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Preface:

This master's thesis is the final part of a 2-year MSc in Management at Kristiania University College in Oslo. This study was written by two students who first took a bachelor's degree in marketing and sales management, where the choice was between heading out in the job market or go even further with our education under the same college. As you probably can tell we chose the latter. After four semesters, we have now written our final paper which is based upon the subject corporate strategy.

This paper is about sustainability as part of a business strategy, we were inspired to take a closer look at how businesses can achieve economic growth at the same time as they are being environmentally responsible. The rising concern about the environment needs to be handled with opportunities and solutions. This is a subject both of us were really interested in - both on strategic business level and as well the environmental level.

The writing of this thesis provided both smooth sailing and rocky surfaces. During the writing process, a worldwide pandemic changed the world as we know it. As for our selves, we been challenged to write a large portion of the thesis at home. We have therefore learned a lot about self management and self discipline. Valuable input that will benefit us in the future.

We would like to acknowledge the help and support from our fellow students, friends, girlfriends and our families. We would especially like to thank our supervisor Erlend Nybakk for the help along the way. This master thesis wouldn’t have been possible without your help.

We would like to thank each others for the cooperation throughout the four years we’ve known each other. We have worked hard and dedicated as a team to see this through.

Hope you will enjoy reading this paper.

Kind regards

2018 and 2019.

Contents

Abstract:

As the strain on planet Earth is increasing, there is a heightened need for organizations to address the natural environment and come as close to zero emission levels as possible. The purpose of this study is to clarify the link between sustainability, competitive advantage and performance. Proactive environmental strategy (PES), is a theoretical construct that is getting more and more attention because it highlights the company's actions which proactively prevents emissions and pollution levels. This study combines the internal and the external antecedents view of proactive environmental strategy (PES). The internal view is based upon the resource based view, and the external view is based upon corporate social responsibility. The widely applied typology of Miles and Snow is present to check whether there are differences between the firms. This study applies a quantitative research design conducted within the Norwegian wood and forestry industry.

Keywords: Competitive advantage, sustainability, legitimacy, corporate social responsibility, proactive environmental strategy, Norwegian wood and forestry.

1.0 Introduction

All organizations are interested in how to leverage their business units in order to achieve *competitive advantage*. Understanding and knowing which sources would help organizations achieving competitive advantage would be beneficial to all organizations. Jay Barney (1991, 191) defines competitive advantage as a v*alue creating strategy not simultaneously implemented by existing or potential competitors.* The strategic literature is rich with perspectives that aim to explain how companies achieve competitive advantages.

At the same time, recent research points to that the strain on planet Earth has increased throughout the years (Hart 1995), and as such the pressure to become greener has increased (Molina-Azorin et al. 2009). This is due to a rise in topics such as global warming (Olijare 2010), plastic in the oceans (Harvard 2018) and air pollution (Jiménez-Parra, Alonso-Martínez and Godos-Díez 2018). As such the interest has risen significantly in recent years among world leaders, companies, scholars and lay people. The United Nations (United Nations) created 17 sustainable goals where global climate is one of many issues needed to be solved before 2030. Similarly, the Paris-agreement (United Nations Climate Change) is a multinational agreement which aims to reduce global warming.

An unprecedented challenge is thus created (Hart 1995). Either alter the nature of economic activity or risk irreversible damage to the planet's basic ecological systems. Without doubt this will create problems and consequences for competitive advantage. As such, Stuart L. Hart (1995) argues that new sources of competitive advantage lay in relation to how the firm uses capabilities that facilitate environmentally sustainable economic activity. The research agenda of this study is thus;

To which degree will focusing on sustainable activities lead to increased firm performance?

The research agenda is investigated through *proactive environmental strategies* (PES), and the influence it has on firm performance. PES is defined as *top management-supported, environmentally oriented strategy that focuses on the prevention (versus control or the reactive using of an end-of-pipe approach) of wastes, emissions, and pollution through continuous learning, total quality environmental management, risk taking and planning* (Menguc, Auh and Ozanne 2010, 279). Furthermore, the study applies the contingent perspective by Jose Aragón-Correa and Sanjay Sharma (2003). Through this contingency view, competitive advantage is created through alignment between organizations and the

external environment (Aragón-Correa and Sharma 2003). This is due to the fact that organizations need to conduct their operations in a responsible manner.

1.1 The relevance

1.1.1 Theoretical relevance

The academic work conducted on environmental strategy has gathered a substantial amount of work, where we have gathered two reviews. Sung Wook-Kang and Ki-Hoon Lee (2014) provides an overview of 48 studies in the corporate environmental strategy field, which refers to the company's relation to their natural environment (Wook-Kang and Lee 2014). All studies are conducted in the time period 1990 - 2013. Similarly, José F. Molina-Azorín et al. (2009) benefit of 32 studies to investigate the link between green management and financial performance. The findings indicate that a majority of studies are conducted in the United States. 50,2 percent of the studies analysed by Wook-Kang and Lee (2014) take place in this region. The review by Molin-Azorin et al. (2009) shows similar findings when investigating the link between the impact of green management and financial performance. One study (Darnall, Henriques and Sadorsky 2010) is conducted with a Norwegian sample, as a member of the Organization of Economic Co-operation and Development (Darnall, Henriques and Sadorsky 2010).

When considering the literature on proactive environmental strategy, there seems to be a similar pattern with the majority of studies being from the United States. Most earlier research has been theoretically driven from the internal resource-based perspective (Menguc, Auh and Ozanne 2010, 280), with the empirical significance on financial performance being divided. Studies show U-shaped relationships (Bowman and Haire 1975), negative effects (Sarkis and Cordeiro 2001) and positive effects (e.g Russo and Fouts 1997; Klassen and McLaughlin 1996; Hart and Ahuja 1996). Reasons for this is due to non-sufficient consideration of the external view, such as legitimacy. Scholars, such as Jose Aragón-Correa and Sanjay Sharma (2003) argue that it is of importance to implement the external factors to really assess the impact of PES. The external factors have been considered in some studies (e.g Menguc, Auh and Ozanne 2010; Darnall, Henriques and Sadorsky 2010; Schmitz et al. 2019). However the pattern is similar with an dearth in Norwegian studies. Only Nicole Darnall, Irene Henriques and Perry Sadorsky (2010) considers the impact of stakeholder pressure on the adoption of the PES.

To summarize, this study contributes to the academic field of environmental strategy through application of the Proactive Environmental Strategy in a Norwegian setting. It is

essential to conduct studies on related sets of variables in other contextual settings to gather more knowledge of the PES. Is Proactive Environmental Strategies only a theoretical effective strategy on other continents? Or is the strategy universal in its application?

1.1.2 Practical relevance

Both local and national forces in Norway are encouraging companies to act green and invest in green solutions. Companies may become more effective, save money and cut costs because of the incentives made from the local and national forces, resulting in a better competitive position for the company practicing an environmental strategy (miljofyrtårn.no). The focus of this study is to show organizations that proactivity in relation to environmental issues will have a positive effect on competitive advantage. More specifically, this study will provide a link between environmental attention and economic growth, as measured through comparisons between different company attitudes, behaviour and economical results. Furthermore, the study will provide arguments for how legitimacy will have an impact on the actions of the organization. This is due to being a preferred supplier in the macro context that organizations exist in. Competitive firms will observe that other organizations in the industry take action to become more sustainable, as well as getting positive effects in terms of increased positive legitimacy. As a result of this, more reactive organizations will consider to take actions towards being more greener to combat the positive effects achieved by the competition. On the other hand, just knowing that acting more sustainable and being proactive leads to positive outcomes are not enough. This study will as such provide valuable information to management in the Norwegian Forestry Industry. The valuable information is related to specific guidelines for addressing these issues as means to increase firm competitiveness. The main focus of this paper is based on prevention of pollution, with concrete actions that will alter the firm from a more reactive state to a more proactive state.

2.0 Literature review and theory development

2.1 Strategic positioning and the resource-based view

Organizations have for a long time been concerned about achieving competitive advantage, which refers to implementing a value creating strategy not simultaneously being implemented by current or potential competitors (Barney 1991, 102). Competitive advantage is critical due to the creation of rent (Peteraf 1993). Rent is a nineteenth century notion (Schoemaker 1990), which over the years have been extended to include all payments above the minimum level

required to make the input available for use (Schoemaker 1990, 1180). A market usually consists of many participants, which means that doing the right thing at the right time, could make the firm the chosen vendor for goods and services. How organizations go about achieving advantage is not always straightforward as there are multiple perspectives and approaches for achieving superior advantage. Earlier strategic thinking has been anchored in the position-based perspective originated by Michael E. Porter in his work *Competitive Strategy* from 1980 (cited in Teece, Pisano and Shuen 1997*).* The main consideration is how to keep the competition out of the market by establishing defensive positions (Teece, Pisano and Shuen 1997). In this paradigm, potential profit of the industry is decided by the systematic analysis of factors like entry barriers, threat of substitution, bargaining power of both buyers and suppliers, and rivalry among incumbents. These systematic factors are commonly referred to as the *five forces* (Porter 2008; Porter 1985, 5). This refers to a model that determines the firm's ability to create value that exceeds the cost of capital (Porter 1985, 5). Systematic altering of each factor provides the firm the opportunity to earn *monopoly-type rents* (Teece, Pisano and Shuen 1997; Spanos and Lioukas 2001). This category of rent stems from a firm's ability to defend itself from competitive forces, or influence them in its favour. Intense competition impedes the forces of competition and drives rents down to zero (Teece, Pisano and Shuen 1997). Another view has its roots placed in the resource-based view of the firm (Teece, Pisano and Shuen 1997), or RBV for short, and can be viewed as the opposite of Porter's ideas (Spanos and Lioukas 2001). Resources' role in organizational performance originated in Edith Penrose's *the theory of the growth of the firm* from 1959 (cited in Newbert 2007), and really took shape during the 1980's (Barney, Ketchen Jr. and Wright 2011). Today, RBV is one of the most prominent and dominant theories used to explain organizational relationships (Barney, Ketchen Jr. and Wright 2011; Eisenhardt and Martin 2000). This perspective is concerned about accruing rents through ownership of scarce firm specific resources (Teece, Pisano and Shuen 1997). Firm resources include all assets, capabilities, organizational processes, firm attributes, information, knowledge and so on (Barney 1991). These resources improve organizational effectiveness and efficiency. To achieve this outcome, it is of importance that these resources are rare, valuable, perfectly imitable and without substitutes (Barney 1991). This is essential because a resource is not value-creating by itself (Newbert 2007). How do these characteristics of resources improve this outcome? Margaret A. Peteraf (1993) provides a deeper explanation for how these conditions facilitate sustained competitive advantage. Resources are heterogeneous (Barney 1991) and also the most basic condition for accruing rent (Peteraf 1993). Furthermore two

other important conditions refer to the existence of *ex post* and *ex ante limits*. Limits are necessary to secure the rent, and is concerned with the competition. The ex post limit states that there must be barriers, or forces, that limits competition (Peteraf 1993). However, the ex ante limit is critical prior to achieving the position. This means that high competition for gathering resources will decrease the anticipated return (Peteraf 1993). At last it is important that resources are imperfectly mobile (Peteraf 1993). This means that if the resources are not easily bought in the market, it would be better to try to imitate them (Dierickx and Cool 1989). However, imitation can prove difficult due to causal ambiguity, or uncertain imitability (Dierickx and Cool 1989). The competition may believe that resource A is the source of sustained competitive advantage, when in fact the predictor is resource B. If, and when, these conditions are met, there is a potential for achieving sustained competitive advantage and the accruing of rents. Based upon these conditions, resources are therefore not equal to all firms (Barney 1991). The odds will be skewed in favour of the firm who have them, due to barriers of imitation (Hart 1995).

2.2 Proactive environmental Strategy

Stuart L. Hart (1995) criticized the RVB-view in regards to the fact that the natural environment is systematically ignored. The impact of human activity has accelerated during the past 40 years (Hart 1995), with noticeable impact on a global scale. Hart (1995) argues therefore that the most important driver to new resource and capability development for a firm will be constraints in the natural environment. Future competitive advantage is based upon the degree the companies are able to create capabilities that fosters environmental sustainable activity (Hart 1995). The focus must therefore shift to how the firm should reverse the irreversible environmental damage through the Natural-Resource Based View, or NRBV.

This is central for the emergence of a PES, which is considered a higher-order construct consisting of the two first-order dimensions pollution-prevention and top-management support (Menguc, Auh and Ozanne 2010). The majority of the studies are theoretically driven from RBV and is an extension of NRBV (Moreno and Reyes 2013).

Pollution-prevention is a reflection of evolutionary environmental strategy models that has gone beyond the compliance versus noncompliance categorizations (Menguc, Auh and Ozanne 2010). The categories refers to which degree the organizations relates to environmental issues, as a continuum ranging between reactive and proactive (Aragón-Correa and Sharma 2003; Sharma 2000). Reactive firms apply end-of-pipe solutions where

emissions are stored, trapped and disposed of using pollution-control equipment. Equipment like these are typically stuck onto the end of the production system (Zotter 2004). Examples of such end-of-pipe solutions are incineration plants for waste disposal, waste-water treatment plants for water protection, sound absorbers and exhaust-gas cleaning equipment for air-quality control (Frondel, Horbach and Rennings 2007). According to Karl A. Zotter (2004), this is a costly operation where the residual product of the production is modified. They are applied so that they are less damaging than other options. The approach resists environmental legislation (Russo and Fouts 1997) and will often only comply with external pressure to avoid punishment and fines (Sharma 2000). Proactive organizations, on the other hand, put emphasis on preventing emissions by means of better housekeeping, material substitution, recycling or process innovation. The goal of this approach is to be certain that waste from production does not get produced at all (Zotter 2004). The firm operations are voluntarily altered to prevent negative reactions (Aragón-Correa and Sharma 2003). The organization searches for and adopts innovative technologies that add significant complexity to both production and delivery processes (Sharma 2000). Studies (Backman, Verbeke and Schulz 2017; Florida 1996) investigates pollution-prevention through cluster analysis, with results that indicate clear differences between the proactivity of the firm and their climate change mitigation strategies (Backman, Verbeke and Schulz 2017). This level is the greatest in cluster 1, where environmental issues are prevalent and a concern of senior management. Moving on to cluster 3 there is no intention to alter internal routines to mitigate environmental endangerment (Backman, Verbeke and Schulz 2017). Similar findings are present in Richard Florida's (1996) cluster analysis of environmental manufacturing practises. Cluster 1 consists of a best-practice approach to addressing the environment. This is due to rating pollution prevention as very important as well as high adoption rates of innovation that relates to environmental conscious manufacturing. In the fourth cluster there is a limited notion of importance in relation to pollution prevention (Florida 1996). However, being proactive is not without risk as a PES-strategy entails higher risk and uncertainty (Menguc, Auh and Ozanne 2010), due to investing in uncertain outcomes.

The empirical significance of environmental strategies on financial performance is divided. According to Petra Christmann (2000) there are studies with U-shaped relationships (Bowman and Haire 1975), negative effects (Sarkis and Cordeiro 2001) and positive effects (e.g Russo and Fouts 1997, Klassen and McLaughlin 1996; Hart and Ahuja 1996). One reason for the divided significance is due to methodological problems (Menguc, Auh and Ozanne 2010). Another reason is due to inconclusive results in the sample (Christmann 2000)

due to some firms achieving positive performance effects, and some are not. Kung H. Chen and Richard W. Metcalf (1980) points to spurious effects due to background variables, namely size. Another explanation is related to over-reliance on the internal view. This is because the internal view does not take into consideration issues about achieving legitimacy by integrating stakeholders into daily operations (Menguc, Auh and Ozanne 2010). Scholars (Aragón-Correa and Sharma 2003) argue that it is essential to implement exogenous perspectives to really assess the impact of PES. As an organization is created with the sole purpose of achieving goals and solve its task (Miles et al. 1978), it is equally critical to integrate customers and other stakeholders into daily operations. The reason for this being that the organization is working in a macro-environment where the firm is interdependent on other sources (Menguc, Auh and Ozanne 2010). Furthermore, when the costs are higher than its income, then net profit will tend to be negative. When a firm can not pay its liabilities, both short and long term, there is an increasing danger of being put out of business. It is therefore critical to focus on both sides of the natural business-environment interface (Menguc, Auh and Ozanne 2010). The contingency approach is provided by J. Alberto Aragón-Correa and Sanjay Sharma (2003, 72) to focus on both sides. This approach posits that *organizational performance is a result of proper alignment between endogenous organizational design variables and exogenous context variables.* The internal and external view are therefore complementary perspectives (Menguc, Auh and Ozanne 2010, 280).

PES has more recently been placed within the *dynamic capabilities*-framework (Aragón-Correa and Sharma 2003). Capabilities is an extension of the RBV, with the rationale being that RBV does not sufficiently explain how and why some firms achieve competitive advantage in unpredictable markets (Eisenhardt and Martin 2000). Having the necessary resources are not enough, but it is just as important to configure them in value creating ways. The configuration is of importance because it further enhances the conditions for sustained advantage (Peteraf 1993). A dynamic capability is such a configuration, and is defined *as the firm's process that uses resources - especially the process to integrate, reconfigure, gain and release resources - to match and even create market change* (Eisenhardt and Martin 2000, 1107). A dynamic capability possesses many qualities that creates imitation barriers. This is created through an idiosyncratic process developed by the path-dependency of prior choices (Eisenhardt and Martin 2000). Complexity is also a crucial part of this perspective. Complexity is created by means of continuous innovation, integration of multiple stakeholder perspectives and a high degree of shared learning (Aragón-Correa and Sharma 2003). This capability will vary with the level of market dynamism and enable

organizations to adapt to changes in the general business environment (Aragón-Correa and Sharma 2003; Eisenhardt and Martin 2000). The study conducted on the Canadian oil industry by Sanjay Sharma and Harrie Vredenburg (1998) points to the direction that proactive environmental strategy accounts for more than 20 percent of the variance related to the development of unique capabilities (Sharma and Vredenburg 1998). Furthermore, the relationship between these capabilities and self-reported competitive advantage accounts for 50 percent of variance. Another study conducted by Sanjay Sharma (2000) shows how the interpretation of environmental issues as opportunities led to increased proactivity. Opportunity represents a positive ideal situation where gains can be made (Dutton and Jackson 1987). Furthermore there is a fair amount of control over the outcome. Threats will thus be negative because losses are almost certain and the level of control is minor. Voluntary strategies, such as PES, are far more likely to be applied when managers interpret issues such as opportunities (Sharma 2000).

2.3 Strategic Types

2.3.1 The four archetypes

Raymond E. Miles et al. (1978) presented a relatively complex typological framework in 1978 (Conant, Mokwa and Varadarajan 1990) which has contributed to the field of management by categorizing the business-strategic environment into four different strategy archetypes (Song, Benedetto and Nason 2007; Miles et al. 1978). The Miles and Snow strategic framework applied, or M-S, are one of many (Miles et al. 1978; Hambrick 2003). Other frameworks include Porter's cost and differentiation strategies (Porter 1985, 11; Shortell and Zajac 1990), or the dichotomy of mechanistic versus organic organizations created by Tom Burn and George M. Stalker in their work' *The management of innovation* from 1961 (Cited in Laugen, Boer and Acur 2006). Observations made by Miles et al. (1978) suggests that the M-S framework predominantly fits most organizations when compared to its competitors in the same industry, due to accounting for a large amount of variation (Hambrick 1983). The four strategic types of Miles et al. (1978) consist of *Prospectors*, *Defenders*, *Analyzers* and *Reactors*. Each of these strategic types are distinct with their own characteristics, following a certain type of strategy, structure, process and technological configuration towards their environment (Miles et al. 1978; Song, Benedetto and Nason 2007).

The Prospector archetype is a decentralized archetype (Dyer and Song 1997) that responds to their market in a way which enables them to seek and find new market

opportunities (Miles et al. 1978). They are the drivers of change, by ambitiously attempting to meet new market opportunities, where they are not limited to the current situation (Hambrick 1983). This is achieved through creation of knowledge, which enables the firm to discover trends, environmental conditions and events (Miles et al. 1978). Although this strategy is a viable option for organizations, it is not without risk. Low profitable levels can occur due to the uncertainty of their product or product development (Miles et al. 1978). Furthermore, there is a possibility of an overextension of resources (Hambrick 2003), as a result of their eagerness to constantly be the drivers for change (Miles et al. 1978).

The Defender is the total opposite of the Prospector with a high degree of centralization (Miles et al. 1978) and are thus more likely to operate in an environment which allows them to focus on stability by limiting their products directed to a narrow segment of their potential market (Miles et al. 1978). The type ignores new trends and developments that does not occur in their existing domains (Miles et al. 1978). As such it can be said that this archetype is risk-averse (Song, Benedetto and Nason 2007), where decision-making revolves around keeping their product-market domain narrow (Miles et al. 1978). Their interests are best served by optimizing their process by adapting highly cost-efficient single core technology (Miles et al. 1978). Competitive advantage derives from being more efficient than competition in limited markets. The archetype reacts aggressively to prevent intruders from entering their domain (Miles et al 1978). Protection is achieved through basic factors such as quality, price, delivery and service (Miles et al. 1978; Hambrick 1983). The main risk of the defender is due to ineffectiveness (Miles et al. 1978). The Defender is a viable option for the market of today. If it changes quickly however, the organizations in this type will lose significant income.

Whereas the Prospector are specializing on innovation, and the Defender on effectivization, the Analyzers competitive advantage derives from combining strengths from both the Prospector and the Defender (Miles et al. 1978). The Analyzer strategy is therefore an intermediary type (Hambrick 1983). The firms seek to gain opportunities from new markets, while at the same time maintaining their core products and customers (Miles et al. 1978). New products or markets are only implemented if the firm acknowledges the potential viability. These organizations will therefore attempt to minimize risk and maximize profit (Miles et al. 1978; Saberwahl and Chan 2001). They follow the Prospector by quickly entering the market with high competitive quality products (Saberwahl and Chan 2001). However this strategy is not without flaws, as the firm must be concerned with how to balance differentiation and stability (Miles et al. 1978; Hambrick 2003). They solve this

problem by organizing themselves in the matrix-organized system, which allows intensive planning amongst the marketing and production division. At the same time, the steady flow of communication allows them to rapidly change production and marketing to target their potential customers with new products (Miles et al. 1978; Saberwahl and Chan 2001). The downsides of this intermediary strategy is related to creation of stability, while at the same time being quick to act on Prospector's success.

The last of the four strategic archetypes is the Reactor strategy. Unlike the other strategies, the Reactor presents a highly unstable and inconsistent organization in relation to its environment. The inconsistency results in a lack of mechanism which is needed to respond efficiently to changes (Miles et al. 1978). Their reaction to adaptive cyclical problems are inconsistent and will as such always react poorly (Conant, Mokwa and Varadarajan 1990). Miles et al. (1978) identified three antecedents of Reactor's failure. Articulation of a clear strategy is lacking from the top management, which leads to uncertainty. The firm may also descend from a badly fitted organizational structure and process related to its strategy. At last the top management are too eager to maintain their current strategy-structure, despite changes in the environment.

It is on the other hand important to pinpoint that the original typology was not very clear of what constitutes organizational performance (Hambrick 1983), where evidence was more anecdotal but not specific. As such, performance as an indicator has been introduced at a later stage in academia, as the M-S was intended to develop a classification scheme (DeSarbo et al. 2005). It should also be noted that these archetypes represent pure forms, where there is a high probability that firms will be more varied outside academia.

Empirically the M-S typology has been investigated under various contexts such as CRM-systems (Valos and Bednall 2010; Shannahan, Shannahan and Alexandrov 2010), export (Shoham, Evangelista and Albaum 2002) and organizational culture (Baird, Harrison and Reeve 2007). Stephen M. Shortell and Edward J. Zajac (1990) investigates whether the theoretical assumptions hold true for Prospector's. The findings indicate that proactive companies place greater emphasis on diversified product offerings, market offerings and the development of these offerings. Furthermore, greater effort is placed upon market research. Similar findings are found in another study (Hambrick 1983), where Prospector's spend significantly more than Defender's in R&D.

Studies also investigate the link between different performance indicators and the strategic types. Performance indicators can include Return on Investment (ROI), Cash Flow Investments (CFOI) and market share (e.g Hambrick 1983; DeSarbo et al. 2006; Parnell and

Wright 1993; Saraç, Ertan and Yücel 2014). Donald C. Hambrick (1983) uses PIMS data to test whether this is significant in both innovative and non-innovative environments. The findings indicate that Defenders have significantly higher levels of both ROI and CFOI (Hambrick 1983). When considering market share, the Prospector outperforms Defenders in innovative environments, but not in mature industries. On the other hand, in stagnant industries it seems that Analyzers provides a more optimal choice (Hambrick 1983).

Even though Prospector's ROI and CFOI is weaker due to higher expenses, maintaining the reputation as an innovator is perhaps more important than gaining profit (Miles et al. 1978). Being the drivers of change is what makes them competitively advanced, where having "organic" organizational structure is crucial to help them facilitate their operations rapidly (Miles et al. 1978). Each archetype, except The Reactor has the possibility to perform well. A study by Charles C. Snow and Lawrence G. Hrebiniak (1980) is an outlier where they found that Reactors was a viable business strategy in a highly regulated industry such as in air transportation. However this was not viable in the industries of semiconductors, plastics and automotive. Furthermore there is a negative link between Reactors and performance (Dyer and Song 1997; DeSarbo et al. 2006; Parnell and Wright 1993), where they are constantly outperformed by the other variants.

2.3.1 Capabilities and the three problems

For each archetype to be a viable option for competitive advantage it is important to consider firm's *capabilities* of the firm, which is broadly conceptualized as defined *complex bundles of skills and accumulated knowledge that enable firms [or SBUs] to coordinate activities and make use of their assets* (Song, Benedetto and Nason 2007; DeSarbo et al. 2005). The list of capabilities that a firm may have is enormous (DeSarbo et al. 2006), but this study pays attention to only four distinct capabilities related to *IT*, *technology*, *market-linking* and *marketing* (Song, Benedetto and Nason 2007).

Technology capabilities concern the manufacturing processes, technology, new product development, production facilities and forecasting of industrial change (Song, Benedetto and Nason 2007). The focus is therefore concerned with how to improve use of inputs in a more consistent way, which creates value.

The capability of IT is essential due to streamlining communication between different departments. As the products developed are technically complex (Song, Benedetto and Nason 2007), there is a high probability that *conflicts* arise. Conflict arises when task disagreements

are present (Dyer and Song 1997). Different departments have different objectives, where the ease of communication reduces conflict between these departments (Dyer and Song 1997). Too much conflict will impede the smoothness of the strategy implementation (Dyer and Song 1997) as mediated by communication. It is therefore critical that internal communication provides necessary information throughout the organization (Song, Benedetto and Nason 2007).

Market-linking provides the firm with means to compete by detecting changes in the market, creating new customers as well as retaining them and creating strong durable dependency relationships with wholesalers and retailers (Song, Benedetto and Nason 2007).

Marketing is concerned with how to effectively segment and target these markets, as well as gathering a solid knowledge base of both customers and the competitors (Song, Benedetto, and Nason 2007).

These capabilities provide solutions to the different problems that each strategic type faces in their adaptive cycle (Miles et al. 1978). The difficulties are related to the *entrepreneurial problem*, *engineering problem* and *administrative problem*. The entrepreneurial problem refers to creation of a specific domain, a specific product or a specific market segment. The engineering problem is concerned with choosing the right technologies to operationalize management solutions to the entrepreneurial problem. The administrative problem is primarily focused on creating stability in the organization. Firms differ in their responses to these problems. According to Hambrick (1983), Prospectors main task is to face the entrepreneurial problem, while Defenders focus on the engineering problem. This is achieved through facilitation of proper capability implementation (Song, Benedetto and Nason 2007). In terms of organizational performance, three out of the four strategic archetypes are performing equally well (Conant, Mokwa and Varadarajan 1990) due to solving these adaptive cyclical problems in a consistent fashion. The Reactor's type is the exception due to an inconsistent pattern of adoption. A Reactor will as such react differently from time to time on the same issues.

The M-S firms have different needs for different capabilities, in relation to their main problem. Studies (e.g Conant, Mokwa and Varadarajan 1990; Song, Benedetto and Nason 2007; DeSarbo et al. 2005; DeSarbo et al. 2006) shows the link between type and capabilities. The link is strong with the Defender and the market-link and marketing capabilities (Song, Benedetto and Nason 2007). Similar is indicated in another study (DeSarbo et al. 2006) where these capabilities have the highest standardized mean, although only marketing was statistically significant. Essential Prospector capabilities are IT and technology (Song,

Benedetto and Nason 2007), due to thriving in uncertain environments. The typical product is technologically advanced and as such creates a need for complex coordination mechanisms (Dyer and Song 1997). Many departments are present, with higher levels of conflict relative to their counterparts (Dyer and Song 1997). IT capabilities facilitate proper communication, which contribute to reduced levels of conflict. This is critical as it has a significant effect on performance (Song, Benedetto and Song 2007). A comparative study conducted by Barbara Dyer and Michael X. Song (1997) compares the archetypes level of conflict from both American and Japanese firms. One finding indicates that conflict levels are higher in proactive firms (Dyer and Song 1997). Similar findings are found when interactions between marketing and R&D are investigated (Ruekert and Walker Jr. 1987) where the highest numbers of disagreement are found between those two departments in Prospector organizations.

2.4 Corporate social responsibility.

The world is facing many social and environmental issues, and there is a rising concern about the consequences and how to prevent them. Global warming (Olijare 2010), plastic in the oceans (Haward 2018) and air pollution (Jiménez-Parra, Alonso-Martínez and Godos-Díez 2018) are some examples of issues that must be taken into the decision making processes of organizations today. There is consensus about these issues on a multinational level. As an example, the United Nations have made a blueprint of 17 sustainable goals which needs to be addressed by 2030.

Business operations create *externalities* (Jiménez-Parra, Alonso-Martínez and Godos-Díez 2018), that occur when the actions of one or more economic agents leads to uncompensated physical and real economic implications for others (Vatn and Bromley 1997). Externalities increase the need for acting ethical in terms of social and environmental factors (Jiménez-Parra, Alonso-Martínez and Godos-Díez 2018). *Corporate Social Responsibility*, also known as CSR, represents the company's involvement in social and environmental issues (Paun and Isac 2018). Consensus about the conceptualizations of CSR does not exist (Paun and Isac 2018). However, Ana-Petrina Paun and Claudia Isac (2018) articulate the concept of CSR as a representation of*;*

> *"The manner through which companies integrate, responsibly and transparently, social, environment and economic preoccupations within their culture, decisional system and*

strategy to be implemented, so that exemplary practices are established and determine welfare increase and society improvement" (Paun and Isac 2018, 172).

The concept was first formalized by Howard Bowen' in *social responsibility and the businessman* from 1953 (cited in Falck and Heblich 2007). However, it was not until Keith Davis 1967 work' *understanding the social responsibility puzzle: what does businessmen owe to society?* (cited in Falck and Heblich 2007), that social responsibility was to include enterprises and institutions. As a counter argument, Milton Friedman (1970) states that the only responsibility companies have is to increase shareholder value by increasing organizational profit (Friedman 1970, 6). From his point of view, the only law to follow is the economical one, where resources are best used when profit is achieved. He also states that social responsibility can be seen as a subversive doctrine that threatens the idea of a free enterprise society (Molina-Azorin, Claver-Cortés, López-Gamero and Tarí 2009). In other words, he believes that the monetary value is best applied by increasing the efficiency of the business (Falck and Heblich 2007).

Friedman's view can be argued to be outdated, as the social order of today's society is interdependent on different participants. There is widespread support of the need for more socially responsible actions (Falck and Heblich 2007). Numbers by KPMG (De Bettignies and Robinson 2018) shows that 95% of the largest global companies report their CSR activities. Edward H. Bowman and Mason Haire (1975) analysed 82 annual reports, and these reports show that medium firm involvement, rather than low or high involvement, in CSR is related to profit, making it an u-shaped relationship. Even Though CSR is not by itself a direct way to generate money, Bowman and Haire (1975) rather suggests that CSR act as a "third element" where value is made from the company being present in social responsibility. Corporates involvement and its beneficiaries through CSR has been thoroughly studied. Marc Orlitzky, Frank L. Schmidt and Sara L. Rynes (2003) conducted a meta study from 30 years of empirical data. The results from this study show that CSR is positively related to corporate financial performance, and that it works as a mediator in the company-customer relationship (Orlitzky, 2003) which is later confirmed by Peloza and Shang 2011). CSR can also bring advantage through cost savings that comes from adopting an environmental friendly management style throughout the whole business functions (Bowman and Haire 1975). Thomas Donaldson and Lee E. Preston (1995) argues about the existence of a positive connection between the justification for its shareholders and corporate performance. This is elaborated that as long as it is implemented in a normative way based on companies

fundamental values, there will be a valuable outcome for both stakeholders and the corporate`s financial performance (Donaldson and Preston 1995).

CSR is usually deemed as positive organizational behavior. Some organizations do however choose not to engage into these activities or choose to engage into these activities in a manipulative order. John L. Campbell (2007) states that organizations that are weak economically, lack CSR involvement due to not having enough resources. Slack of resources are those acquired resources that are for the purpose of initiating change (Greenley and Oktemgil 1998). Slack of resources are often used to explain the positive effects of environmental innovation (Leyva-De la Hiz, Ferron-Vilchez and Aragón-Correa 2018; Orlitzky, Schmidt and Rynes 2003; Nohria and Gulati 1996), where a focused approach to environmental innovation tends to generate better financial performance (Leyva-De La Hiz, Ferron-Vilchez and Aragón-Correa 2018), but when these innovations stems from managers own interests they may increase financial uncertainty. As such these should be done in relation to social responsibility, such as stakeholder interest, social performance and environmental causes.

2.4.1 Legitimacy

Legitimacy is an essential key component to explain why CSR is important, due to organizations need for easy access to resources, unrestricted access to markets and the company's long-term survival (Brown 1998). Mark Weber (1864-1920) is often credited as the introducing force (Deephouse and Suchman 2008, 50). Conceptualizations around legitimacy revolves around the perception that corporate actions are desirable (Menguc, Auh and Ozanne 2010) and aligned with social conformity (Oliver 1997). Mark Suchman (1995, 574) refers to legitimacy *as a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definition.* Legitimacy shares common features with *status* and *reputation* (see Deephouse and Suchman 2008 for a deeper review) due to many of the same antecedents, consequences, measurements and processes. The main concern of organizations is to be perceived as trustworthy (Suchman 1995). To be proven worthy is to be the preferred supplier of goods and services by the customer (Suchman 1995). In academia there are multiple concepts of legitimacy. Such legitimacy can be pragmatic, moral and cognitive (Suchman 1995), sociopolitical (Deephouse and Suchman 2008, 52) and environmental (Bansal and Clelland 2004).

The commonalities are determined by whether the legitimacy is seen as strategic or institutionalized (Suchman 1995). In the strategic perspective, legitimacy is evaluated as an instrument that can be applied to gather societal support (Suchman 1995). The institutional perspective however has focused on how the firm's purposive control is transcended by cultural pressure. Furthermore, there are distinctions between the pursuit of both credibility and continuity, and between the degree that firms seek passive or active support (Suchman 1995). The main point is that the many variations of legitimacy are different ways to achieve the outcome of enhanced trustworthiness (Suchman 1995). This is reflected in the degree of critical questions about the firm's actions**.** A truly legitimate firm is the one where negative questions about the business do not exist (Deephouse and Suchman, 2008). Legitimate evaluations protect the organization from external pressure (Deephouse and Suchman 2008). However, this protection can be problematic to maintain (Ashforth and Gibbs 1990), due to internal factors, ambiguities and continually changing expectations in the business-environment interface.

Legitimacy originated from institutional theory (Menguc, Auh and Ozanne 2010), which suggests that company behaviour is shaped by normative, coercive and mimetic forces (Damert and Baumgartner 2018). Organizations are therefore embedded in institutional environments that influence the practices and policies adopted by organizations (Arthur 2003). The influence of the environment typically occurs when the organizational field has been established (DiMaggio and Powell 1983), which through isomorphism creates homogenization of the organizational population. Organizations in a structured field can be evaluated as a continuous circle where firms respond to their natural environment (DiMaggio and Powell 1983). Through continuous responding to actors in their environment, the firms become more and more similar, with reduced diversity as a consequence. As such, organizational legitimacy is shaped by the characteristics of the institutional environment, the characteristics and actions of the firm, as well as external perceptions of the company (Kostova and Zaheer 1999). This may be used as a framework for explaining the firm's strategic choice with considerations into the social and environmental aspects. Accordingly, an organization can only create competitive advantage along with CSR within the boundaries of social legitimacy (Menguc, Auh and Ozanne 2010).

Legitimacy is investigated empirically in a wide range of contexts. Such as work-family initiatives (Arthur 2003; Wood and de Menezes 2010), multinational enterprises (Kostova and Zaheer 1999; Reimann et al. 2012), downsizing (Lamertz and Baum 1998),

stock markets (Bansal and Clelland 2004; Zuckerman 2000; Pollock and Rindova 2003), the media (Deephouse 1996) and the resource-based view (Oliver 1997).

A conceptual article (Ashforth and Gibbs 1990) investigates how protesting too much degrades firm legitimacy. This can occur in firms with low bases of organizational legitimacy. Organizations that are a part of this typology are being either clumsy, nervous or overacting (Ashforth and Gibbs 1990). Firms that protest their legitimacy too much have not thoroughly applied the techniques of symbolic management (Ashforth and Gibbs 1990). By protesting too much, it became apparent that they seek to defend themselves. Constituents are not passive recipients from the legitimation processes (Ashforth and Gibbs 1990). As a consequence they evaluate these firms negatively and thus even further reduces legitimacy.

Other studies have investigated the early stages of the diffusion process (Delmas and Sancho 2011), with the implementation of the ISO 14001 standard as the point of interest. Using a decade worth of data (1996-2006), they prove the relationship between firm's decisions to adopt ISO 14001 and the institutional environment (Delmas and Sancho 2011). Similarly, Pamela S. Tolbert and Lynne G. Zucker (1983) finds that the adoption of a civil service reform in the earlier stages is decided by city characteristics. Later in the diffusion process, however, the reform is gradually institutionalized, and as such late-movers adapt the reform due to institutional pressure (Tolbert and Zucker 1983). The more widespread the adaptations of a practice, the greater the legitimacy (Deephouse and Suchman 2008, 55).

2.4.2 The Stakeholder

Considering a company's *stakeholders* is essential in every business. The term stakeholder is described as *those groups without whose support the organization would cease to exist* (Freeman and Reed 1983, 89). Later the definition has been extended to include *any group or individual who can affect or is affected by the achievement of the organization's objectives* (Jiménez-Parra, Alonso-Martínez and Godos-Díez 2018, 1364). Well known stakeholder groups are employee's, shareholders, local communities, government, non-profit organizations, media and customers (Du and Vieira 2012). One of the company's most important and maybe hardest tasks is therefore to keep stakeholders satisfied at the same time as the top management is striving to reach the company's overall strategic goals (Ackermann and Eden 2011). Successful integration of different stakeholder views are therefore essential for success both short and long term (Falck and Heblich 2007). This is particularly true due to the fact that certain stakeholders, especially some external stakeholder groups, have the power to withhold resources or influence their usage (Schmitz et al. 2019).

There has been great attention on how different stakeholder views can be used in strategic management (Ackermann and Eden 2011; Freeman and McVea 2001). There are different aspects in the stakeholder literature. For instance insight on how to address stakeholders and how positive or negative impact could affect the firm's viability (Ackerman and Eden 2010), in depth insights on how CSR can create value for stakeholders (Peloza and Shang 2011) and using stakeholder satisfaction knowledge to understand how marketing capabilities provide financial performance (Cruz-Ros, Cruz, Pérez-Cabañero 2009). Studies on human behaviour in firms shows for example that positive reciprocity between employer-employee has proven to generate higher value for the firm rather than being driven only by self interest (Bosse, Phillips and Harrison 2009). In this case the employees are the stakeholder to whom the firm is showing responsibility towards, with the firm getting something which is valuable in return, which in this case would be rent mediated by higher employee activity.

John Peloza and Jingzhi Shang (2011) conducted a systematic review on how CSR activities can create value for its shareholders, and suggests that CSR activities can mean different things in different places to different peoples in different times. This means that stakeholders may have contradicting opinions on what is to be seen as creating value through CSR (Peloza and Shang 2011). A view presented in this review is that CSR activities create good relationships with its stakeholders, which down the line will generate positive financial outcomes. Gary W. Simpson and Theodor Kohers (2002) found a positive link between corporate social performance and financial performance. However, they did not exactly test why a positive link exists. It is often difficult to identify exactly how value is made from CSR to stakeholders (Peloza and Shang 2011), but some scholars suggests that it can be viewed as *tertium quid*, an unidentified third element, to how CSR lies behind as a causal factor for profit making to its shareholders (Bowman and Haire 1975).

Firm managers need to find a balance between different stakeholder groups since their needs are not across firms but are rather regulated by which environment the firm is operating in (Peloza and Papania 2008). For instance, the government is the most important stakeholder in highly regulated environments, and the customers in a consumer based category (Peloza and Papania 2008; Miles et al 1978). The relationship between stakeholders and CSR can be viewed as an institutional norm where companies must fulfil a social contract to gain legitimacy (Du and Vieira 2012; Peloza and Shang 2011). When the organization collaborates with stakeholders there is reason to assume that CSR is a provider of competitive advantage (Juscius and Snieska 2008; Bowman and Haire 1975). Being used well, CSR is

actively contributing to society's basic order, and thus enhancing the company's legitimacy (Falck and Heblich 2007). This can be because of increased stakeholder value, since value is created when a firm and stakeholder come together (Peloza and Shang 2011).

2.4.3 Environmental regulations

When the environment is the topic of interest, it is important to consider the role of *regulations*. As a government intervention, regulations refers to *taxes and subsidies of all sorts as well as to explicit legislative and administrative controls over rates, entry, and other facets of economic activity* (Posner 1974, 335). Regulations capture institutional pressure (Jiménez-Parra, Alonso-Martínez and Godos-Díez 2017) through coercive pressure (DiMaggio and Powell 1983). Regulations work on different levels such as multilateral, regional, national, sub-national and municipal (Rugman and Verbeke 1998). The government stakeholder will therefore influence the regulatory framework in which all firms must exist both today and in the future (Henriques and Sadorsky 1999). Regulations will therefore entail restrictions on corporate freedoms (Gjølberg 2011) due to being deemed critical for gathering compliance with private businesses. Left unattended, externalities would not be considered when making investments (Bitat 2018). Policy instruments will therefore play a large role in raising business awareness of the link between operational efficiencies and the environment (Zarker and Keller 2008).

Theoretically the research has been a place for topics such as the *Industrial haven hypothesis* (e.g Taylor 2004) and the *Porter hypothesis* to emerge (Porter and Van der Linde 1995). These hypotheses are best viewed as two different views in regards to the effect of asymmetric policies on firms competing in the same markets (Dechezleprêtre and Sato 2017).

The Pollution Haven hypothesis argues that industries and firms are highly sensitive to environmental regulations, meaning that industries move from countries with stringent regulations, to countries that are more lax in their regulatory pressure (Zheng and Shi 2017). If competing companies only are different in terms of the environmental stringency they face, then those facing relatively stricter regulations lose competitiveness (Dechezleprêtre and Sato 2017). Lax regulations in developing countries increase the amount of foreign direct investments (He 2006), with the reasoning being avoidance of pollution control compliance (He 2006). Furthermore, According to Rolf Bommer (1999) the organization has less problems re-allocating capital investments into *dirty* technologies in developing countries if the total profits exceed the profit achieved with the use of *clean* technologies.

The hypothesis originated from trade theory (Dechezleprêtre and Sato 2017) and considers the relationship between trade patterns and environmental stringency (Taylor 2004).

It is a highly debated topic (Taylor 2004), where the empirical work on this hypothesis is divided. There are positive findings (e.g He 2006) However, some of the empirical work shows small positive effects, or non-positive effects. A review by Antoine Dechezleprêtre and Misato Sato (2017) finds that the effect on the industrial haven is small and narrow. Similar findings are mentioned by Smita B. Brunnermeier and Arik Levinson (2004), where they argue that it is difficult to prove the pollution haven effect. Much of the literature arrived at different conclusions ranging from deterrent effects to attractive effects (Brunnermeier and Levinson 2004). The differences are due to different underlying assumptions, independent and dependent factors, and differences in geographical location and industry sample. In conclusion this makes it difficult to compare studies. On the other hand, when the empirical work is based upon panel data to control for unobserved heterogeneity or endogeneity, it proves the industrial haven effect of a reasonable magnitude (Brunnermeier and Levinson 2004).

The original Porter hypothesis, or PH for short, is a counter argument to the Industrial Haven (Ambec et al. 2013). The argument is that *properly crafted regulations foster innovation* (Porter and Van Der Linde 1995, 98). When the regulations are properly crafted it promotes *eco-innovation*, conceptualized as *an innovation that improves the environmental performance of consumption and production activities* (Del Río, Carillo-Hermosilla and Könnölä 2010, 542). By promoting eco-innovation, then the environmental regulation will enhance a country's competitiveness, and thus a win-win situation for both the environment and the competitiveness is created.

Whether this is true is up for debate, as the statement has gathered its share of criticism (Lanoie et al. 2011). In perfectly competitive economies, the opportunities would be discovered without governmental intervention (Lanoie et al. 2011). Much of the earlier empirical evidence has been anecdotal. For an example Porter claimed that the phase-out of ozone-depleting CFC's led the company DuPont to innovate into a more eco-friendly substitute (Jaffe and Palmer 1997). Being anecdotal, rather than empirical and will as such make it ungeneralizable to the population of firms (Lanoie, Patry and Lajeunesse 2008). It does not make it easier that ambiguity of the hypothesis exists (Jaffe and Palmer 1997) Empirical testing of the PH is done by disaggregating it into more digestible components such as weak, narrow or strong versions of the hypothesis (Lanoie et al. 2011; Jaffe and Palmer 1997). In the weak version, only some regulations will stimulate some environmental

innovation (Lanoie et al. 2011). The weak version does not divide between good or bad innovation as an effect of environmental regulation (Ambec et al. 2013). The stronger version however, occurs when regulations increase innovation to a greater sum than the cost of compliance (Lanoie et al. 2011). In the narrow version, firms get incentives to innovate from flexible regulatory policies and are as such better than prescriptive regulations (Ambec et al. 2013).

Adam B. Jaffe and Karen Palmer (1997) use panel data to summarize the statistical relationships to investigate the link between pollution and innovation. The results indicate that the results are dependent on the applied measure of innovative activity. As such the support of the PH hypothesis is unclear (Jaffe and Palmer 1997). Paul Lanoie et al. (2011) tests the empirical links with data from 4200 facilities from seven OECD countries. Overall they conclude that there is support for the weak version, qualified support for the narrow version, but no significant relationships for the strongest version (Lanoie et al. 2011). Another study (Lanoie, Patri and Lajeunesse 2008) investigates the total factor productivity growth in the manufacturing sector to assess the effect of the PH. Sectors with higher degree of competition have higher incentive to behave in a matter that confirms the PH. Organizations that classify as high polluters did however experience long-term decline due to heavy investments being made to meet the criteria form the regulators (Lanoie, Patri and Lajeunesse 2008).

Based upon the arguments of the Porter Hypothesis and the Pollution Haven Hypothesis it is clear that regulations influence the strategic choice of organizations in one way or another. Whether the organization focuses on eco-innovation or moves the production offshore, is dependent on the regulatory instrument applied. There are different kinds of instruments available (Bitat 2018), that aim to promote eco-innovation. The effects of the various policy instruments are idiosyncratic in their nature (Kivimaa 2007), due to contextual dependency. This occurs since heterogeneity exists on firm, industry and country level (Backman, Verbeke and Schulz 2017). As such there is no one size-fits-all approach to regulations (Backman, Verbeke and Schulz 2017). In general, to have an effect on changing the market or technology factors, there has to be four characteristics present (Kivimaa 2007). Transparency through stimulation of industry generated information, providing incentives both economic and political, creation of long term stability, and increased flexibility.

The different instruments are distinguished by whether they are based upon being *command-and-control* or *market-based* (Bitat 2018). Command-and-control based regulations can be evaluated as legally binding instruments, and are distinguished by whether

they are based upon *standards* or *performance*. When regulations are based upon standards, then the organization must adapt specific technologies to comply (Bitat 2018). The downside is that even though standards-based regulations are positively associated with the adoption of new technologies, it tends to favour end-of-pipe solutions (Bitat 2018). A study (Frondel, Horbach and Rennings (2007) found a positive correlation between regulatory stringency and end-of-pipe solutions. Frank C. Krysiak (2011) investigated whether regulations influenced the technological choice. He found that when standard based regulations are prevalent there is a tendency for firms to lock themselves into inferior technology (Krysiak 2011).

It is therefore essential that regulations promote a higher degree of beyond-compliance. This will create sustainable consumption and greener production systems (Zarker and Kerr 2008). Performance based regulation is *a type of regulation which sets the objectives to reach with minimal technical details on the means to achieve them* (Bitat 2018, 304). The degree of organizational freedom increases, while at the same time promoting beyond-compliance. The firm itself can choose how the objectives are being met, as long as the regulatory objectives are achieved (Bitat 2018). These forms of regulations are anchored in long-term objectives that are updated over multiple years in a systematic fashion (Bitat 2018). The degree of uncertainty is reduced when the regulations are less strict (Bitat 2018). On the other hand, maintaining the proper balance between environmental sustainability and economic growth is difficult. The frequency of performance-based instruments are not as prevalent as wanted (Coglianese, Nash and Olmstead 2003). Applying the regulatory instrument is not a one size-fits-all as it is dependent on governmental ability to specify, measure and monitor performance. However, reliable and appropriate information is difficult to obtain, which gives an inefficiency (Coglianese, Nash and Olmstead 2003).

The command-and-control policy instruments are however deemed less effective than the market-based instruments (Del Río, Carillo-Hermosilla and Könnölä 2010; Bernauer et al. 2006). The market-based regulation is an indirect regulation (Bitat 2018), defined as *mechanisms that encourage behavior through market signals rather than through explicit directives regarding pollution control levels or methods* (Popp, Newell and Jaffe 2010, 10). This indirect form gives directions and pressure for businesses future decisions, as a need and want from the external environment. Demand is positive for increased awareness. As the power of the market is harnessed, the firm gets an additional incentive to reduce emissions (Del Río, Carillo-Hermosilla and Könnölä 2010).

There are studies which investigate the effectiveness of different regulations (e.g Khanna and Anton 2002; Bitat 2018; Zhao, Yin and Zhao 2015) One study (Khanna and

Anton 2002) shows that when multiple factors are present, such as high compliance cost, higher potential financial liabilities as well as increased pressure from consumers, then organizations put a greater emphasis on systems that manage environmental performance (Khanna and Anton 2002). Investments into these systems are therefore being made when the cost is larger than the gain of not implementing environmental systems. This was however not as great in magnitude as the pressure by the external environment (Khanna and Anton 2002). Similar findings are present in Abdelfatah Bitat (2018), where he compares three different regulatory instruments. One finding indicates that market based regulations foster ecological innovation (Bitat 2018).

2.4.4 Management perception about legislation

Due to the importance of regulations, it is critical to understand how management interprets and percept the external pressure. When external pressures are present, then management must decide how to react. A typology created by Alain M. Rugman and Alain Verbeke (1998) and is presented in an organizing figure. The focus of the horizontal axis is about whether coercive pressures are complementary or conflicting. According to the horizontal axis, the management has to evaluate whether the regulations are a source of improvement of industrial performance, or as a destroyer of improved performance. The vertical axis focuses on whether the time horizons of management are static or dynamic. Management evaluates response to this according to whether the impact is longitudinal or immediate. Throughout the quadrants the firms move from merely complying with external pressure, to gaining a win-win according to Porter's Hypothesis (Rugman and Verbeke 1998). When firms find themselves in quadrant 1 they will focus on end-of-pipe solutions. In quadrant 4, however, firms will voluntarily move beyond-compliance through pollution prevention (Rugman and Verbeke 1998).

There are also differences between management perceptions in different regions, which are related to differences in value and norms. The Nordic model stands out compared to other countries (Campbell 2007), where the Nordic model is described as superior with its normative universalism and solidarity (Gjølberg 2011). Results from the 1996 Norwegian environmental barometer (Ytterhus and Synnestvedt 1996), conducted in Scandinavia, indicate that the government is perceived as an important pressure group. Similar findings are found in the Canadian context (Henriques and Sadorsky 1996). Manuell Lindell and Necmi Karagozoglu (2001) compare Norwegian and American firms and find differences in regards to the perceived stringency of regulations, with a higher stringency in the United States

(Lindell and Karagozoglu 2001). The study supports earlier findings, although the differences were less distinct than expected.

3.0 Hypotheses development

This section is divided into two parts. The first part is prior to the data collection procedure. In part two, contextual hypotheses were created after the data collection procedure.

3.1 Hypotheses development prior to data collection

How does a proactive environmental strategy provide superior competitive advantage? Being proactive is a way of coping with an uncertain business environment, which is a central problem for organizations (Aragón-Correa and Sharma 2003). Success would be certain if the management could predict the future. Pollution prevention approaches in uncertain environments are innovative by nature and create rare advantages as well as differentiation (Aragón-Correa and Sharma 2003). These advantages include saving costs compared to competitors, due to more efficient use of materials. End-of-pipe solutions are on the other hand costly operations where the residual product of production is reduced (Zotter 2004). On the other hand, continuous improvements lower costs and secure more efficient use of material.

The organization has to be aligned with the environment due to legitimacy. According to theory, the main concern of the organization is to be perceived as trustworthy (Suchman 1995). Trust is critical for gaining access to resources, unrestricted access to markets and the company's long-term survival (Brown 1998). As the customer is growing more aware of environmental issues (Menguc, Auh and Ozanne 2010), there will be higher expectations placed upon the organization to address these issues. Being proactive about environmental issues makes the firm distinct in the customers view (Menguc, Auh and Ozanne 2010), through differentiation. Being differentiated leads to trust, which leads to being chosen as the preferred supplier, which then leads to rent. As the rent goes higher and higher, more opportunities to invest in new markets emerge. Because the organization does not exist in a vacuum we expect that an application of a proactive environmental strategy raises firm legitimacy and increases trustworthiness. Companies who pursue a PES will tend to satisfy their customers, and will increase the probability to reach desired customer purchasing behaviour (Menguc, Auh and Ozanne 2010). In sum, the firm preempts the market and utilizes first mover advantage due to proactivity. Outlined by the arguments above, we propose the following hypothesis:

H1: A high degree of a proactive environmental strategy (rather than reactive) has a positive (rather than negative) impact on firm performance.

Strategies serve as a consistent way of reaching organizational goals where there are different ways to reach the goals. The M-S framework provides a way to reach organizational goals. The defenders defend their niche and are generally slow to act, but are superior in terms of controlling their cash flow and income (Miles et al. 1978; Hambrick 1983).
As a way to seek competitive advantage, Prospectors take risk and work innovatively, and as a result, they capture a higher level of market share (Miles et al. 1978; Hambrick 1983). The Analyzer is an intermediary archetype, where it combines the best of both Defenders and Prospectors. We argue that Prospectors are most likely to implement PES based on their attitudes towards proactivity.

Constant exploration helps Prospectors to manage changing environments (Miles et al. 1978). One way to manage this is through pollution-prevention, which is a proactive attitude where the firm tries to alter its operations to anticipate future regulations (Aragón-Correa and Sharma 2003). Being proactive implies that it is essential to take risks, be entrepreneurial and to create new innovative solutions. This is proven significant in other empirical work (Menguc, Auh and Ozanne 2010). Prospecting strategies enable first mover-advantages (Shortell and Zajac 1990; Menguc, Auh and Ozanne 2010) and these firms will therefore be the first to notice the effects of a proactive environmental strategy. This is of importance as their raison d'être is to exploit new product and market opportunities (Miles et al. 1978). Suarez-Perales et al. (2017) shows that environmental proactivity is more prominent in firms that are more innovative. Another study (Aragón-Correa 1998) based upon a sample consisting of 105 Spanish firms shows how a Prospector is related to the focus on the natural environment. Other related positive empirical links are found in ski resorts (Sharma, Aragón-Correa and Rueda-Manzanares 2007) and in the Dutch food and drink industry (Haverkamp, Bremmers and Omta 2010).

Defenders on the other hand are more concerned about market protection. The result of this is that they are more reluctant to taking unnecessary risks, even though the result may lead to profit. Based upon theory we believe that there are reasons to believe that proactive environmental strategies are implemented after both Prospectors and Analyzers prove the strategy to be efficient and advantageable. Donald C. Hambrick (1983) proves a significant link between Defenders and their return on investment and cash flow. Applying the PES-

strategy will be more expensive, where the risk is elevated with uncertain returns. As a result, their margins will be significantly reduced. This organizational type is risk averse by nature and it can therefore be argued that a Defender will be more likely to avoid investing in solutions such as the PES.

Empirical studies (e.g Conant, Mokwa and Varadarajan 1990; Dyer and Song 1997) proves that the Reactor is the least likely successful strategic choice. Snow and Hrebiniak (1980) found that the Reactor was not a very viable choice in industries with levels of competition. As such we have chosen to exclude The Reactor from the hypothesis development stage. On the other hand, data on this organizational type is gathered in line with previous work (Song, Benedetto and Nason 2006). Based upon these arguments, we provide the following hypothesis;

H2: Along the prospector-analyzer-defender continuum, the prospector is most likely to implement a proactive environmental strategy, and defenders the least.

Institutional pressure is captured through regulations and represents CSR on an institutional level (Jiménez-Parra, Alonso-Martínez and Godos-Díez 2017). Regulations are deemed of importance due to gathering compliance with private businesses. Left unattended, externalities would not be considered when making investments (Bitat 2018). When externalities are not considered there will be negative effects on the stakeholders and the natural environment. In the presence of governmental regulations there are expectations to comply (Menguc, Auh and Ozanne 2010). Earlier findings (Henriques and Sadorsky 1996; Ytterhus and Synnestvedt 1996; Lindell and Karagozoglu 2001) indicate that the government is an important stakeholder and should be considered accordingly. Regulatory pressures are as such coercive of nature, where firms are being pushed toward implementation of an environmental strategy (Schmitz et al. 2019). Studies (Henriques and Sadorsky 1996; Henriques and Sadorsky 1999) show a positive link between the government and focus on the environment. As such, the government creates guidelines which fosters environmental acceptance. Even in the Scandinavian countries, which consistently are featured on key-performance indicators of CSR (Gjølberg 2011), there are preferences for regulations (Gjølberg 2011) due to applied pressure on laggards.

Furthermore, if firms do not acknowledge the legislative pressure and take action accordingly, the firms are at risk of damaging their legitimacy. Being considered legitimate is essential because it affects whether the customer buys their products and services. Ultimately

this affects the firm's ability to grow. The survival of the firm is threatened as access to resources are restricted (Brown 1998), due to changes in the customers buying pattern. Changes in patterns that occur due to not being the preferred supplier.

Some form of external pressure is essential to make organizations consider pollution prevention an integral part of their operations (Zarker and Kerr 2008). Environmental regulations therefore expected to have a moderating effect between the strategic types (Miles et al. 1978) and the proactive environmental strategies. These types represent different configurations where different aspects of business operations are deemed as important. The hypothesis is formulated as follows;

H3: The interaction effect between strategic types and the proactive environmental strategy is moderated by intensity of government regulations, where a high degree of regulations have a higher interaction effect.

In visual terms our conceptual model looks like this;

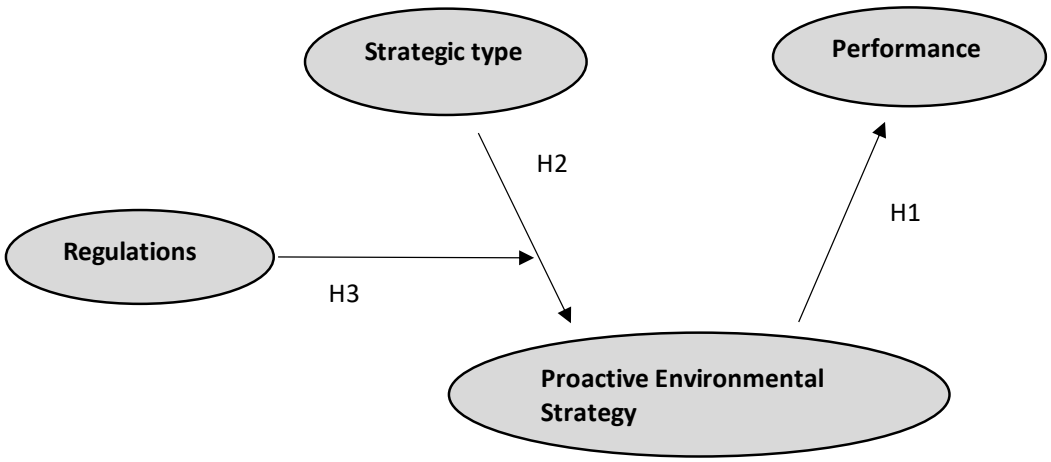

Figure 1. Conceptual model.

3.2 Hypotheses development after data collection

There are also contextual hypotheses at play in this design. This survey is based upon organizations existing in the Norwegian forestry industry. Not all organizations are equal and the results may as such depend on how these firms define their daily operations. We propose that there is a difference between the general strategic business units, as based upon the types of firm in the industry. Differences in work activities may mean different outputs in different categories. Furthermore, we expect that where the difference between these firms exists, this will have an effect upon a variety of constructs. As such we propose following under categories of hypotheses;

H4: There is a significant difference between the general strategic business units as defined by the firms in the Norwegian pulp industries and...

H4a) Pollution prevention

H4b) Top management

H4c) Proactive Environmental Strategies

H4d) Performance

H4e) Industrial dynamics

H4f) Regulations

It is also essential to distinguish by the size of the organization, as it has been hypothesized in multiple studies that size influences performance (e.g Delmas, Hoffmann and Kuss 2011; Aragón-Correa 1998) that size influences environmental performance and business operations. The correlation between size and environmental performance is proven in 9 out of 10 studies (Etzion 2007). Larger organizations bring greater attention to their action, and these firms therefore have to divert greater attention to becoming greener, in line with legitimacy (2.4.1).This is not the case with small firms according to Dror Etzion (2007). Small organizations do not face the same level of external pressure, are less knowledgeable about environmental issues, and are more focused on issues central to their survival. Furthermore, small and medium sized companies are an important driver of economic growth in both developed and developing countries (Baumann-Pauly et al. 2013). As such we propose the following hypothesis;

H5: There is a significant difference between the size of the organization and...

H5a) Pollution Prevention

H5b) Top management

H5c) Proactive Environmental Strategies

H5d) Performance

H5e) Industrial Dynamics

H5f) Regulations

When considering size and its performance on the constructs, it is then natural to consider the role of organizational age and performance. In a French study (Durand and Coeurderoy 2001), it was proved that older firms have lower performance on average. Age is often used as a proxy for experience (Durand and Coeurderoy 2001) and is an indicator that the firm has matured into an organization with low risk of failure. On the other hand, organizations of old age experience negative effects of routinization and conservatism. Alimin Ismail et al. (2010) tested a statistically significant relationship of age as a moderator between competitive advantage and performance. Based upon these arguments, we propose the following hypotheses;

H6: There is a significant difference between the age of the organization and...

H6a) Pollution Prevention

H6b) Top management

H6c) Proactive Environmental Strategies

H6d) Performance

H6e) Industrial Dynamics

H6f) Regulations

There are also contextual hypotheses at play in this design. This survey is based upon organizations existing in the Norwegian forestry industry. Not all organizations are equal and the results may as such depend on how these firms define their daily operations. We propose that there is a difference between the general strategic business units, as based upon the types of firm in the industry. Differences in work activities may mean different outputs in different categories. Furthermore, we expect that where the difference between these firms exists, this will have an effect upon a variety of constructs. As such we propose the following hypotheses;

H4: There is a significant difference between the general strategic business units as defined by the firms in the Norwegian pulp industries and....

H4a) Pollution prevention

H4b) Top management

H4c) Proactive Environmental Strategies

H4d) Performance

H4e) Industrial dynamics

H4f) Regulations

It is also essential to distinguish by the size of the organization, as it has been hypothesized in multiple studies that size influences performance (e.g Delmas, Hoffmann and Kuss 2011, 128; Aragon-Correa 1998) that size influences environmental performance and business operations. The correlation between size and environmental performance is proven in 9 out of 10 studies (Etzion 2007, 642). Larger organizations bring greater attention to their action, and these firms therefore has to divert greater attention to becoming greener, in line with legitimacy (2.4.1).This is not the case with small firms according to Dror Etzion (2007, 643). Small organizations do not face the same level of external pressure, are less knowledgeable about environmental issues, and are more focused on issues central to their survival. Furthermore, small and medium sized companies are an important driver of economic growth in both developed and developing countries (Baumann-Pauly et al. 2013, 694). As such we propose the following hypothesis;

H5: There is a significant difference between the size of the organization and...

H5a) Pollution Prevention

H5b) Top management

H5c) Proactive Environmental Strategies

H5d) Performance

H5e) Industrial Dynamics

H5f) Regulations

When considering size and its performance on the constructs, it is then natural to consider the role of organizational age and performance. In a French study (Durand and Coeurderoy 2001, 484), it was proved that older firms have lower performance on average. Age is often used as a proxy for experience (Durand and Coeurderoy 2001, 473) and is an indicator that the firm has matured into an organization with low risk of failure. On the other hand, organizations of old age experience negative effects of routinization and conservatism. Alimin Ismail et al.

(2010, 164) tested a statistically significant relationship of age as a moderator between competitive advantage and performance. Based upon these arguments, we propose the following hypotheses;

H6: There is a significant difference between the age of the organization and...

H6a) Pollution Prevention

H6b) Top management

H6c) Proactive Environmental Strategies

H6d) Performance

H6e) Industrial Dynamics

H6f) Regulations

4.0 Methodology

4.1 Questionnaire development

The operalization of relevant constructs is a critical job, that is not to be taken lightly. There are different ways to measure variables (Ringdal 2013, 89) where the variables are measured with different precision and sophistication (Field 2014, 8). The higher order categories consist of category and continuous variables (Ringdal 2013, 92). The essential information lies in the value between the variables. There are different uses for each variable, where the traditional way of separating between these four measuring levels is depending on which statistical analysis that is permitted (Ringdal 2013, 92). The constructs are latent variables, which implies that they are not directly observable (Ringdal 2013, 88; Field 2014, 666), like height or weight. This has implications when measuring environmental proactivity. Good science should be founded upon quality measurements (Churchill 1979). Therefore the applied items are based upon earlier research. To be certain that earlier empirical findings are proven significant in other contexts it is important to consider the relationships between *validity* and *reliability*. Validity refers to the degree the construct measures what it is intended to measure (Ringdal 2013, 96). Reliability refers to the degree the items can be trusted over multiple measurements (Ringdal 2013, 96). High reliability is a precondition for high validity (Ringdal 2013, 96), and validity implies theoretical considerations (Ringdal 2013, 97). Failure to provide this is reflected in *measurement error*. Measurement error will always be a part of any given variable due to its latent characteristics, however it is of importance to reduce the error term as much as possible (Field 2014, 12). High levels of error creates non-

trustable results. It is therefore crucial to implement these constructs in a thorough manner to provide sufficient validity and reliability. All items are found in its natural original phrasing in appendix 1. The translated final edition is in appendix 2.

Starting with the construct for *proactive environmental strategy.* As defined by Bulent Menguc, Seigyoung Auh and Lucie Ozanne (2010), a PES is a higher order construct consisting of two sub-dimensions, namely *pollution prevention* and *top-management support*. Both scales are measured by a seven-point Likert-scale. Pollution prevention consists of 10 items (1 = To a small degree; 7 = To a large degree) and top management support is based upon 4 items (1 = Strongly disagree; 7 = Strongly agree). These are included because they both yield good Cronbach's alpha, as well as satisfying factor loadings (Menguc, Auh and Ozanne 2010). These can as such be safely used in the research. It is also of importance to pinpoint that PES will function as a mediator in our survey. This means that the mediator will account for the variation between the independent and the dependent construct (Baron and Kenny 1986).

For the strategic type construct we have chosen to benefit from the work done by Jeffrey S. Conant, Michael P. Mokwa And R. Rajan Varadarajan (1990) in measuring strategic types based upon the Miles-Snow typology (Miles et al. 1978). This was a pioneering study (Song, Benedetto and Nason 2007), which yielded a 11 multi items-scale on the categorical measurement level. As the scale is well validated and used in numerous studies (e.g. Song, Benedetto and Nason 2007; DeSarbo et al. 2005; DeSarbo et al. 2006), we adopt this in our study.

The interaction effect captures institutional pressure (Menguc, Auh and Ozanne 2010). The construct is defined as *intensity of government regulations* and consists of 8 items with a seven-point Likert-scale (1 = To a small degree; 7 = To a large degree). These items measure to the extent that the government forces the organization to observe environmental standards such as recycling of renewable natural resources, protect its natural environment and so on. In our conceptual model, institutional pressure functions as a moderator. A moderator, according to Reuben M. Baron and David A. Kenny (1986), acts as a third variable that affects the zero-order correlations between two other variables by affecting the strength or the direction of the relationship between these constructs.

When it comes to measuring the dependent variable *firm performance* we used two indicators from Menguc, Auh and Ozanne (2010). The two indicators originally asked the firms to indicate their sales growth and profit growth over the last three years. Both indicators are measured with a six points scale (1: 0-9%; 2: 10-24%; 3: 25-49%; 4: 50-74%; 5: 75-

100%; 6: 100% and over). However we chose to operationalize these as a 7 point Likert scale (1 = Much worse; 7 = Much better). To get increased richness in data from respondents, we added the items *solidity* and *total competitiveness*. These were also operationalized as an identical 7 point Likert scale. The respondents were asked to *evaluate the organization's business performance the last year, as compared with your competition.*

Control variables are added to avoid misspecification of the model. The purpose of these variables are to ensure quality and stronger support of the hypotheses. Firm size is included, measured as the number of full time employees. This is due to the firm's size influence on both environmental and business performance (Delmas, Hoffmann and Kuss 2011). The firm's age was also included as a control variable, due to the fact that age is theorized to act as a proxy for experience, as well as a reason for bad performance (Durand and Coeurderoy 2001). Industrial dynamics are included to check the degree of dynamism in the industry of choice. The scale from Menguc, Auh and Ozanne (2010) consists of a 4 items bipolar scale consisting of seven points.

At last a descriptive variable was developed, with the aim to increase respondents' motivation with the purpose of increasing the completion rate. This variable will also increase data richness through increased nuances. The construct asks the firm what kind of products or services they deliver.

4.2 Ensuring validity

As survey instruments are applied to other settings it is critical to translate. Thus, each item must be translated to the Norwegian language. This is done by both scholars to ensure that subjective bias is reduced. The translated items are then tested on an objective thirds party, who picks the best translated items from each translator. The goal is to ensure a higher degree of objectivity. One item was removed from both *Pollution Prevention* due to being identical with another instrument in the same construct. The same was done on the construct *regulations* where one item got removed. The survey is developed using Qualtrics Software, and administered to a selected few respondents. This is done to ensure that the survey flow is good and to be certain that the phrasing is good in Norwegian. Phrasing is of importance due to the fact that translated sentences often miss the natural flow of the native language. Good phrasing is at the same time customized according to our sample using simplistic language. This is critical to ensure sufficient response. After the survey was completed we ran a pre-test (N = 15) with IBM SPSS 26 to be certain that there were not any major flaws in our design. After getting feedback from respondents we adjusted the necessary items Based on the

response we also consider this survey to have sufficient face validity. However, it is of importance to pinpoint that the process applied can have consequences for the results of the study. Necessary steps are deemed considered and taken care of.

4.3 Sample selection, ethics and data collection procedure

Our sample consists of firms from the Norwegian wood and forest industry. We gathered respondents from all across Norway through the national overview of all forest and wood companies (Norsk Skogbruk 2019). Through this we found public companies from all across Norway in the chapters forest industry, and services. All public companies were entered into an Excel-file, with names, email and telephone number. Considerations about ethics and privacy for respondents must be evaluated. The Norwegian centre for research data (nsd.no) was contacted, to be certain that our project is aligned according to the Norwegian legislation about privacy (Personopplysningsloven 2018). The survey does not deal with sensitive data about respondents, since the survey only measures firm-specific variables. The Excel-file has personal information about names, e-mail addresses, phone numbers and company names. The research data center did not consider this survey to be treating personal data, and thus we got an anonymous clearance to proceed with the project. However, we got a clear admonition that we do not gather survey information about their name or company. As such, we do not need written consent by the respondents. The implication of this lies in the fact that we can only administer the survey once to agreeing participants. Furthermore the IP-address tracker is turned off in Qualtrics. We can therefore not follow-up on respondents that are not completing or starting the survey. When the respondents were contacted they were asked if they wanted to participate in the study. In order to get the information we needed, we made sure that it was the CEO or daily manager who were contacted and awarded the survey. The collection period took approximately two months from the middle of march until the middle of may. The Excel-file is deleted when it has served its purpose.

5.0 Analyses and results

5.1 Descriptive statistics

Out of the total sample (N = 159), 75 CEO`s and daily managers agreed to participate and got the survey distributed through email. The final output file extracted from Qualtrics consists of 40 respondents. Seven respondents were deleted due to non-response, giving a final sample of 33 (44%). When considering the total sample this is a small distribution. This is on the other hand a common issue with mail-surveys (Ilieva, Baron and Healey 2002). As such,

getting a sufficient number of respondents can be difficult and this is evident in this study. A response rate around 30% is deemed reasonable (Ilieva, Baron and Healey 2002). The consequence from a small sample is most evident in the statistical power of the analytical tests and the generalizability (Dybå 2003). Firm age has a wide distribution of firms established from 1883 to 2011. The organization's age is calculated by subtracting the year 2020 with their establishment year (M = 42,88 SD = 30,425). 62,5% of the sample consists of small firms, while 31,1% of the sample has between 11 to 80 full time employees. Only one firm has more than 100 employees and consists of 0,3% of the sample. Mean size was 30,62 full time employees with a standard deviation of 79,878. The firms in these samples conduct a variety of activities, with a high variety consisting of *harvesters, thinning, transporting, mulching, field dressing, forestry, excavation work, road construction, road maintenance, driving goods as a service* and *cleaning of different grates*. With the exception of mulching (N = 2), splintering (N = 1), field dressing (N = 2), driving goods as a service (N = 2), then the N between groups ranges from 6 - 16.

It is now of importance to be certain that the survey items are placed along the *bell-curve.* The bell-curve considers *normal distribution,* which means that the frequency distribution is the same on both sides when the mean equals zero (Field 2014, 19). This is not always the case where both *skewness* and *kurtosis* can be present. Skewness means that the frequency of the distribution is clustered against one side of the spectrum (Field 2014, 20). Kurtosis which provides information about the answer frequency of each point in the instrument (Field 2014, 20). A higher frequency on point indicates that there is little variance in the item. We want both terms to be as close as possible to zero, implying normal distribution. If some instruments are way too extreme and non-normal distributed, then these should be excluded. What values consist of a normal distributed item is however up for debate as there are different criteria in academia. According to Zeinab Zaremohzzabieh et al. (2015), normality is considered normal when skewness is between -2 and +2, and kurtosis is between -7 and +7. All items are therefore normally distributed. Furthermore, most of the seven points in each instrument are used, indicating good variance. Table 1 below shows descriptive statistics.

To evaluate which organization fits into either of the strategic types, we applied the majority-decision rule as conducted in an earlier study (e.g. Conant, Mokwa, and Varadarajan 1990). Organizations are placed in categories depending on the archetypal response that is chosen most often (Conant, Mokwa and Varadarajan 1990). If there is a tie between responses related decision rules are applied. If there is a tie between responses from

Defender's, Prospector's and Analyzer's, then these firms will be put in the Analyzer-category. Ties involving Reactor responses puts these firms in the Reactor-category. This way of using a majority-decision rule to investigate the response ensures content validity in relation to the theoretical construct. One disadvantage by this approach is that we risk placing the organizations into the wrong type. To reduce the error-term both scholars are present during this procedure. Based upon this rule we placed the 33 respondents into 5 Prospectors (15,2%), 17 Defenders (51,5%), 7 Analyzers (21,2%) and 4 Reactors (12,1%).

Instrument	N	Mean (SD)	Skewness	Kurtosis	Item total correlation	Alpha if item deleted	
Industrial dynamics							,721
Trends are easy/difficulty to monitor	33	3,27 (1,526)	0,742	-0,101	0,371	0,721	*Deleted*
Industry volume is stable/unstable	33	3,97 (1,551)	-0,161	-0,942	0,538	0,616	
Sales forecast are accurate/inaccurate	33	3,85 (1,176)	0,189	-0,769	0,555	0,622	
The market is predictable/unpredictable	33	3,27 (1,526)	0,855	-0,191	0,543	0,612	
Pollution Prevention							,857
Eliminates release of substance that may cause damage	33	5,64 (1,388)	1,388	2,505	0,301	0,603	*Deleted*
Safeguards all natural habitats affected by operations	33	5,30 (1,447)	1,447	1,407	0,243	0,615	*Deleted*
Sustainably uses renewable natural resources	33	5,42 (1,659)	1,659	-0,313	0,235	0,619	*Deleted*
Conserves non-renewable natural resources (e.g. oil, natural gas)	33	6,03 (1,63)	1,630	2,631	0,397	0,578	
Eliminates physical waste from the operations	33	5,82 (1,648)	1,648	3,051	0,391	0,580	
Reduces physical waste through recycling	33	5,3 (1,759)	1,759	1,229	0,408	0,574	
Eliminates the use of products that cause environmental damage	32	5,03 (1,47)	1,470	0,107	0,516	0,553	
Inform the customer about the impact of marketed product	33	4,61 (1,853)	1,853	-0,810	0,247	0,618	*Deleted*
Corrects conditions that endanger the environment	33	5,18 (1,685)	1,685	0,891	0,095	0,653	*Deleted*
Top Management							,843
Communicate that addressing environmental issues is critical	33	5,91 (1,042)	-0,339	-1,219	0,777	0,780	
Initiate environmental programs and policies	33	5,67 (1,137)	-0,373	-0,702	0,726	0,790	
Reward employees for environmental improvements	32	4,79 (1,536)	-0,006	-1,055	0,769	0,760	
Contribute organizational resources to environmental initiative	32	4,44 (1,605)	0,121	-0,532	0,552	0,874	
Performance							,824
Profit Growth	32	4,22 (1,237)	-0,336	-1,052	0,796	0,715	
Solidity	32	4,72 (1,591)	0,341	-0,940	0,571	0,831	
Sales Growth	32	4,31 (1,203)	1,125	1,810	0,582	0,807	
Total Competitiveness	32	4,84 (1,273)	0,111	0,622	0,692	0,759	
Regulations							,864
The release of substances into the environment	32	4,94 (1,933)	-0,563	-1,028	0,637	0,828	
The protection of natural habitats	32	4,72 (1,561)	-0,803	-0,020	0,730	0,813	
The use of renewable natural resources	32	4,19 (1,804)	0,088	-1,238	0,533	0,843	
The use of non-renewable natural resources	32	3,53 (1,502)	0,210	-1,023	0,344	0,864	*Deleted*
The environmentally safe disposal of physical waste	32	5,00 (1,414)	-0,657	-0,475	0,588	0,835	
The disclosure of environmental information	32	4,19 (1,554)	-0,003	-0,814	0,702	0,819	
The clean up of environmental accident	32	4,69 (1,975)	-0,419	-1,161	0,777	0,803	

Table 1. Descriptives.

5.2 Reliability

We test reliability by evaluating the *internal consistency* in SPSS 26 (i.e. corrected item total correlations and Cronbach's Alpha if deleted). This checks the internal consistency in the construct done at a single point of time, and is of importance as high reliability is a precondition for high validity (Ringdal 2013, 96). The standard is Cronbach's alpha (Ringdal 2013, 357; Field 2014, 708), where values ranging from 0,70 and upwards is considered sufficient. With the *corrected* item total *correlation* we consider the correlation between each item in the analysis. We consider each item to be satisfactory if the correlation is above ,40. This is similar to the criteria for establishing factors if conducting a factor analysis (Ringdal 2013, 354). We can argue that we can use ,40 as a inclusion criterion due to the interdependency between reliability and validity as high reliability is a precondition for high

validity. The instrument is deleted if it gives a higher Cronbach's Alpha than the original computation. This process is done step-by-step. The test of reliability gave five constructs. Industrial dynamics (α = ,721), pollution prevention (α = ,857), top management (α = ,843), Statistics are presented in table 1.regulations (α = ,864), and performance (α =,824) All statistics are presented in table 1 (5.1)

5.3 Results

5.3.1 Correlation

Correlation is the statistical context between two constructs (Ringdal 2013, 304). To check for correlation between the constructs we have to apply different techniques depending on the measurement level of the items. For this analysis we conduct Pearson's R, which is the most applied correlation coefficient for continuous constructs, that varies between - 1 and + 1 (Ringdal 2013, 304-305). The correlation coefficients are represented in table 2. The sub constructs of top management, r = ,688. , p < ,000. and pollution prevention r = ,807, p < ,000. significantly correlates with the higher order PES. This gives clear indication that these constructs combined are strongly associated with PES. Otherwise we see weak positive correlations with the other constructs. Performance is almost non correlated with industrial dynamics, r = -,006. P < ,975, and is not significant. Results are showed in table 2 below.

		Industrial dynamics	PES	Regulations	Performance	Top management	Pollution prevention
Industrial dynamics	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	33					
PES	Pearson Correlation	0,064	1				
	Sig. (2-tailed)	0,734					
	N	31	31				
Regulations	Pearson Correlation	0,133	0,195	1			
	Sig. (2-tailed)	0,467	0,302				
	N	32	30	32			
Performance	Pearson Correlation	-0,006	0,076	0,155	1		
	Sig. (2-tailed)	0,975	0,688	0,397			
	N	32	30	32	32		
Top Management	Pearson Correlation	0,094	,668**	0,269	0,147	1	
	Sig. (2-tailed)	0,609	0	0,144	0,429		
	N	32	31	31	31	32	
Pollution Prevention	Pearson Correlation	0,032	,807**	0,173	0,055	0,1	1
	Sig. (2-tailed)	0,86	0	0,353	0,767	0,593	
	N	32	31	31	31	31	32

** Correlation is significant at the 0.01 level (2-tailed).

Table 2. Correlations.

5.3.2 Test of the conceptual model

To test hypotheses 1 to 3 a regression analysis was conducted. This form of analysis is based upon a linear relationship between the constructs (Ringdal 2013, 391). The formula for regression is as follows (Ringdal 2013, 394).

$$Y(i) = b(0) + b(1)\, x(1) + e$$

$B_{(0)}$ is the dependent construct while B_1 is the coefficient for the first independent construct. The E is related to the error term, that is the residual, and represents the difference between the linear relationship and the actual observation. The unstandardized regression coefficient explains the linear tendency between X and Y (Ringdal 2013, 393). Meaning that if you improve PES with one theoretical unit, then it is expected to create an increase in performance with X-number. The standardized regression coefficient is similar to the coefficient for correlation (Ringdal 2013, 400) and varies between +1 and -1 (Ringdal 2013, 401). The standardized regression coefficient gives an indication of the effect of the independent variable on the dependent construct. The regression analysis is conducted in SPSS.

H_1 states that firms who implement PES, will experience a more positive impact on firm performance, as measured through solidity, profitability, sales growth and total competitiveness. Being reactive will on the other hand have a negative impact on firm performance. Model summary shows that adjusted R^2 explains - 3% of dependent construct, adjusted for number of variables and sample size. Our R^2 measure indicates that 0,6% of the model is explained by PES. Which allows us to assume that there are up to 99,04% other explanatories on the businesses performance. Regression shows that PES is not significant (std.beta = 0,076) towards the dependent variable financial performance (t = 0,405 p < ,688).

	Unstandardized coefficent	**Std.error**	**Std.beta**	**t-value**	**Sig level**
Constant	3,985	1,185		3,363	0,002
PES	0,09	0,221	0,076	0,405	0,688
Dependent variable: Performance					

Table 3.

We check *H_1* with control variables measures to see if there is some variation in our results when other factors are involved. We conducted this test even though we lack statistical significance for the relationship between PES and performance, as to provide some

insights on how control variables affect the initial outcome. Control variables used for this analysis is the size, age and the industrial dynamics of the organization.

Adjusted R^2 explains 3,9% and PES has low effect on performance (std.beta = 0,149) and is non-significant (t = 0,643, p < = ,526). The control variable *size* (std.beta = 0,0447) is positive significant (t = 2,064, p < = ,050) within the probability of 5%. This shows that company size har a statistically significant positive effect on the company's PES and their financial performance. The next tested relationship is between PES and industrial dynamics (std.beta = 0,086) which is not significant (t = 0,442, p < ,662). Meaning that there cant be statistically proven through this sample that industrial dynamics will affect the companies financial performance through PES. Last control variable is firm age (std.beta = 0,009) which is not significant (t = 0,037, p < ,970).

	Unstandardized coefficent	**Std.error**	**Std.beta**	**t-value**	**Sig level**
Constant	1,795	1,728		1,039	0,309
PES	0,181	0,282	0,149	0,643	0,526
Size	1,043	0,505	0,447	2,064	0,050
Industrial dynamics	0,08	0,182	0,086	0,442	0,662
Age	0,021	0,547	0,009	0,037	0,970
Dependent variable: performance					

Table 4.

The second hypothesis, H_2 posits that being a Prospector is significantly associated with the adoption of PES. Analyzers are an intermediary type while the Defender implements PES the last out of the three archetypes. The strategic type construct is operationalized as an ordinal variable and regression is not possible with four categories present. We therefore created four dummy constructs (1 = Prospector, Defender, Analyzer or Reactors; 0 = The rest). And then all three dummy constructs were regressed, excluding the Reactor. Adjusted R^2 explains 0,2% of the model. It was expected that the Prospector was most likely to be implementing PES, but the regression shows the link (std.beta = -0,409) was not significant (t = -1,698, p < 0,101). The analysis suggests that Analyzers (std.beta = -0,17) and Defenders (std.beta = - 0,215) experience is more associated with adoption of proactive environmental strategies. The other types were not significant either, see table, and we can thus conclude that there is no support for H_2.

	Unstandardized coefficent	Std.error	Std.beta	t-value	Sig level
Constant	5,719	0,455		12,555	0
Prospector	- 1,094	0,644	- 0,409	- 1,698	0,101
Analyzer	- 0,385	- 0,588	- 0,170	- 0,655	0,518
Defender	- 0,388	0,506	- 0,215	- 0,766	0,450
Dependent variable: PES					

Table 5.

The last hypothesis, H_3, investigates the interaction effect between strategic type and the implementation of PES. It posits that high stringency of regulation will have a higher effect. Since H_2 was not significant and it is likely that a moderator analysis will not be significant. On the other hand it is of importance to pinpoint how it would be conducted in theory. To check for moderation and mediation, the steps implemented by Baron and Kenny (1986) were considered appropriate. The moderator in the model is regulations (4.1). To test moderation we regressed *strategic type*, *institutional pressure* and *strategic type x institutional pressure* on the PES-construct (Baron and Kenny 1986). For a moderator effect to be present the *strategic type x institutional pressure*-construct has to be significant. This means we have to check for significant effects between each of the independent variables in the model, with PES as the dependent variable. Then these constructs must be multiplied with each other in SPSS, creating the strategic type x regulations-construct, done in SPSS. Due to the small number of respondents, there is a high probability that the empirical evidence is not significant.

The whole mediation effect was tested to establish whether strategic type influences performance through an indirect link. Mediation is regressed with three different equations (Baron and Kenny 1986). First regress the mediator on the independent variable, then regressing the dependent variable on the independent variable, and at last regressing the dependent variable on both the independent variable and the mediator. The mediator in our model is PES (4.1). This means that analysis should check the link between strategic type and PES, between strategic type and performance, and then both strategic type and PES on performance. When the mediation effect is present, then the link between strategic type and performance should be non-significant when PES is introduced in regression as the mediator. According to Baron and Kenny (1986), the significant findings should turn non-significant, preferably down to zero. The same problem is present here, where the small number of respondents gives a high probability that evidence is non-significant.

To get further understanding of why there was no statistically significant effects between strategic type and H_2, we conducted ANOVA to check for statistically significant differences between the strategic groups.

ANOVA	N	Mean (std.dev)	df	F-value	Sig level
Strategic type	31		3	0,589	0,627
Prospector	5	4,85 (0,79746)			
Analyzer	6	5,3333 (0,8656)			
Defender	17	5,3309 (1,00869)			
Reactor	3	5,7083 (0,71078)			

Table 6.

There were no significant differences between the groups. A Bonferroni post-hoc test showed no differences, with a sig-level of 1.000. A reason for this may be due to there being twice as many defenders (N = 17), than any other group. Furthermore, when comparing the means of each type compared with PES we found an interesting finding. Along the proposed continuum, where Prospector organizations are deemed most likely to implement PES, and Defender type is the least likely to implement PES. The findings indicate that the Prospector are the least likely to implement PES (M = 4,85, SD = ,79746), while Analyzer are the most likely to implement PES (M = 5,3333, SD = ,84656). The mean difference is however small compared to the Defender (M = 5,3309, SD = 1,00869). The most surprising thing on the other hand is that the Reactor archetype is the most likely of all four groups to implement PES (M = 5,7083, SD = 71078). We also conducted a paired samples t-test where we dichotomized the four categories into two.

T-test	N	Mean (std.dev)	df	t-value	Sig level
Strategic type	31		29	- 0,795	0,433
Prospector	11	5,1136 (0,82245)			
Defender	20	5,3875 (0,9639)			

Table 7.

Prospectors and Analyzers were paired (N = 11), and Defenders and Reactors were paired together (N = 20). The results were not significant t(29) = -,795, p < ,433, meaning that there are no significant differences between the types. However, there were almost statistically significant differences between the types according to performance t(30) = 1,68, p < ,103. and regulations t(30) = 2,699, p < ,103.

5.3.3 Contextual hypotheses

To test H_4 we computed a variable that distinguished between the more general business units. Meaning that we establish whether there are differences between the operations that the firm invests themselves in. We created an ordinal construct where we label firms after a majority-decision rule, similar to the majority rule for strategic types. There were six categories that place a firm into forest (N = 9) and non forest (N = 4). If there is a tie between the two categories, we label them as a hybrid (N = 5). To test the hypotheses an ANOVA was conducted to establish whether there were significant differences results between the three groups. The results are visualized in table 8.

ANOVA	N	Mean (std.dev)	df	F-value	Sig level
Pollution Prevention	17		2	1,339	0,294
Forestry	8	5,875 (1,11803)			
Non-forestry	4	6,25 (1,17260)			
Hybrid	5	4,95 (1,53501)			
Top management	17		2	2,862	0,091
Forestry	9	5,8333 (1,05327)			
Non-forestry	3	5,8333 (1,42156)			
Hybrid	5	4,55 (0,57009)			
PES	17		2	3,051	0,082
Forestry	8	5,7813 (0,7983)			
Non-forestry	3	5,9167 (0,83229)			
Hybrid	5	4,75 (0,80526)			
Performance	18		2	2,939	0,084
Forestry	9	4,8333 (0,92702)			
Non-forestry	4	5,375 (0,32275)			
Hybrid	5	3,85 (1,32994)			
Industrial dynamics	18		2	0,036	0,964
Forestry	9	4,0741 (1,26686)			
Non-forestry	4	4,25 (1,0319)			
Hybrid	5	4,1333 (0,64979)			
Regulations	18		2	0,497	0,618
Forestry	9	4,7037 (1,39388)			
Non-forestry	4	5,375 (1,57159)			
Hybrid	5	4,3667 (1,72964)			

Table 8.

There were no significant differences between the groups and the industrial dynamics F (2, 18) = 0,036, p = 0,964, meaning that the groups are nearly identical with a mean difference of 0,1759. Based upon the results from this test we can conclude that all the organizations in the sample are under the same influence from the external factors of the industry. Moving on to the other constructs, starting with top management F (2, 17) = 2,862, p = 0,091. This is not statistically significant on the p < ,050 level, but would be on the p < 0,100 level. It is of importance to pinpoint that there are larger error terms in choosing a significance level of 10% as the test is less strict due to the higher influence of random error. Meaning that there is a 90% chance that the results are not due to coincidences throughout the process. The mean differences between the groups when compared to the differences in top management is 1,2833. Pollution prevention is not statistically significant F (2, 17) = 1,339, p = 0,294. The difference between the group means is 1,3000. The category with the highest number of pollution prevention was the non-forest (M = 6,2500, SD = 1,17260). The lowest number of pollution prevention was the hybrid category (M = 4,9500 .SD = 1,53501). By combining the same instruments that create pollution prevention and top management, we get the higher-order construct PES F (2, 16) = 3,051, p = 0,082, which was not significant on the ,050 level, but on the ,100 level. The mean difference was 1,1667. Regulations are not significant either, F (2, 18) = 0,497, p = 0,618, with a mean difference 1,0083. The conclusion is thus that legislation influences the actions of organizations in approximately the same manner. At last there is the performance-construct F (2, 18) = 2,939, p = 0,084. which is not significant on the 5% level, but on the 10% level. In conclusion, there is no support for H_4. We used a Bonferroni post-hoc test to evaluate the groups' different impact on each construct. ANOVA tells whether something is significant or not, but not where the difference lies. Industrial dynamics and regulations both have non-statistically differences p < 1,000. The differences are between the groups on the constructs PES and performance. Starting with PES, there is a difference between the hybrid and non-forest category with p < ,207. The same pattern is present between the hybrid and the forest category p < ,128. In relation to performance there are similar differences, between the hybrid and non-forest groups p < ,102, and between forest and hybrid p < ,272. Overall the pattern is clear that there are differences between hybrids and non-forest, and between hybrids and forest groups.

H_5 is related to size as it is posited that there will be differences between organizational size and the relevant constructs. The number of full time employees in the industry of interest ranges from 1 to 430. The spread is even, with 16 respondents in each group, and we conducted further categorization of these firms. The Norwegian Trade

Organization (Norges handelsorganisasjon) has the following categories for firm size. Small organizations have between 1 and 20 employees. Medium sized companies have an employee number between 21 and 100. Large firms have more than 100 employees. Categories are made based upon these numbers. One respondent, however, was excluded due to being the only firm with more than 100 employees. Visual results are in table 9.

T-test	N	Mean (std.dev)	df	T-value	Sig level
Pollution Prevention			28	0,974	0,338
Small	20	5,5875 (1,121199)			
Medium	10	5,075 (1,62468)			
Top management			29	0,812	0,424
Small	21	5,25 (1,14018)			
Medium	10	4,9 (1,08141)			
PES			28	1,126	0,270
Small	20	5,375 (0,91587)			
Medium	10	4,9875 (0,828)			
Performance			28	-1,992	0,056
Small	21	4,2262 (1,08081)			
Medium	9	5,0556 (0,95015)			
Industrial dynamics			29	1,838	0,076
Small	21	3,9683 (1,16383)			
Medium	10	3,1667 (1,06863)			
Regulations			28	- 0,355	0,056
Small	21	4,4444 (1,35537)			
Medium	9	4,6296 (1,18959)			

Table 9.

Pollution Prevention t(28) = 0,974, p = ,535 is non significant, and as such there are no differences between small (M = 5,5875, SD = 1,21199) and medium (M = 5,075, SD = 1,62468) sized organizations pollution prevention efforts. This means that firm size does not affect how the company practices pollution prevention. H_{5a} *is* as such not supported. Top management has a t(29) = ,0,812 with a non significant value at p = ,836. H_{5b} *is* therefore not supported and there are no differences between the groups top $management_{small}$ (M = 5,25, SD = 1,14018) and top $management_{medium}$ (M = 4,9, SD = 1,08141). Next we compare the different levels of PES, where we found no significant differences t(28) = 1,126 with a non significant level p = ,524, between small (M = 5,375, SD = 0,91587) and medium sized organizations (M = 4,9875, SD = 0,828). Based on this test there is no evidence to be found that suggests a correlation between firm size and a PES strategy. The lack of difference

between PES and firm size indicates that size does not affect the environmental proactiveness of the companies. As such, H_{5c} is not supported. Moving on to H_{5d}, Performance t(28) = -1,992, p = ,635 is not significant. Small (M = 4,2262, SD = 1,108081) and medium sized (M = 5,0556, SD = 0,95015) firms will not, indicated by our results, have any effect on the firm performance. H_{5d} is therefore not supported. Industrial Dynamics t(29) = 1,838, p = ,560 is not significant and industrial dynamics are therefore equal for both Industrial Dynamics_{small} (M = 3,9683, SD 1,16383), and Industrial Dynamics_{medium} (M = 3,1667, SD = 1,06863), and thus H_{5e} is not supported. The last hypothesis, H_{5f}, proposes a relationship between small (M = 4,4444, SD = 1,35537) and medium (M = 4,6296, SD = 1,18959) organizations in relation to the influence of regulations, this was not supported t(28) = -,0355, p = ,594, implying that there is no difference between firm size and the regulations effect on companies. Reasons for this may however mean that the government regulations are strict and consistent, and do not discriminate between firm size. The conclusion is thus that there is no support for H_5.

H_6 posited that there will be significant differences between old and young organizations on each of the operationalized constructs. To test this hypothesis we calculated the organization's actual age. This was done by subtracting the current year 2020 with the establishment year. After this was done we found the median, which is the value that divides the observations in a distribution into equally large parts (Ringdal 2013, 287). The Median value is 31,50, and then *actual age* was dichotomized into old and young. Young organizations were defined as less than 31,50 (0) and old organizations as above 31,50 (1). To test the hypothesis we conducted an independent samples T-test to establish whether there are significant differences between the groups. Visual reports in table 10.

T-test	N	Mean (std.dev)	df	T-value	Sig level
Pollution Prevention			29	- 2,25	0,032
Old	15	4,9333 (1,60765)			
Young	16	5,9688 (0,87023)			
Top management			30	- 1,366	0,182
Old	16	4,9063 (1,08733)			
Young	16	5,4375 (1,11243)			
PES			29	- 2,909	0,007
Old	15	4,85 (0,81586)			
Young	16	5,7031 (0,81634)			
Performance			0,782	- 0,198	0,441
Old	15	4,65 (1,13704)			
Young	16	4,3438 (1,04433)			
Industrial dynamics			30	- 0,2	0,843
Old	16	3,9683 (1,16383)			
Young	16	3,1667 (1,06863)			
Regulations			29	- 0,198	0,845
Old	15	4,5 (1,56601)			
Young	16	4,5938 (1,03453)			

Table 10.

There are significant differences between old (M = 4,9333, SD = 1,60765) and young (M = 5,9688, SD = 0,87023) firms, Pollution Prevention t(29) = -2,25, p = ,032. At this point, our numbers indicate a significant context between the companies age and Pollution Prevention. H_{6a} is therefore supported. H_{6b}, Top management t(30) = -1,366, p = ,940 is not significant and as such there is no difference between old (M = 4,9063, SD = 1,08733) and young organizations (M = 5,4375, SD = 1,11243). The difference between PES and young (M = 5,7031, SD = 0,81634) and old organizations (M = 4,85, SD = 0,81586) is significant on the p < ,050 level, PES t(29) = -2,909, p = ,007. H_{6c} is supported. PES is a higher order construct consisting of pollution prevention and top management, H_{6a} and H_{6b}, where only H_{6a} was significant. We can see that pollution prevention explains the significant difference between companies' age and PES. Moving on to H_{6d}. age and performance t(29) = 0,782, p = ,701 shows no significant differences between the old (M = 4,65, SD = 1,13704) and young (M = 4,3438, SD = 1,04433) organizations, and there are therefore no support for H_{6d}. Industrial Dynamics t(30) = -0,2, p = ,966 are equal for all firms old (M = 3,6667, SD = 1,1547) and young (M = 3,75, SD = 1,20815) is not significant and H_{5e} is not supported. This pattern is similar for young (M = 4,3438, SD = 1,03453) and old (M = 4,5, SD = 1,156601) organizations related to regulations t(29) = -0,198, p = ,177 is not significant and H_{6f} is

therefore not supported. This tells us that the company's age does not have any explanatories on how regulations are affecting the companies activities. At last, we consider the group differences between the performance levels of young (M = 4,3438, SD = 1,04433) and old (M = 4,85, SD = 0,81586) organizations. There were no significant differences t(29) = 0,782, p = ,441.

5.4 Hypotheses summarised

Following is a visual summary of the hypotheses conducted in 5.2 and 5.3.

Hypotheses summary	
Hypotheses number	Supported
H1	Not-supported
H2	Not-supported
H3	Not-supported

Table 11.

Hypotheses summary		
Hypotheses number	Sig level	Supported
H4a	0,294	Not-supported
H4b	0,091	Not-supported
H4c	0,082	Not-supported
H4d	0,084	Not-supported
H4e	0,964	Not-supported
H4f	0,618	Not-supported

Table 12.

Hypotheses summary		
Hypotheses number	Sig level	Supported
H5a	0,338	Not-supported
H5b	0,424	Not-supported
H5c	0,270	Not-supported
H5d	0,056	Not-supported
H5e	0,076	Not-supported
H5f	0,725	Not-supported

Table 13.

Hypotheses summary		
Hypotheses number	Sig level	Supported
H6a	0,032	Supported
H6b	0,182	Not-supported
H6c	0,007	Supported
H6d	0,441	Not-supported
H6e	0,843	Not-supported
H6f	0,845	Not-supported

Table 14.

6.0 Discussion

This study draws upon RBV theory and its variations (2.1 - 2.2), as well as the theory of legitimacy (2.4.1) and CSR (2.4). Scholars (Aragón-Correa and Sharma 2003; Menguc, Auh and Ozanne 2010) argue that it is highly critical to explore the contingency model, which combines the internal view of the firm with the external view of the natural environment, to really evaluate the effect of environmentally proactive strategies. These two theoretical perspectives had to be combined as they evolved separately. The purpose of this study is therefore to examine the link between PES and performance in a Norwegian context, by applying the contingency model. Now follows a discussion around the hypotheses.

Regression analysis shows no significance, where the most important reason for this could arguably be a low number of respondents (N). Primarily, this could have led us to a conclusion that there is no further reason to move along with analysis. However, with an intention of gaining knowledge on how different variables are affecting each other within the samples of this study, we continued doing further analysis.

Regarding the strategic type and adaptation of a proactive environmental strategy, it was posited that Defenders were the least likely to implement PES, and Prospectors the most. According to theory (Miles et al. 1978), the Prospector is more likely to be proactive in their endeavours. Regression analysis did not show significance for this relationship and as such there is no clear link between type and adaption of PES. To evaluate why this was occurring, further tests were conducted. Contrary to expectations, the t-test indicated that both Analyzers and Reactors were the most likely to implement the strategy. The ANOVA did not separate between the groups. When looking past the initial findings, it is clear that there are multiple explanations for these findings. One explanation can be due to the fact that strategic types are not prevalent in the industry of choice, as in an earlier study (Snow and Hrebiniak 1980; 2.3.1) it was proved that Reactors was a viable choice in the highly regulated air transportation industry. It can be that a similar effect is present here, indicating that the

industry characteristics are equal, and as such it does not matter which archetype the organizations in question are defined as. The archetypes represent pure forms, and it is possible that the organizations share many of the same characteristics. Moving on, it is a possibility that firms were misplaced into wrong categories during the categorization process. A possible consequence of this is present in the gap between the four groups, as 51,5% of the total sample was in the Defender category. Tore Dybå (2003) points out that a small number of respondents hurts the statistical power of the results and it is highly likely that this effect is present in this study. A sample consisting of 33 organizations after removing non-respondents is considered a small sample. When conducting ANOVA the sample size per strategic type gets even smaller. At last, when conducting a Bonferroni post-hoc test, there were no statistically significant differences between the groups. We can therefore posit that there is a strong probability that all strategic types are equal in the Norwegian forestry industry.

In line with theory (2.4.1; 2.4.3), we suggested that a higher degree of regulations would result in a higher interaction effect between the strategic types and PES (3.0), meaning that coercive pressure from the government stakeholder will force organizations into greening their operations. Governments as a stakeholder of importance have been tested empirically in earlier studies (Henriques and Sadorsky 1996; Ytterhus and Synnestvedt 1996). The results indicated that regulations did not have any statistically significant interaction effect between strategic types and PES, like postulated. When considering the mean of the items for the construct (table 1) it is clear that the sample places emphasis on the environment as created by coercive pressure. All items score larger than the expected mean of 3,5 (Likert 1 - 7 scale). The pressure from legislators is therefore not directly affecting companies' choice of business strategy and PES. This is similar to the empirical evidence provided by Menguc, Auh and Ozanne (2010), where intensity of regulations did not have a significant direct effect on a company's PES. Their explanation was that since environmental issues have long been present in the strategic discussion, and as such it is embedded into the fabric of the organizations. Scandinavia in general is a region where social consciousness and fundamental values are firmly embedded in both individuals and organizations. The values are, according to Gjølberg (2011) the reason for high scores on business-society performance-indicators, which by default make the firms more proactive.

The study also tested whether there were differences between general strategic businesses, as defined by their operations. In this section the general business units were defined as forest, non-forest or hybrid. There were no significant differences between the

types. The construct applied to gather these differences were created for the study. The respondents had multiple alternatives to cover what kind of operations they were conducting in the field. The pre-test gave indication that face validity was present. As the construct was created for the purpose of the study, with the sole purpose of giving respondents motivation to complete the survey, it is possible that it is not a relevant construct for explaining such differences. This is due to the fact that the hypothesis is created post-hoc, and thus were not initially aiming to explain differences.

Organizational size was suggested to provide different effects between the different aspects of the firm's operation and environment. When comparing size and PES we did find that there were no significant differences between medium and small firms. This pattern is true for both the sub-constructs pollution prevention and top management support. This means that size does not distinguish between whether small or medium sized firms choose to invest time and resources into becoming more sustainable. All organizations thus have the ability to become more adept at conservation of non-renewable resources, eliminate both physical waste and environmentally damaging products, as well as increase their recycling efforts. The support of the top management is equally critical to foster attention and effort to combat these issues. Firm size does not distinguish between this sub-construct either. On the other hand, when comparing the means between these groups, it is clear that small forestry companies have a higher tendency to be attentive to the natural environment. This gives indication that small organizations are more likely to implement proactivity as a part of their daily operations, and are thus greener. Moving on to financial performance, we found that there was a tendency for medium sized organizations to be more likely to perform better than their smaller counterparts. Even though the results were not statistically significant, they gave indication to replicate earlier findings by Menguc, Auh and Ozanne (2010), where firm size is positively related to both sales growth and profit growth. Even though our findings are somewhat the same, they are not directly comparable, as their findings are present in a higher base of larger firms and from a larger pool of industries. 69% of their sample is consisting of 150 full time employees, spanning multiple industries such as food as beverage, textiles, chemicals and agriculture. Regarding industrial dynamics, our measures indicated different effects of industrial dynamics between small and medium sized groups, where the t-value points out to being positive but not significant towards size. The small company had a slightly higher average than the medium sized companies, meaning that small companies will have been stronger affected by dynamism in the industries. Larger organizations have over time been able to grow their business, indicating that they could be better at adapting and

predicting the changing external environment. There were no differences between size and regulations, indicating that regulatory pressure is the same independent of firm size.

At last we postulated that there would be significant findings between age of organizations, as divided by the median value 31,50. The age of the organizations, regardless of whether they are old or young, can be perceived as two sides of the same coin. For example, age is working as a proxy for experience (Durand and Coeurderoy 2001), but it is also posited that older organizations perform worse than their younger counterparts due to old age. Young organizations can be considered inexperienced if age is considered a proxy for experience. On the other hand, being young provides a greater degree of flexibility. We found significant differences between the firm's age related to pollution prevention and proactive environmental strategy. The mean difference between the groups on the two constructs was large enough to provide differences. Young organizations are therefore more occupied with the activities that prevent pollution. More precisely, they are more occupied with the conservation of non-renewable natural resources, are more concerned with the elimination of physical waste from the operations. They recycle to a higher degree the physical waste, and eliminate the use of environmentally damaging products. The same can be said about the difference between the young and the old organizations and the PES-construct. As the hypothesis about top management support by itself was not significant, we expect that the same items derived from the pollution prevention construct are mainly creating these differences. Although this relationship was confirmed, it was not significant for the other hypotheses. When looking upon the mean difference it is clear why this is the case for industrial dynamics and regulations. The mean difference is virtually identical, meaning that these constructs influence the organizations in the same manner, regardless of age. Considering performance and age, we found that older firms perform better, but the difference is small. In relation to performance, it seems like there are two distinct ways of creating superior performance. One is tailored to stability while the other is focusing on reducing costs through pollution prevention. What does this mean? This means that older organizations have more stability in relation to performance, but that younger firms are performing closely to their level by focusing on preventing pollution.

6.1 Theoretical implications and further research

Overall the proposed hypotheses were non-significant. As such, this section provides an overview on promising research that can be conducted in future research.

The sample for this study was the Norwegian forestry industry. This has implications for the generalizability of the empirical evidence. We therefore suggest that more diversity in the industries are added in future papers. Such industries can be in construction work, oil industry, biochemicals It is plausible that proactive environmental strategies are not as prevalent in this industry. Different industries have different levels of pollution and proactivity related to environmental issues may as such vary accordingly. Furthermore, the study sample consists mainly upon small and medium sized firms, and as such the findings are only applicable to these organizational sizes. As such, by including larger corporations as well, it will therefore create an increasing understanding of size as a driver of a proactive environmental strategy. Larger organizations are more likely to be aware that they have a reputation to maintain, and will be more transparent about their operations, as to create and maintain trustworthiness. This creates inequality compared to smaller companies, where the CEO and the worker is more likely to be the same individual.

When considering the constructs applied there is a possibility that the conceptual model does not provide the whole picture of the link between proactive environmental strategies and performance. This is a direct implication of the applied survey design conducted in the study. We chose to keep the survey as short as possible to have a higher possibility of higher completion rate. It is therefore critical that future research apply theoretically related constructs to explain more of the model, whether as moderators, mediators or independent variables. Examples of such constructs can be the degree of entrepreneurial orientation (Menguc, Auh and Ozanne 2010), the organizations absorptive capacity (Delmas, Hoffmann and Kuss 2011), or other organizational typologies. The M-S typology (Miles et al. 1978) is commonly used for describing organizations, but is only one out of many different operalization. It can therefore be interesting to investigate whether other operalization, such as Porter's generic strategies (Porter 1985) or mechanistic versus organic organizations (Laugen, Boer and Acur 2006). The study only captures external pressure through governmental regulations, and as such it is valuable to include other types of pressure from stakeholders, such as customers, media companies, industry trade associations, non-governmental organizations and supply chain partners are examples of interesting avenues for further research. It is highly likely that other stakeholder groups provide different outcomes empirically.

Our survey is based upon self-report measures. Self-reporting in surveys are according to Phillip M. Podsakoff and Dennis W. Organ (1986) imbued with problems related to consistency motifs and social desirability. Consistency motifs are present when respondents seek to answer the survey in a consistent manner (Podsakoff and Organ 1986). Social desirability is present when the respondent answers the instruments in a way that presents the individual in a favourable light (Podsakoff and Organ 1986), which creates bias. Environmental issues are very prevalent in today's society, and it is a possibility that the respondents have answered this construct in a desirable manner. There are two avenues for reducing subjective bias. One approach is to administer the survey to both CEO's and other employee's, so that it is easier to observe how told strategies are being practiced, and evaluate whether there are differences between ratings on different horizontal layers in the organizations.

Another interesting approach for future research will be to apply objective measures, for both economical numbers and pollution. Examples of measures (Molina-Azorin et al. 2009) will be the toxic release inventory, TRI emissions, environmental ratings. Using objective measures was beyond the scope of this study, and including these measures will therefore investigate whether the organizations are walking the walk, or just talking the talk. Regulations are also captured by self-administered questionnaires, and we have not focused on being able to make distinctions between the different regulatory instruments applied in the industry of choice. By including the regulatory instrument, it is to a greater degree possible to make nuanced distinctions between the effect of different instruments, rather than just evaluating the indirect effect of coercive pressure.

At last other research designs can be implemented. Our study measures the scales at one single point in time, providing a picture of the immediate moment. As a consequence, the results are therefore providing a picture of this moment. It is natural that factors implemented one day are not in full effect the day after or the day after tomorrow. There will be a time-lagged effect and therefore it will be fruitful to implement a longitudinal survey over multiple years that will provide information about the effects of the constructs over time. This has not been a focus of this research due to time restraints and non-access to monetary resources for conducting such research.

6.2 Practical implications

In order for a company to meet the demands of the society and other groups of interests, they need to facilitate their focus and resources to those areas which are needed.

First of all, companies who want to start pursuing a PES strategy need to have the necessary resources to be proactive. Furthermore they need to seek new ways to prevent high pollution and waste. Even though this is simple in theory it can be difficult to know where to start. A good place to start is to become better at the four main activities. This includes becoming better at conserving non-renewable natural resources, to eliminate physical waste, reduce the remaining physical waste and eliminate the use of products that endanger the environment. The reasons companies have for providing PES into their business model needs to be a part of their environmental social responsibility, and not as a performance tool. PES can rather be used to lower material costs in operations, and in some cases contribute to prevent fines and fees from the government. PES can also have an effect on the customer-business relationship, but taking this for certain may rather provide wrong future assumptions.

6.3 Conclusion

The agenda of this paper was to provide knowledge on how financial performance could be made through greater attention to sustainable development. Sustainable development was defined within the theory of PES, which posits that a firm with a greater emphasis on environmental proactiveness (rather than reactiveness), will perform better than their reactive counterparts. We experienced difficulties through analysis to distinguish between strategic types within this sample, making it probability that the strategic types in this industry are pretty equal.

We further distinguish between strategic types as to provide contrast between the firms in the sample, which is derived from the Norwegian wood and forestry industry. The total sample is consisting of 33 organizations, which is considered a small sample that has implications for the statistical power, and thus the conclusions of this study. We did not discover any link between strategic types and adaptation of PES, as the majority of the hypotheses were not statistically significant. But we found support for the link between young firms and pollution prevention and PES. The findings between PES and performance were inconclusive, and thus is not clear-cut that becoming greener is leading to better performance. The main contribution of this paper is that younger organizations can reach

levels of competitiveness by proactively focusing on reducing the input from their operations. Further on, old organizations tend to perform better and be more competitive as a result of their stability in the market. Last, legislators are proven through this study to not have any effect on companies' choice of business.

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Appendix 1
Appendix 1: Survey Instruments natural phasing (Original)

Control variables

Type of product/service:

What kind of products/services do your company offer? (Note: multiple choice is optional)

Harvesters

Thinning

Transporting

Mulching

Splintering

Field dressing

Forestry (planting, young forestry, advance cleaning)

Excavation work

Road construction

Road maintenance

Driving goods as a service

Harvesting/ clearing of; power grates, road grates, plots and other.

Organizations age: When did the organization get established? (Numbers only – for an example 1975).

Organizations size: How many full time employee's work in the organization? (Numbers only – for an example 230).

Environmental Dynamism. (7 point bipolar-type).

The operating market environment for my organization
Has trends that are easy/difficult to monitor
Has stable/volatile industry volume
Has sales forecasts that are quite accurate/inaccurate
Is predictable/unpredictable

Pollution prevention (Likert-type 1 – 7 | 1 – strongly disagree | 7 – strongly agree)
This organization …
Eliminates the release of any substance that may cause environmental damage
Safeguards all natural habitats affected by the operations
Sustainably uses renewable natural resources
Conserves non-renewable natural resources (e.g. oil, natural gas)
Eliminates physical waste from the operations
Reduces physical waste through recycling

Disposes of physical waste through environmentally safe methods
Eliminates the use of products that cause environmental damage
Informs our customers of the environmental impacts of the products marketed
Corrects conditions that endanger the environment

Top management support (Likert-type 1 – 7 | 1 – strongly disagree | 7 – strongly agree)
Top managers in this organization…
Communicate that addressing environmental issues is critical
Initiate environmental programs and policies
Reward employees for environmental improvements
Contribute organizational resources to environmental initiative.

The following statements describe some characteristics of this selected strategic business unit/division. Please circle the description that best describes this selected business unit.

Strategic type:

1. In comparison to our competitors, the products which we provide to our customers are best described as: (Entrepreneurial—product market domain)

A. Products that are more innovative, and continually changing. (P)
B. Products that are fairly stable in certain markets while innovative in other markets. (A)
C. Products that are stable and consistently defined throughout the market. (D)
D. Products that are in a state of transition, and largely respond to opportunities and threats in the marketplace. (R)

2. In contrast to our competitors, we have an image in the marketplace that: (Entrepreneurial—success posture).

A. Offers fewer, select products which are high in quality. (D)
B. Adopts new ideas and innovations, but only after careful analysis. (A)
C. Reacts to opportunities or threats in the marketplace to maintain or enhance our position. (R)
D. Has a reputation for being innovative and creative. (P)

3. The amount of time our business unit spends on monitoring changes and trends in the marketplace can best be described as: (Entrepreneurial—surveillance)

A. Lengthy: we are continuously monitoring the marketplace. (P)
B. Minimal: we really don't spend much time monitoring the marketplace. (R)
C. Average: we spend a reasonable amount of time monitoring the marketplace. (D)

D. Sporadic: we sometimes spend a great deal of time and at other times spend little time monitoring the marketplace. (A)

4. In comparison to our competitors, the increases or losses in demand that we have experienced are due most probably to: (Entrepreneurial—growth)

A. Our practice of concentrating on more fully developing those markets which we currently serve. (D)
B. Our practice of responding to the pressures of the marketplace by taking few risks. (R)
C. Our practice of aggressively entering into new markets with new types of products. (P)

D. Our practice of assertively penetrating more deeply into markets we currently serve, while adopting new products after a very careful review of their potential. (A)

5. One of the most important goals in this business units in comparison to our competitors is our dedication and commitment to: (Engineering—technological goal)

A. Keep our costs under control. (D)
B. Analyze our costs and revenues carefully, to keep costs under control and to selectively generate new products or enter new markets.(A)
C. Insure that the people, resources and equipment required to develop new products and new markets are available and accessible. (P)
D. Make sure we guard against critical threats by taking any action necessary. (R)

6. In contrast to our competitors, the competencies (skills) which our managerial employees possess can best be characterized as: (Engineering—technological breadth)

A. Analytical: their skills enable them to both identify trends and then develop new products or markets. (A)
B. Specialized: their skills are concentrated into one, or a few, specific areas. (D)
C. Broad and entrepreneurial: their skills are diverse, flexible, and enable change to be created. (P)
D. Fluid: their skills are related to the near-term demands of the marketplace. (R)

7. The one thing that protects us from its competitors is that we: (Engineering—technological buffers)

A. Are able to carefully analyze emerging trends and adopt only those which have proven potential. (A)
B. Are able to do a limited number of things exceptionally well. (D)
C. Are able to respond to trends even though they may possess only moderate potential as they arise. (R)
D. Are able to consistently develop new products and new markets. (P)

8. More so than many of our competitors, our management staff in this business unit tends to concentrate on: (Administrative—dominant coalition)

A. Maintaining a secure financial position through cost and quality control. (D)
B. Analyzing opportunities in the marketplace and selecting only those opportunities with proven potential, while protecting a secure financial position. (A)
C. Activities or business functions which most need attention given the opportunities or problems we currently confront. (R)
D. Developing new products and expanding into new markets or market segments. (P)

9. In contrast to many of our competitors, this business unit prepares for the future by: (Administrative—planning)

A. Identifying the best possible solutions to those problems or challenges which require immediate attention. (R)
B. Identifying trends and opportunities in the marketplace which can result in the creation of product offerings which are new to the industry or reach new markets. (P)
C. Identifying those problems which, if solved, will maintain and then improve our current product offerings and market position. (D)
D. Identifying those trends in the industry which our competitors have proven possess long-

term potential while also solving problems related to our current product offerings and our current customers' needs. (A)

10. In comparison to our competitors, our organization structure is: (Administrative—structure)

A. Functional in nature (i.e., organized by department marketing, accounting, personnel, etc.) (D)
B. Product or market oriented. (P)
C. Primarily functional (departmental) in nature; however, a product or market oriented structure does exist in newer or larger product offering areas. (A)
D. Continually changing to enable us to meet opportunities and solve problems as they arise. (R)

11. Unlike our competitors, the procedures we use to evaluate performance are best described as:

A. Decentralized and participatory encouraging many organizational members to be involved. (P)
B. Heavily oriented toward those reporting requirements which demand immediate attention. (R)
C. Highly centralized and primarily the responsibility of senior management. (D)
D. Centralized in more established product areas and more participatory in new product areas. (A)

Note: In parentheses, we indicate for each scale item the answer that corresponds to strategic type (P = prospector, A = analyzer, D = defender, R = reactor). In the questionnaire, the letters P, A, D, and R were not provided to the respondents.

Government regulations

Government regulations (Likert 1 – 7 | 1 – not very intensely regulated | 7 – very intensely regulated)

The release of substances into the environment
The protection of natural habitats
The use of renewable natural resources
The use of non-renewable natural resources
The elimination of physical waste
The environmentally safe disposal of physical waste
The disclosure of environmental information
The clean up of environmental accident

Firm performance: (Likert-type 1 – 7 | 1 = Much Worse | 7 = Much better).

Evaluate the organizations business performance the last year, as compared with your Norwegian competition on …

Profit Growth
Solidity
Sales Growth
Total Competitiveness

Appendix 2
Kontrollvariabler:

Hvilken produkter/tjenester tilbyr dere? (Merk: Her kan du sette flere kryss).

Hogst
Tynning
Framkjøring
Bioklipp (Maskinell ungskogspleie)
Flising
Markberedning
Skogpleie (planting, ungskogpleie, forhåndsrydding)
Gravearbeid
Veibygging
Vedlikehold av vei
Leiekjøring for andre
Hogst/rydding av; Kraftgrater, veitraseer, tomter ol.
Annet

Organisasjonens alder: *Når ble bedriften etablert? (Kun tall - for eksempel 1975)*

Organisasjonens størrelse. *Hvor mange heltidsansatte jobber i bedriften? (Kun tall - eksempelvis 230)*

Industriell dynamikk:
De neste påstandene er i forhold til ditt produkt/tjeneste.

I hvilken grad er trendene i markedet enkle/vanskelige å overvåke;
I hvilken grad er etterspørselen stabil/skiftende;
Salgsprognosene kan best beskrives som nøyaktige/unøyaktige;
I hvilken grad har dere oversikt/ikke oversikt over markedet?

Unngåelse av forurensing. (Likert-type 1 – 7 | 1 – I liten grad | 7 – I stor grad)

Vurder følgende utsagn om hvordan bedriften forholder seg til forurensing

Bedriften vår...

Reduserer utslipp av stoffer som kan skape miljøutfordringer.
Beskytter naturområder påvirket av drift.
Tar i bruk fornybare ressurser på en bærekraftig måte.
Oppbevarer ikke-fornybare ressurser (eksempel; Olje eller gass) på en forsvarlig måte.
Minimerer avfall fra driften.
Resirkulerer avfall.
Unngår bruken av miljøskadelige produkter.
Informerer kunden om miljøpåvirkningen det markedsførte produktet/tjenesten kan ha.
Endrer forhold som kan skade miljøet.

Lederne/lederen i bedriften vår.. (Likert-type 1 – 7 | 1 – Helt uenig | 7 – Helt enig)

Kommuniserer at å ta hensyn til miljøutfordringer er viktig.
Tar initiativ til å gjennomføre miljøtiltak.

Belønner ansatte for å ta hensyn til miljøet.
Bidrar med ressurser for å støtte naturvennlige tiltak.

Strategisk type:

Nå ønsker vi å kartlegge ulike forhold om bedriften, sammenlignet med konkurrentene. Velg det ene svaret som beskriver dere best.

1) Produktene/tjenestene vi tilbyr våre kunder kan best beskrives som at;

Produktene/tjenestene er mer innovative, og endres kontinuerlig (P).
Produktene/tjenestene er ganske stabile i noen markeder, men innovative i andre markeder. (A).
Produktene/tjenestene er stabile og konsistente på tvers av markedene (D).
Produktene/tjenestene er i en overgangsfase, og i stor grad et svar på muligheter og trusler i markedet (R).

2) Vi er oppfattet i markedet som;
En tilbyder av færre produkter/tjenester - men av høyere kvalitet (D).
En som adopterer nye idéer og innovasjoner, men kun etter nøye analyser (A).
En som reagerer på muligheter og trusler i markedet for å opprettholde eller forsterke vår posisjon (R).
En som har et rykte for å være innovative og kreative (P).

3) Tiden virksomheten bruker på å overvåke endringer og trender i markedet kan best beskrives som;
Lang; Vi overvåker kontinuerlig markedet (P).
Minimal; Vi bruker ikke særlig mye tid på å overvåke markedet (R).
Gjennomsnittlig: Vi bruker et fornuftig antall timer på å overvåke markedet (D).
Sporadisk: Vi bruker noen ganger mye tid på å overvåke markedet, og andre ganger bruker vi lite tid på å overvåke markedet (A).

4) Økningen eller nedgangen i våre markedsandeler oppstår mest sannsynlig fordi;

Vi fokuserer på å utvikle de markedene vi for øyeblikket er i (D).
Vi fokuserer på endringene i markedet ved å ta mindre risiko (R).
Vi fokuserer på å betjene nye markeder med nye typer produkter/tjenester (P).
Vi selvsikkert betjener bedre de markedene vi for øyeblikket er i, samtidig som vi introduserer nye produkter/tjenester etter nøye gjennomgang av deres potensial (A).

5) Et av de viktigste målene for denne bedriften er vår dedikasjon og forpliktelse til;

Å holde kostnadene våre under kontroll (D).
Å analysere kostnadene og omsetningen nøye, å holde kostnadene under kontroll og nøye utvikle nye produkter/tjenester (A).
Å forsikre oss om at menneskene, ressursene og utstyret som kreves for å utvikle nye produkter/tjenester er tilgjengelige (P).
Å forsikre oss om at vi beskyttes mot potensielle trusler ved å gjennomføre de tiltakene som kreves (R).

6) Ferdighetene til ledelsen kan best beskrives som;
Analytiske: Deres ferdigheter gjør dem i stand til å identifisere trender og deretter utvikle nye produkter/tjenester og markeder (A).
Spesialiserte: Deres ferdigheter er konsentrert på et, eller få, spesifikke områder (D).
Brede og nyskapende: Deres ferdigheter er mange, fleksible og muliggjør endringer (P).
Fleksibel: Deres ferdigheter er relatert til nåværende etterspørsel i markedet (R).

7) Den ene tingen som beskytter oss fra våre konkurrenter er at vi;
Har muligheten til å nøye analysere fremvoksende trender og kun introdusere de som har bevist sitt potensial (A).
Har muligheten til å gjøre en begrenset mengde ting eksepsjonelt godt (D).
Har muligheten til å svare raskt på trender når de oppstår, selv om nyttegevinsten er moderat (R).
Har muligheten til å kontinuerlig utvikle nye produkter/tjenester og markeder (P).

8) Ledelsen i selskapet fokuserer på å..

Beholde en sikker finansiell posisjon gjennom kostnads,- og kvalitetskontroll (D).
Analysere muligheter i markedet og kun velge de med bevist potensial, samtidig som vi beskytter en sikker finansiell posisjon (A).
Fokusere på de aktiviteter som trenger mest oppmerksomhet i møte med de muligheter og problemer vi for øyeblikket møter (R).
Utvikle nye produkter/tjenester og utvider til nye markeder (P).

9) Denne bedriften forbereder seg på fremtiden ved å..
Identifisere de beste mulige løsningene til de problemene og utfordringene som krever umiddelbar oppmerksomhet (R).
Identifisere trender og muligheter i markedet som kan resultere i skapelse av nye produkter/tjenester som er nye i industrien, eller som kan nå nye markeder (P).
Identifisere og løse de problemene som vil vedlikeholde og deretter forbedre våre produkter/tjenester og posisjon i markedet (D).
Identifisere trendene som har bevist potensial på lang sikt, og samtidig forbedre problemene knyttet til våres nåværende produkter/tjenester og kunder (A).

10) Organiseringen av bedriften er..
Funksjonell av natur (organisert av ulike avdelinger som markedsføring, regnskap, HR osv) (D).
Produkt/tjeneste,- eller markedsorientert (P).
Hovedsakelig funksjonell av natur, med fokus på produkt/tjeneste eller marked innenfor nyere eller større områder innen produkt/tjenester (A).
Kontinuerlig i endring for å møte muligheter eller løse problemer når de oppstår (R).

11) Prosedyrene vi bruker for å evaluere bedriftens ytelse kan best beskrevet som..

Deltagende der mange ansatte bidrar til å involvere seg (P).
I høy grad orientert mot de som rapporterer krav som krever umiddelbar handling (R).
Hovedsakelig ansvaret til ledelsen (D).
Ansvaret til ledelsen i etablerte produktkategorier, og deltagende innenfor nyere produktkategorier (A).

NB: I parantesen, indikerer vi for hvert svaralternativet som hører til hver strategisk type. (P = Prospektor, A = Analytiker, D = Forsvarer, R = Reaktor). I spørreskjemaet, er bokstavene P, A, D og R ikke vist til respondentene.

Reguleringer: (Likert-type 1 – 7 | 1 – I liten grad| 7 – I stor grad)

Nå er vi interessert i hvordan bedriften påvirkes av myndighetene.

I hvilken grad bidrar offentlige reguleringer til at bedriften deres tar hensyn til miljøet i forhold til;

Utslipp av forurensende stoffer i miljøet.
Å beskytte det naturlige miljøet.
Bruken av fornybare ressurser.
Bruken av ikke-fornybare ressurser.
Å bærekraftig kvitte seg med fysisk avfall.
Å formidle bærekraftig informasjon.
Å rydde opp ved skader i miljøet.

Den avhengige variabelen. (Likert-type 1 – 7 | 1 – Mye dårligere | 7 – Mye bedre)

Med disse utsagnene ønsker vi at du skal evaluere virksomhetens forretningsresultater i det siste året sammenlignet med de norske konkurrenter.

Indiker hvor gode resultater var sammenlignet med de norske konkurrentene i forhold til følgende kriterier.

Lønnsomhet
Soliditet
Salgsinntekter
Total konkurranseevne