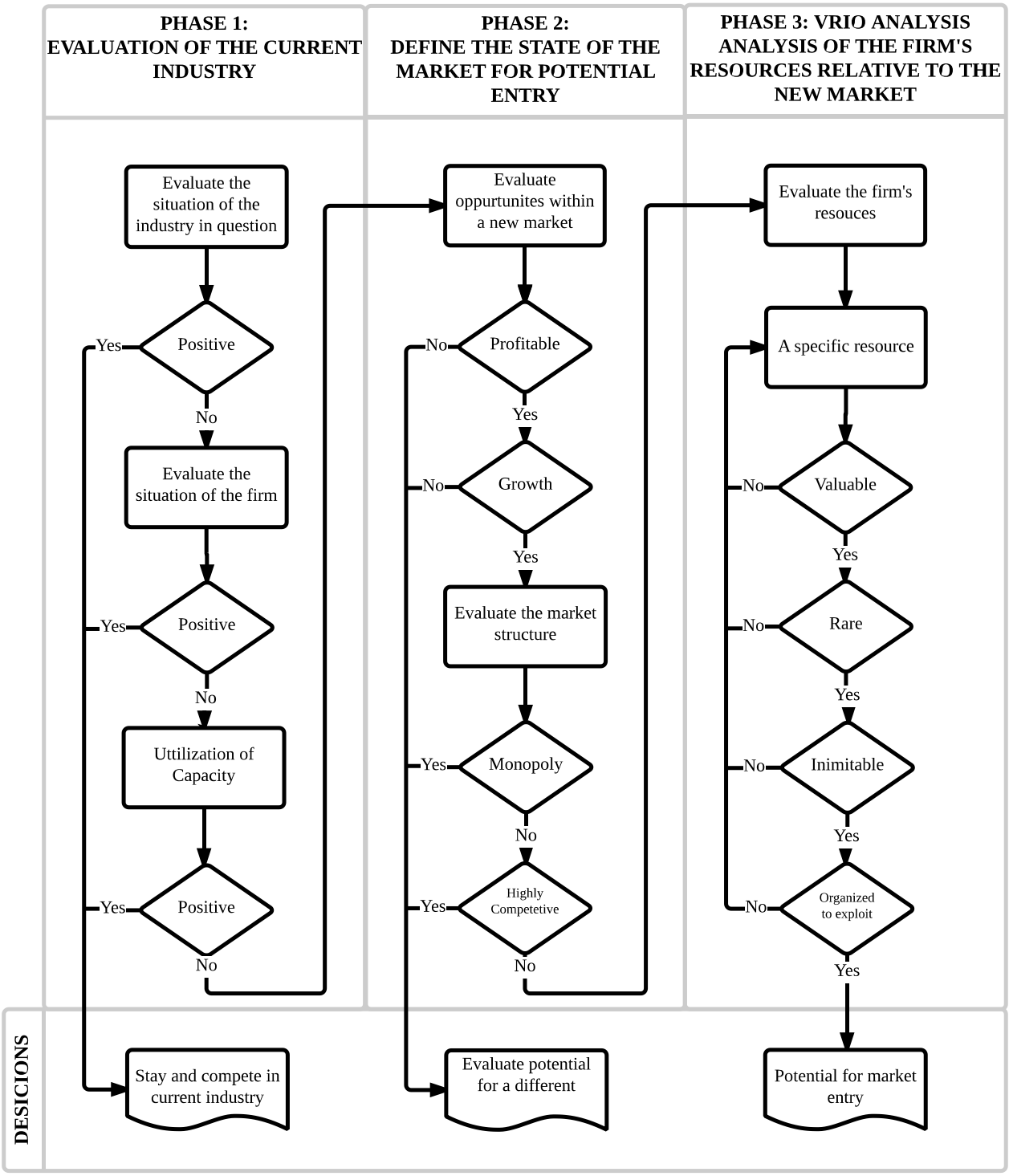
Appendix I: The EPM Tool



Karan Hussain
Andreas Vyssios

Appendix II: Interview Guide Firms A-D (*Case Findings*)

Introduction:

- Problem statement:
  How can a firm evaluate new market opportunities by applying a combination of dominant theories within the field of strategic management?

- Objective:
  Obtain information on today's industry, future prospects, a general overview of what characterises this particular industry.

- Formalities:
  - Anonymous interview
  - Recorded
  - Questions/ambiguities
  - What is your background and position in this organisation?

Interview:

- (Phase 1)
  1. What it the situation for the industry...
     a. Frequency of new projects
     b. Growth
     c. Structure

  2. How is the situation in your firm?
     a. Profitability
     b.
  3. How is the utilisation of capacity in your firm
     a. Do you possess resources you don't get to use?
     b.

  (Phase 3)

  4. What is the most valuable resources your firm possess??
     a. Human
     b. Technological
     c. Organisational
  5. To what degree would these resources be valuable to other industries?
  6. Does your firm possess any resources that has some sort of uniqueness to them?
     a. Why are these resources rare?
  7. How did you acquire these resources?
  8. Would it be able to imitate or substitute these resources?
     a. Would it be costly to imitate?
     b. How would about in other industries?
  9. Does your organisations allow you to utilise these resources?
     a. Are there some resources you would believe to valuable that your firms do not?
  10. Do you have resources now that are not utilised?

Karan Hussain
Andreas Vyssios

Appendix III: Interview Guide Firms E and F (*Case Findings*)

Introduction:

- Problem statement:
  How can a firm evaluate new market opportunities by applying a combination of dominant theories within the field of strategic management?

- Objective:
  Obtain information on today's industry, future prospects, a general overview of what characterises this particular industry.

- Formalities:
  - Anonymous interview
  - Recorded
  - Questions/ambiguities
  - The informant's background and current role?

Interview:

(Phase 2)

1. What it the situation of this particular industry?
   a. Frequency of new projects
   b. Growth
   c. Structure
   d. New entrants?
2. Can you specify to the structure and characteristics regarding the suppliers to this industry?
3. What sort of resources to these suppliers possess?
   a. Human
   b. Technological
   c. Organisational
4. What characterises suppliers with success in this industry?
5. How is the industry progressing, and what impact will this have on the actors within this industry?
6. What challenges is the industry phasing?
7. How do you think the industry will evolve during the next 5-10 years?
   a. How will the supplier activity look like change?
8. Has there been paid any attention to possible entrants to this industry?
9. Do you consider other firms in other industries to possess resources that you think would prove beneficial to this particular industry?
   a. Is this industry missing any resources?

Appendix IV: Interview Guide Firms A-D (*Evaluation*)

Introduction:

- Problem statement:
  How can a firm evaluate new market opportunities by applying a combination of dominant theories within the field of strategic management?

- Objective:
  Obtain information on firms within this industry assess their own firm, if and how they search for new projects and opportunities. Review how the EPM tool addresses these questions, how it can be applied and how it can be improved.

- Formalities:
  - Anonymous interview
  - Recorded
  - Questions/ambiguities
  - What is your background and position in this organisation?

Interview:

(Firms' own process for market evaluation)

1. Do you search new opportunities to move operations?
   a. How do you proceed?
   b. Do you apply a certain tool or framework in this process?
      I. Can you describe this tool?
      II. How do you find this process of evaluation?
2. Can you specify to the structure and characteristics regarding the suppliers to (EPM)
3. How do you find this tool overall?
4. Is there something you feel it is missing?
5. Is there some things we should leave out of the tool?
6. How do you feel this tool is answering its purpose?
7. What would you do to make this tool more appropriate?
8. Do you have any examples of good strategic tools yourself?
9. Do you have any other remarks to this tool in particular?
10. Would you see this tool be used in an organisation like yours?
    a. Would you see this tool be applied in any organisation at all?
    b. On what basis?

Karan Hussain
Andreas Vyssios