Master's thesis

NTNU
Norwegian University of Science and Technology
Faculty of Economics and Management
Dept. of Industrial Economics and Technology Management

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Learn to Survive: Capitalizing on Opportunities as a Global Industry Player

An Empirical Case Study in Mørenot AS

Master's thesis in Industrial Economics and Technology Management
Supervisor: Alf Steinar Sætre
Co-supervisor: Marta Morais-Storz, Liv Rasdal Håland
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Preface

This paper is written as a master's thesis in the study program MTIØT at NTNU in the spring of 2022. The thesis is written as a part of the main profile Strategy and International Business Development, where one of the goals is to understand how to manage innovation processes that aim to improve companies' competitiveness. The work done in this thesis includes reviewing relevant literature, choosing a research design, a suitable methodology and using these methods in the project.

We want to thank Professor Alf Steinar Sætre, Associate Professor Marta Morais-Storz and Ph.D. Candidate Liv Rasdal Håland for guidance, feedback and helpful discussions throughout this year. Their contribution has been invaluable in challenging us when needed and ensuring a constructive and clear focus for this master's thesis.

We also want to thank our case company Mørenot AS and all the participants in the interviews for contributing valuable research data for our work and giving us a warm welcome at their offices in Ålesund and Haugesund. Further, we would like to thank our contact in Mørenot, Marthe Amundsen Brodahl, for helping us get everything in order, showing us Mørenot and the beautiful city of Ålesund. Lastly, we would like to thank Arne Birkeland for allowing us to work with such an exciting case company and be a great discussion partner regarding the company's future.

Abstract

In turbulent and uncertain markets, an organization's ability to interpret and act on information from the environment is essential for its success. In this thesis, we aim to discover how global industry players can anticipate new opportunities and threats before the window to act has passed. We use the theoretical framework of absorptive capacity to study what processes must be in place to sense and seize these opportunities. In addition, we investigate how organizations can use knowledge absorption to build resilience in the face of adversity and ensure long-term success. We will begin by reviewing current literature in management science about absorptive capacity and resilience to develop a model for how the concepts are linked. We conducted qualitative interviews with 16 different employees in the case company Mørenot AS, which is a Norwegian supplier of equipment for the maritime industry. Based on these interviews, we will do a comparative analysis regarding the absorptive capacity of the two biggest divisions in the case company.

The results of this analysis are then examined in relation to the current literature. This analysis shows how organizational slack, psychological safety and a willingness to change underlying assumptions are essential factors to ensure an organization's ability to sense and seize opportunities. Additionally, for an organization's ability to absorb knowledge to strengthen proactive resilience, they also need a future-oriented mindset and a willingness to invest in more radical innovation projects. Todorova and Durisin (2007) presented a model of absorptive capacity based on previous research regarding the construct. Based on our observations, we propose the following changes to this model. First, we introduce organizational slack as a factor influencing all dimensions of absorptive capacity. Second, we argue that organizational slack affects a firm's social integration mechanisms. Finally we argue that organizational slack is influenced by internal power relationships, as such internal power relationships indirectly affect all dimensions of absorptive capacity through their influence on organizational slack.

Sammendrag

I turbulente og usikre markeder er en organisasjons evne til å forstå og handle basert på informasjon fra miljøet sitt, kritisk for deres langsiktige suksess. I denne masteroppgaven forsøker vi å forstå hvordan globale industriaktører kan forutse nye muligheter og trusler før det er for sent å handle. Vi bruker det teoretiske rammeverket *absorbsjonskapasitet* (eng. absorptive capacity) til å studere hvilke prosesser som må være på plass for å sanse og gripe disse mulighetene. I tillegg ser vi på hvordan organisasjoner kan bruke sin evne til å absorbere kunnskap til å bygge *motstandsdyktighet* (eng. resilience) når de møter motgang og sikre langsiktig suksess. Vi starter med å gjennomgå litteraturen i ledelsesvitenskap om absorbsjonskapasitet og motstandsdyktighet for å utvikle en modell på hvordan disse konseptene henger sammen. Vi gjennomførte kvalitative intervjuer med 16 forskjellige ansatte i vår case-bedrift Mørenot AS, som er en leverandør av produkter til den maritime industrien. Basert på disse intervjuene, så gjør vi en komparativ analyse rundt deres absorbsjonskapasitet i deres to største avdelinger.

Resultatene fra denne analysen blir så undersøkt i sammenheng med nåværende litteratur. Denne analysen viser at *organisatorisk slakk* (eng. organizational slack), *psykologisk trygghet* (eng. psychological safety) og evne til å *endre underliggende antakelser* (eng. changing underlying assumptions), er viktige faktorer for å sikre en organisasjons evne til å sanse og gripe muligheter. I tillegg for at en organisasjons evne til å absorbere kunnskap skal bygge proaktiv motstandsdyktighet, trenger de også et fremtidsrettet tankesett og en vilje til å investere i mer radikale innovasjonsprosjekter. Todorova og Durusin (2007) presenterte en modell for absorbsjonskapasitet, basert på tidligere forskning innen feltet. Basert på våre observasjoner, foreslår vi følgende endringer til denne modellen. Først introduserer vi organisatorisk slakk som en faktor som påvirker alle dimensjonene i absorbsjonskapasitet. Videre argumenterer vi for at organisatorisk slakk påvirker et firmas *sosiale integreringsmekanismer* (eng. social integration mechanisms). Til slutt argumenterer vi for at organisatorisk slakk er påvirket av *interne maktforhold* (eng. internal power relationships), dermed påvirker interne maktforhold alle dimensjoner innen organisasjonens absorpsjonskapasitet gjennom sin påvirkning på organisatorisk slakk.

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1 Introduction

Companies must change and continuously revisit their strategies to survive in a transient market. To win in volatile and uncertain environments, companies need to create new competitive advantages by exploiting short-lived opportunities (McGrath, 2013). Being able to exploit opportunities requires the ability to see the early warnings of change (McGrath, 2019). In a survey conducted in 2002, data show that two-thirds of the companies participating had been surprised by at least three high impact events in the previous five years (Fuld, 2003), which shows the importance of an organization's capacity for vigilance (Day & Schoemaker, 2008).

Weak signals of a coming change, when recognized early by an organization, can give an advantage in preparing before a future inflection point. Inflection points can change the validity of assumptions organizations are built upon and can have devastating consequences for those unable to reevaluate their assumptions and adapt to the new situation (McGrath, 2019). For organizations to see the early warnings, it is essential to pay careful attention to what is happening in the periphery, as the periphery often suggests when it is time to shift strategic direction (Day & Schoemaker, 2004; McGrath, 2019). Choosing an appropriate strategic direction requires prior knowledge of the relevant context. Simply identifying the signals is not enough; they also need to be interpreted, validated and, when necessary, trigger strategic action. Absorptive capacity is "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends" (Cohen & Levinthal, 1990, p. 128). In addition to helping recognize the value of new information, absorptive capacity can also help build innovative capabilities by letting the organization capitalize on spillover from competitors (Cohen & Levinthal, 1990).

When facing turbulent and uncertain times, an organization's resilience is vital for its continued operation. An organization's resilience is its ability to absorb strain and preserve function despite the presence of adversity or the ability to bounce back from adverse events (Sutcliffe & Vogus, 2003). The literature on resilience in management theory is scattered into different research streams, each of which often offers contradictory recommendations on how organizations should

build resilience (Linnenluecke, 2017). We will focus on both the reactive definition of resilience as the ability to bounce back from adverse events and the more proactively oriented strategic resilience. Strategic resilience relates to reinventing business models and strategies through anticipating and adjusting to threats before the need becomes desperately obvious (Hamel & Välikangas, 2003).

A 2019 study by McKinsey (McKinsey, 2019) found that the organizations listed in S&P's 500 stayed on the list for an average of 35 years. Today the average is closer to 20 years. The study further estimates that this average will be reduced to 12 years by 2027. One could argue that the resilience of one company is of little concern to society in general as long as there always exists fresh new start-ups to take the place of old, slow incumbents. However, Hamel and Välikangas (2003) argue that this view is simple-minded for several reasons. First, many important institutions are outside the private market, like government institutions that might not be as easily replaced. Second, competition, acquisitions and bankruptcies are crude and costly mechanisms for reallocating existing resources. It takes a lot of time to rebuild the fragments of a once-great company to its former efficiency, and a lot is lost in the process. Finally, young companies are generally less efficient than old companies, as such an economy solely relying on new start-ups is highly inefficient. As a result, it is typically more beneficial for society to have efficient, resilient companies able to adapt to environmental shifts rather than always having younger startups replacing old incumbents. For companies to adapt, they need the ability to anticipate threats and opportunities from their environment and take proactive action to mitigate the negative impacts of adverse events. Furthermore, they need to reorganize themselves to be able to thrive in the changed environment.

When looking at how companies anticipate threats and opportunities, a central concept is how knowledge absorbed by the organization can trigger action. In this way, absorptive capacity is an important aspect for ensuring the long term success of a company. However, the existing literature on how absorptive capacity can create long-term success and resilience in organizations is lacking. Organizations should understand how to organize their knowledge absorption to build resilience and ensure long-term survival and success. As such, our research questions became:

1. How can global industry players anticipate new opportunities and threats before the window to act has passed, and what processes must be in place to sense and seize these opportunities?

2. How can absorption of knowledge from the environment be used to build resilience in the face of adversity and ensure long-term success?

Resilience can be challenging to measure as it is hard to categorize an organization's resilience before encountering a crisis. In this thesis, we seek to measure the different subparts of absorptive capacity in Mørenot AS to understand what processes must be in place for them to be able to sense and seize opportunities. Further on, we will use what the literature says about absorptive capacity and its link to resilience to discuss how absorptive capacity can create resilience. This thesis contributes to both the resilience and absorptive capacity literature by investigating the interaction between these concepts. In addition, by taking an in-depth look at how absorptive capacity function in a specific context, we have been able to identify several concepts, such as organizational slack and psychological safety, as central to an organization's ability to absorb new knowledge.

The following chapter will present the theoretical background of the most central concepts used. Then our research methodology for how to best answer our research questions will be covered. The fourth chapter will present our within-case description and analysis, which will serve as the data for this thesis. Further on, the fifth chapter will discuss what implications our observations have for the existing theories and answer our research questions based on our findings, as well as provide some suggestions for how the case company can succeed in the future. The last chapter will draw some conclusions and sum up our findings.

2 | Theoretical Background

This chapter will present the most relevant theories that we will further use in this master's thesis. We will first go through and explain the theories sequentially. Then at the end, we will introduce our conceptual models for how absorptive capacity and resilience influence each other, which was developed based on the current literature.

2.1 Weak Signals and Environmental Scanning

To ensure the long-term survival of a business, it is essential to pay attention to the signals from the environment that might warn of coming events. McGrath (2019) argues that early signs of a coming inflection point often are weak and hard to detect, but as the inflection points approach, the signal grows in strength and clarity. Such a signal could be anything from other actors exiting or entering an industry or political shifts signaling a coming regulation.

2.1.1 Affordance

A common way to interpret how the environment relates to a business is through the lens of threats and opportunities. This is ingrained in students' minds worldwide through SWOT analysis and other similar tools for analyzing the business's relation to its environment. However, an aspect of an environment is rarely either just a threat or an opportunity. Instead, one could argue that it is how a business chooses to view a particular aspect of the environment that categorizes it as either a threat or an opportunity. An alternative way to view the environment is through the lens of affordances. Within ecology, Gibson (1979) defines the affordances of the environment as "what it offers the animal, what it provides or furnishes, either for good or ill" (p. 119). He further argues that the awareness of the world and one's relations are non-separable and affordances are properties taken with reference to the observer. What affordance exists for a certain observer may vary and what affordances one observer perceives may be different from another observer's perception.

2.1.2 Weak signals

Data is essential in decision-making, but the risk of basing decision-making on hard facts is that they are often based on lagging indicators. Lagging indicators are an outcome or consequence of some activity that has already occurred. Current indicators give data about what is happening right now and leading indicators hint at things that are not yet facts but have the potential to lead to facts later on McGrath (2019). Leading indicators are the most important when spotting a coming inflection point and should be paid careful attention to. In addition, McGrath (2019) argues that as the inflection point approaches, the strength signaling its approach increases in intensity. However, as it approaches, the chance to respond early gradually diminishes. As a result, the strategic degrees of freedom on reacting to the inflection point decreases as it approaches. This means that early detection and proactive action are essential to adapt successfully. Sætre and Van de Ven (2021) argue that two factors affect an organization's ability to pick up weak signals: the strength of the signal and the organization's sensitivity to it. As the signal strength for a certain environment is constant for all observers in most cases, Sætre and Van de Ven (2021) argue that the only variable the organization can control is its sensitivity or ability to pick up on the signal.

Organizations often pay attention to what is directly relevant to their current situation and what is right in front of them. However, early warnings of coming change often become visible in the periphery. The periphery often suggests when it is time to shift strategic direction and is important to pay attention to (Day & Schoemaker, 2004; McGrath, 2019). Day and Schoemaker (2004) further argue that in a fast-moving turbulent world, having a too narrow focus can make organizations susceptible to missing opportunities or potential warning signs of coming threats. To mitigate this, they suggest a model for learning from the periphery consisting of 5 steps: 1. Scoping: defining the scope of the scan, 2. Scanning: exploratory scan of the environment, 3. Interpreting: interpreting the gathered information, 4. Acting: acting on the interpreted information and 5. Learning and adjusting: Learning from the scanning process to improve the next scan. Duchek (2020) similarly argues that organizations need to notice and respond quickly to warnings of coming crises to avoid escalation. Duchek (2020) further argues that observing and identifying weak signals is essential for an organization's long-term success. However, only recognizing the signal is not enough. Organizations must also be able to absorb identified new knowledge to ensure long-term success.

2.2 Absorptive Capacity

A central concept when considering a company's ability to capitalize on new opportunities is its absorptive capacity. Absorptive capacity is defined as "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends" (Cohen & Levinthal, 1990, p. 128). Some years after its initial conceptualization, absorptive capacity went through a reconceptualization driven by Zahra and George (2002), which divided absorptive capacity into the four dimensions: acquisition, assimilation, transformation and exploitation. In their conceptualization, they did not include the concept of recognizing the value of information as was initially included by Cohen and Levinthal (1990). This choice, among others, led Todorova and Durisin (2007) to create their own reconceptualization of absorptive capacity, building on Zahra and George's (2002) model while addressing what they viewed as its shortcomings. They emphasized the value of recognizing the value as a step prior to acquisition and introduced the idea of transformation not as a sequential step after assimilation but rather as an alternative path. The reconceptualized model of Todorova and Durisin (2007) is shown in Figure 2.1 and we will cover its most relevant concepts in the following subsections.

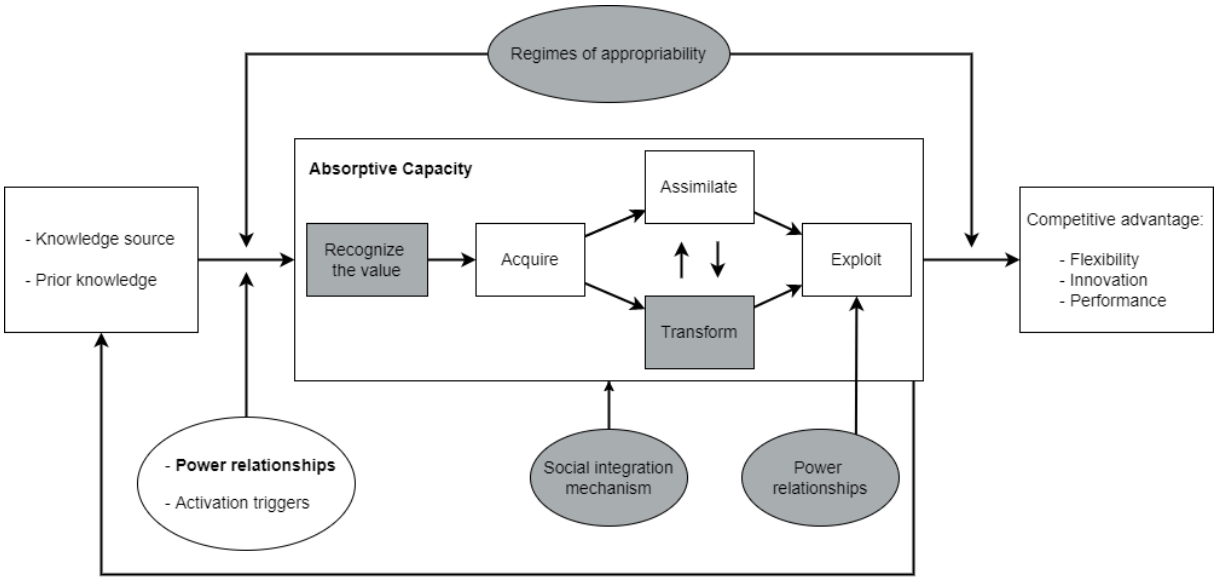

Figure 2.1: The reconceptualized model of ACAP as presented by Todorova and Durusin (2007)

2.2.1 Recognizing the Value

The first component of absorptive capacity is the ability to recognize the value of new external information. Zahra and George (2002) tried to include this component in the dimension of acquisition but received criticism for this redefinition. As "the capability to recognize the value

of new external knowledge represents an important component of absorptive capacity because the valuing is not automatic, it is biased, and it needs to be fostered to allow the absorption to begin at all" (Todorova & Durisin, 2007, p. 777). Furthermore, acquisition concerns the intensity, speed and effort the firm gathers new information. There is a chance that without the ability to identify and understand new information, its potential may be overlooked (Todorova & Durisin, 2007). Thus, recognizing the value, which includes the firm's ability to scan the environment and detect the weak signals of coming change (McGrath, 2019), is reintroduced as a step before acquisition.

2.2.2 Acquisition

Acquisition concerns the firm's capability to acquire new external information critical to its operations (Zahra & George, 2002). To successfully acquire new external information, prior related knowledge will often be necessary. Prior knowledge can increase the ability to store new knowledge, which can be accessed and used later. Thus, prior knowledge can facilitate learning new related knowledge (Cohen & Levinthal, 1990). Three attributes within acquisition influence absorptive capacity: intensity, speed and direction (Zahra & George, 2002). Intensity and speed concern the firm's effort to gather new information, while the direction is influenced by the paths the firm chooses to follow when searching and obtaining new knowledge.

2.2.3 Assimilation

Assimilation concerns an organization's ability to understand and internalize information obtained from external sources (Lane & Lubatkin, 1998). A firm's ability to assimilate existing knowledge was, by Cohen and Levinthal (1990), regarded as a prerequisite for exploitation to begin at all. Assimilation is defined as a "firm's routines and processes that allow it to analyze, process, interpret, and understand the information obtained from external sources." (Zahra & George, 2002, p. 189). One factor initially thought to influence a firm's ability to assimilate knowledge is its social integration mechanisms (Zahra & George, 2002). Social integration mechanisms concern the internal and external sharing of relevant knowledge from people working in the firm. However, (Todorova & Durisin, 2007) argue that due to social interactions being present within all parts of knowledge absorption, the social integration mechanisms of a firm will most likely influence all elements of absorptive capacity and not only the assimilation of new knowledge.

2.2.4 Transformation

Transformation denotes a firm's ability to change its current perceptions to absorb new knowledge incompatible with its current knowledge. The term transformation was introduced by (Zahra & George, 2002) as the capability to "develop and refine the routines that facilitate combining existing knowledge and the newly acquired and assimilated knowledge" (p. 190). Based on research on cognition and cognitive schemas, (Todorova & Durisin, 2007) argue that both assimilation and transformation include some form of change. If a new idea fits the current cognitive structures, the cognitive structures are only slightly altered to be assimilated into the existing structure. New knowledge that the organization can not assimilate into the current cognitive structure must trigger the transformation of these structures before knowledge can be absorbed. Drawing on this reasoning, Todorova and Durisin (2007) argue that assimilation and transformation can be regarded as alternative processes and not sequential steps in absorbing new knowledge. This implies that absorption of new knowledge that does not fit the current cognitive structures can not happen without transforming. This is analogous to how McGrath (2019) argues that inflection points, which are defined as something that fundamentally changes the business's constraints, require firms to change their underlying assumptions to adapt successfully.

2.2.5 Exploitation

Exploitation is the firm's ability to use its knowledge and apply it to commercial ends (Cohen & Levinthal, 1990). In more detail, "exploitation as an organizational capability is based on the routines that allow firms to refine, extend, and leverage existing competencies or create new ones by incorporating acquired and transformed knowledge into its operations." (Zahra & George, 2002, p. 190). One crucial factor to consider in exploitation is the power relationships within the organization, which are the relationships that involve using power or other resources by an actor to get what they want. Such power relationships will influence a firm's ability to exploit their new knowledge as they will control the resource allocation (Todorova & Durisin, 2007). In addition, it is worth mentioning that there will also exist external power relationships with actors from outside the organization, which will not influence the exploitation but rather the absorption of new knowledge (Todorova & Durisin, 2007).

2.2.6 A Multidimensional Scale

Since its initial conceptualization in 1990, absorptive capacity has primarily been focused on tangible outcomes and has served as a bridging concept between fields. In 2010, a literature review by Volberda, Foss and Lyles identified that few had captured the richness and multidimensionality of the construct and have thus not been able to exploit the full benefits of absorptive capacity. They also found that even though absorptive capacity emerged from management science, it has been adopted in many fields today. This has led scholars to take many different approaches. Thus absorptive capacity can serve as a bridging concept between various fields of science (Volberda, Foss, & Lyles, 2010). A year later, Flatten, Engelen, Zahra, and Brettel (2011) presented and validated their multidimensional scale for measuring absorptive capacity. They moved away from using inaccurate proxies such as R&D investment and spending intensity to measure absorptive capacity, as the use of proxies might have contributed to conflicting and misleading findings related to absorptive capacity. Based on the four dimensions of absorptive capacity, as introduced by Zahra and George (2002), using a mixed-method approach of both qualitative and quantitative research, 14 items were developed and classified into a scale. This scale lets companies assess their strengths and weaknesses concerning absorptive capacity quantitatively, thus making it possible to compare firms' to each other. Developing such a four-factor measure of absorptive capacity is intended to guide future research and ensure valid results and comparisons across studies (Flatten et al., 2011).

We have found absorptive capacity to be a central concept for defining what processes must be in place for organizations to capitalize on new opportunities and threats. Some scholars argue that absorptive capacity is a dynamic capability (Todorova & Durisin, 2007; Zahra & George, 2002). Thus we have also looked into literature on dynamic capabilities to get a more nuanced view of how organizations can position themselves for long-term success.

2.3 Dynamic Capabilities, paradoxes and rigidities

Dynamic capabilities refer to an organization's ability to adapt its current structures to changing environments. Teece, Pisano, and Shuen (1997) defined dynamic capabilities as the "firms ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (p. 516). Firms having well-developed dynamic capabilities can reflect their ability to reach new forms of competitive advantages given path dependencies and market positions (Leonard-Barton, 1992). Furthermore, dynamic capabilities focus on the firm's capacity to "(1) to sense and shape opportunities and threats, (2) to seize opportunities, and

(3) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets." (Teece, 2007, p. 1319). Dynamic capabilities can be linked to the organization's adaptive capacity, which focuses on the firm's ability to adapt to uncertain environments. Adaptive capacity can be beneficial for firms operating in complex and turbulent environments as it can widen the search for solutions beyond the competencies already present in the organization (Staber & Sydow, 2002).

2.3.1 A scale for measuring dynamic capabilities

During the last decade, literature on dynamic capabilities has moved from primarily conceptual to mostly papers with an empirical focus. In 2019, no standard scale for measuring dynamic capabilities existed. The absence of a common scale made it difficult to compare the growing numbers of results measuring dynamic capabilities across the different studies. Thus Kump, Engelmann, Kessler, and Schweiger (2019) created and validated a 14-item quantitative scale based on Teece's (2007) definition of dynamic capabilities. Focusing on measuring the sensing, seizing and transforming capabilities within organizations. Their subscales reveal high internal consistency, and their overall scale reveals high construct validity. This 14-item scale is the main inspiration for our interview questions regarding dynamic capabilities.

2.3.2 Handling paradoxes

Most organizations are regularly facing strategic paradoxes, which are situations where two factors contradict each other or are mutually exclusive, and appear to be true simultaneously (de Wit, 2020). Many approaches for achieving simultaneously high levels of exploration and exploitation when dealing with such paradoxes have been suggested, including ambidexterity and vacillation. Boumgarden, Nickerson, and Zenger (2012) review these two approaches for simultaneously achieving high degrees of exploration and exploitation and conclude that ambidexterity and vacillation are complements with respect to performance, even though they are different mechanisms.

Organizational ambidexterity focuses on balancing exploration and exploitation by crafting complex hybrid or dual-structured organizations (O'Reilly & Tushman, 2008). This approach makes one part of the organization engage in exploration and another in exploitation, while the resulting organizational inconsistencies are overcome by integration efforts by top-level managers (Boumgarden et al., 2012). This approach is also referred to as parallel processing, as it makes the organization divide its structures and focus on both ends of the paradox simultaneously (de Wit, 2020).

Organizational vacillation is another approach that emphasizes dynamically achieving high levels of both exploration and exploitation by alternating between different organizational structures that focus on either exploration or exploitation (Gulati & Puranam, 2009; Nickerson & Zenger, 2002; Siggelkow & Levinthal, 2003). This option is also referred to as navigating, as the organization focuses on one contrary at a time that leads to a development path similar to a tacking sailing boat (de Wit, 2020).

The distinction between these approaches for handling the paradox of exploration and exploitation is how they structure themselves in order to achieve high levels of performance in both. With organizational ambidexterity, high performance is achieved by deliberately emphasizing structures that promote balance. On the other hand, vacillation achieves high performance by dynamically vacillating between structures to achieve high levels of exploration and exploitation on average but with inconsistent balance (Boumgarden et al., 2012). Ambidexterity and vacillation are thus two different ways of handling the paradox of exploration and exploitation by either navigating or parallel processing. As de Wit (2020) described, navigating and parallel processing both represent a separation of the paradox to handle it. However, where parallel processing represents a spatial separation, navigating is a temporal separation.

2.3.3 Core competencies and core rigidities

Companies only focusing on reactively exploiting current opportunities and not proactively exploring the future might find their competencies becoming rigid. For organizations, it can be challenging to prioritize the paradox of whether to consider the short-term or long-term opportunities, whether to explore or exploit and whether to build variation or stability. Based on their prioritizations, all companies have their core capabilities, which are defined as "the knowledge set that distinguishes and provides a competitive advantage" (Leonard-Barton, 1992, p. 113). Leonard-Barton (1992) further argues that at any given point in an organization's history, its core capabilities are evolving and that its survival is based upon successfully managing this evolution. If the core capabilities are not adapted as time goes by and the organization's surrounding environment changes, they might become core rigidities. Core rigidities are values, skills, managerial and technical systems that have served the company well in the past and are deeply embedded knowledge sets that actively create problems (Leonard-Barton, 1992). Organizations facing threats tend to behave less varied and flexible and thus have greater chances of acting rigidly (Staw, Sandelands, & Dutton, 1981).

As organizations focus on exploiting, the assumptions their current strategies build upon might become outdated. Organizations must challenge their assumptions and what they know as the truth rather than trying to prove that they are right (McGrath, 2019). When only focusing on exploitation and optimizing current operations and not challenging current assumptions, a company builds inertia, which can drive a company's core capabilities into becoming core rigidities.

The self-reinforcing nature of learning makes it attractive for individuals or organizations to sustain their current focus. Levinthal and March (1993) argue that organizations become specialized in niches where their competency can give an immediate advantage by maintaining such a focus. As organizations become specialized, they will often use more resources to further develop their competency within the same field, which will be at the cost of exploration. Organizations getting stuck in an endless cycle of failure due to not being able to shift their focus can get stuck in a competency trap (Levinthal & March, 1993). Competency traps can be seen as companies getting stuck in a local optimum due to a too narrow focus. The competitive landscape of most industries is "rugged", implying that organizations not able to shift focus can get trapped in a local optimum (Levinthal, 1997). No matter what direction the organization moves in local optima, they will end up in a worse state, even though the local optimum is sub-optimal.

Organizations must avoid myopia to ensure that organizational learning helps build dynamic capabilities rather than leading them into a competency trap. Levinthal and March (1993) argue that three elements of myopia compromise the effectiveness of learning: the tendency to ignore the long run, the larger picture, and overlook failures. Proactive attention to the periphery can help defuse minor problems before they become major crises and suggest when to shift strategic direction. One problem of paying diffused attention to the periphery is the chance of confusion, as such, a certain level of focus is needed (Day & Schoemaker, 2004). One could thus argue that although scoping should be limited to what is relevant, organizations can avoid myopia by broadening the time horizon and challenging the current assumptions, as well as paying attention to the periphery and other weak signals in the environment. Avoiding myopia and competency traps in this way requires that organizations have the time to challenge their assumptions and broaden their scanning. Excess resources in an organization like unused employee work hours could thus be seen as necessary in order to be able to avoid becoming to rigid. In this way, organizational slack can be seen as another concept central to how businesses position themselves for long-term success.

2.4 Slack, Variance and Exploration

Companies will often gain organizational inertia over time through optimization and bureaucratization, becoming less flexible and adaptable in favor of efficiency. However, to stay competitive, organizations need a certain level of variance and slack in resources to facilitate the exploration of new opportunities.

2.4.1 The need for slack

Organizational slack is defined by Nohria and Gulati (1996) as the pool of resources in an organization that is in excess of the minimum level necessary to produce a given level of organizational output. Such resources could be anything from financial resources and unused capital to employee work hours. One could also include unexploited opportunities that could optimize existing operations by increasing margins or pushing the product closer to the limit of what is possible with current technology and knowledge. Historically slack has been divisive in management science with two opposing views. On the one hand, proponents of slack argue that slack leaves room for experimenting with new strategies and innovative projects, thus being essential for innovation (Nohria & Gulati, 1996). On the other hand, opponents of slack argue that there is less incentive to innovate and that slack causes undisciplined investments in R&D activities that are less likely to lead to profitable outcomes (Nohria & Gulati, 1996).

The optimal level of slack for innovation follows an inverse U shape, meaning that both too much and too little slack harm an organization's ability to innovate. Through a quantitative survey, Nohria and Gulati (1996) find evidence to support the hypothesis that the link between innovation and slack has an inverse U relationship. Based on the results of other investigated variables, Nohria and Gulati (1996) argue that two underlying mechanisms can explain this relationship. Firstly, the effect slack has on experimentation, by having too little slack, an organization leaves less room for any kind of experimentation whose success is uncertain. Secondly, the effect slack has on the discipline exercised over experiments, having too much slack may result in a lack of discipline that allows more bad projects to be pursued than good ones.

In the form of a cash resource, organizational slack can be a central factor for absorptive capacity and firm short-term performance. Choi and Park (2017) started by separating absorptive capacity into a path-dependent (homogeneous) and a path-creating (heterogeneous) process. In contrast, homogeneous absorptive capacity is when familiar external knowledge is internalized, similar to assimilation into their current knowledge structures. In the same way as transformation, heterogeneous absorptive capacity requires the absorber to go beyond their existing conceptual

frameworks and known domains to create new cognitive schemas (Choi & Park, 2017). By looking into 210 US IT-related firms from 2002 to 2008, they found that the transforming heterogeneous absorptive capacity can harm short-term performance. This is because the acquisition and successful commercialization of such knowledge can be a significant financial burden in the short term. They also found that homogeneous absorptive capacity positively affects a firm's short-term performance. Their results further show that a high level of homogeneous absorptive capacity is not always beneficial in the long term. Further on, they found that organizational slack, as a cash resource, can benefit the firm and reduce the negative impact of heterogeneous absorptive capacity in the short term. However, slack does not influence the relationship between homogeneous absorptive capacity and a firm's short-term performance (Choi & Park, 2017).

2.4.2 The need for variance

Process management as a concept is widely used and applied to a multitude of problems. Process management seeks to increase efficiency and speed by focusing on variance reduction and improved process control (Benner & Tushman, 2002). However, Benner and Tushman (2002) argue that as process management seeks to reduce variance, it may lead to companies prioritizing exploitation over exploration activities which often require activities associated with increased variation and uncertainty, like improvisation or brainstorming. While they argue that process management could positively affect exploitative activities, they argue that the short-term effect on exploitative innovation might also have long-term consequences for the company's explorative innovation. In their 2003 article, Benner and Tushman say that while process management could benefit companies in stable environments, exploitative capabilities are also needed for innovation and change. Furthermore, an ambidextrous organizational structure could resolve this dilemma (Benner & Tushman, 2003). Organizational slack as an unused resource could be viewed as a form of variance that needs to be reduced from the view of process management. Benner and Tushman's (2003) argument for the need for variance to facilitate exploration thus supports Nohria and Gulati's (1996) arguments about a certain level of slack being needed to optimize for innovation. Thus, there is a need for a certain level of tolerance for both unutilized resources and variance to best facilitate an organization's explorative innovation.

2.5 Psychological Safety

Another concept relevant for organization's ability to absorb new knowledge, is the employees feeling of psychological safety. Psychological safety in a team refers to "a shared belief held by members of a team that the team is safe for interpersonal risk-taking" (Edmondson, 1999, p. 350). In her 1999 article, Amy Edmondson studied 51 work teams and the results show how the psychological safety of a team is positively associated with team learning behavior. The paper further underlines the importance of learning behavior in teams as results indicate that high-learning teams have the ability to confront and work to improve their situation. In contrast, low-learning groups are more likely to be unable to alter their position (Edmondson, 1999). She also argues that environments where behavior like asking for help, admitting errors and seeking feedback is discouraged also can reduce team learning. In psychologically safe teams, the team members are free to take interpersonal risks and act in learning-oriented ways. With the world becoming more complex, transient advantages leading to more change in the work environment and the need for constant innovation, psychological safety is more important than ever to ensure effective team learning. Because of this, research on psychological safety has been a topic of growing interest over the last 20 years (Edmondson & Lei, 2014).

Another study on team learning shows that team leaders who facilitate the team members to speak up, make implementing new practices more likely to succeed (Edmondson, 2003). Further on, the same study shows that teams facing significant changes in their work routines can benefit from non-threatening leadership. Additionally, the benefits of teamwork are better realized when leaders create psychological conditions of meaningfulness and safety that enable the team members to unselfconsciously focus on the task at hand (Edmondson, 2003). These two leadership strategies of facilitating team members to speak up and creating psychological safety are both helping people to overcome hurdles related to interpersonally challenging behavior. One creates an explicit and compelling reason to speak up, and the other mitigate power imbalances that inhibit speaking up (Edmondson, 2003).

Based on these insights, the construct of leader inclusiveness was introduced, defined as the "words and deeds by a leader or leaders that indicate an invitation and appreciation for others' contributions. Leader inclusiveness captures attempts by leaders to include others in discussions and decisions in which their voices and perspectives might otherwise be absent" (Nembhard & Edmondson, 2006, p. 947). Furthermore, psychological safety in combination with leader inclusiveness is shown to promote team engagement in quality improvement work. Quality improvements require the team members to be open to trying new technologies and being open to

giving and receiving feedback, which can be interpersonally risky and thus requires psychological safety to be present. They also argue that "in a psychologically safe environment, team members do not feel they must be guarded in their behavior, instead feeling encouraged to question current practices and to share what may be regarded as provocative ideas, challenging the group to develop more innovative solutions" (Nembhard & Edmondson, 2006, p. 948). If psychological safety is not present, it has been found that the team member's willingness to contribute to problem-solving activities significantly decreases if they view the team as hostile. In such a situation, they are likely to act in a way that diminishes learning by withdrawing from the team's work. This is referred to as personal disengagement (Nembhard & Edmondson, 2006).

2.6 Resilience

An organization's ability to survive in the face of a crisis, namely their resilience, is a vital factor for understanding how they can achieve long-term success. Resilience is a concept used in various fields, from ecology and metallurgy to organizational psychology and strategic management (Bhamra, Dani, & Burnard, 2011). The term has several varied definitions and refers to a property of an entity. However, some generalization of the concept is possible to identify. Bhamra et al. (2011) identified three general areas of classification for resilience:

- Readiness and preparedness
- Response and adaptation
- Recovery or adjustment

As it is used in organizational theory today, resilience has its origins in several different areas of study. Sutcliffe and Vogus (2003) look at the roots and mechanisms of resilience in organizations. This is accomplished by examining how other scholars define resilience at the individual, group and organizational levels. At the individual level, resilience can be described as a capacity for recovery or maintained adaptive behavior. As a sense of confidence and efficacy is built through effective action, resilience is also built. At the group level, the mechanisms resemble the ones at the individual level. Group members' beliefs in their abilities to overcome adversity influence the effort put into the group endeavor. This, in turn, influences the results and thus the group's confidence and future levels of resilience in the face of adversity. Organizational resilience, in turn, depends on an organization's ability to restore efficacy (Sutcliffe & Vogus, 2003). Hence we will use organizational resilience to refer to the reactive part of resilience.

In an age of turbulence, an organization's ability to make sense of an environment, generate strategic options and realign its resources faster than the competition is the ultimate competitive advantage (Hamel & Välikangas, 2003). Strategic resilience is "the ability to dynamically reinvent business models and strategies as circumstances change, to continuously anticipate and adjust to changes that threaten their core earning power - and to change before the need becomes desperately obvious" (Hamel & Välikangas, 2003, p. 1). To achieve strategic resilience, companies must overcome four challenges:

1. **Conquer denial**

   Warning signs are often visible long before it becomes desperately obvious for a business that action is necessary. Companies must be willing to look beyond their established assumptions and change them when confronted with new evidence.

2. **Value variety**

   "Variety is insurance against the unexpected." (Hamel & Välikangas, 2003, p. 2). Having a portfolio of innovation projects can help an organization have something to fall back on when circumstances change. Most innovation projects will fail; therefore, having an extensive portfolio of innovations ensures at least some will be successful.

3. **Liberate resources**

   Only allocating resources to maximize current operations for profit makes a business vulnerable to disruptions. Companies, therefore, need to invest in initiatives that can create new value in the future.

4. **Embrace paradox**

   Businesses have traditionally had a focus on optimizing operations. However, this can be antithetical to strategic variety, wide-scale experimentation and rapid resource redeployment. To achieve resilience, businesses must embrace the paradox of optimizing existing strategies while simultaneously exploring new strategic possibilities.

Currently, in management research, the research on resilience is scattered and can be divided into five distinct research streams (Linnenluecke, 2017):

1. Organizational responses to external threats
2. Organizational reliability
3. Employee strengths
4. The adaptability of business models
5. Design principles that reduce supply chain vulnerabilities and disruptions

The research streams are rather diverse, and they often offer contradictory recommendations on how organizations should build resilience (Linnenluecke, 2017). The traditional view of organizational resilience in a more reactive sense relates to the research stream labeled "organizational responses to external threats". The research stream labeled "the adaptability of business models" on the other hand, refers to research relating to the proactive definition of resilience, built upon the seminal article by Hamel and Välikangas (2003) related to strategic resilience.

Corporate success is more fragile than ever due to the increasingly turbulent environment (Hamel & Välikangas, 2003). Recent events like the Covid-19 pandemic or the sanctions resulting form the Russian invasion of Ukraine, revealed just how vulnerable some companies are to environmental shifts. Surviving adversity becomes a crucial skill for companies to maintain long-term success. Resilience is needed to survive this turbulence, both in the reactive sense (i.e., the ability to react to and recover from adversity) and proactive (i.e., being prepared to deal with turbulence before it occurs). We argue that it is often better to have a proactive approach to adversity, as this may lower the potential negative impacts. In addition, as the environment is in constant change, simply focusing on bouncing back might not be realistic as the strategy that worked in the past may no longer be viable. Although some general steps can be taken to better deal with any crisis, like increasing flexibility or having multiple revenue streams to fall back on, the future is uncertain and it is impossible to be completely invulnerable to everything. The distinction between acting proactive or reactive can be hard to pinpoint as the main difference between the two is the time horizon considered. For this master's thesis, we will consider both an organization's proactive and reactive resilience.

2.7 A review of the literature on Absorptive Capacity and Resilience

We reviewed the literature to explore what the current literature says connects absorptive capacity and an organization's resilience. A literature review is a systematic, explicit, and reproducible method to identify, evaluate and synthesize the existing work on a topic (Fink, 2019). For this review, the idea was to explore what the current literature says about the link between absorptive capacity and an organization's resilience. We wanted to synthesize this link into a model that we can later apply to understand how organizations can use their knowledge absorption to build resilience and survive in the long run. These topics were chosen as we had identified absorptive capacity as a central concept for reviewing what processes must be in place to sense and seize opportunities. We further wanted to investigate how this influences the firm's resilience in the face of adversity.

2.7.1 The selection of papers

NTNU's library Oria was used as a search engine to find published articles that fit our search criteria. The requirements consisted of a Boolean search looking for articles with any field containing the words in the search string: ("organizational resilience" OR "strategic resilience") AND "absorptive capacity". We chose to look for articles containing specifically "organizational" and "strategic" resilience to capture both the reactive and proactive side of resilience. Resilience is a widely used term, limiting our search to these terms specifically filtered out unrelated uses of the word resilience like: "household resilience" or "ecosystem resilience". Our search string focused exclusively on articles using the words "resilience" and "absorptive capacity". As a result, we might have excluded papers that used different words to describe the same phenomena. To mitigate this, we tried replacing "resilience" with similar terms like "agility", "flexibility" and "adaptability" but found no relevant articles using this method. Therefore, we kept the original search string without any additions or alterations as it seemed to return the most relevant literature.

Our search initially returned 125 articles, then an initial exclusion process was performed limiting our dataset to 78 papers. The initial exclusion process was based on the title and subject of the articles and a quick manual search for relevant terms within each paper to check their context. After this initial exclusion another iteration of exclusion was performed based on the following criteria. First, all published articles included must be in a journal listed with at least level 1 in the NSD database and at least level 2 in CABS (CABS, 2021; NSD, 2021). We included this

requirement to ensure some degree of quality in the literature included in our dataset. Second, we chose to exclude conference articles with a publication date earlier than 2019, as conference papers containing valuable information most likely would have been developed into published research if they had any merit. Third, we excluded articles dating before Cohen and Levinthal's initial definition of the term absorptive capacity in 1990 to help ensure only papers using this definition were in the dataset. Finally, all articles in our dataset had to be peer-reviewed to provide additional quality and be available in English. This initial exclusion process ruled out 47 papers, limiting our dataset to 78 research papers.

Another screening was then performed based on the content of the abstract and to what degree we considered the paper would help describe the link between absorptive capacity and resilience. The research excluded in this iteration typically only mentioned absorptive capacity once and never in relation to resilience. This context-based exclusion process removed 52 articles leaving 26 as our relevant dataset. After reading and analyzing the articles in our dataset, three new articles were found and included, as other papers in our dataset referenced them, and they seemed highly relevant. Additionally, we excluded two more research papers for being irrelevant, focusing on things outside the scope of literature review. We ended up with a final dataset containing 27 articles as the base for our study. Figure 2.2 shows the screening process of selecting papers for the dataset and Appendix section A shows a complete list of the final dataset.

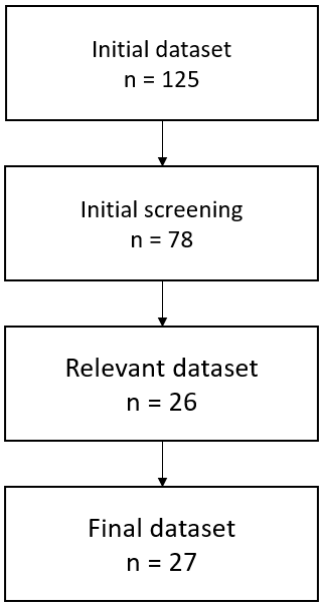

Figure 2.2: Process of selection for our dataset

2.7.2 Limitations in our literature review

We must address some limitations relating to this literature review. First, the study only looks into papers available in NTNU's Oria database. Only looking into one database limits the total pool of articles we are selecting from, which might have led to us not identifying relevant papers. Second, the exclusion criteria chosen might have made us overlook relevant articles. For instance, our choice of excluding journals with low NSD or CABS scores could have excluded articles that were relevant despite being published in a low-quality journal. In addition, we based the second round of exclusions on our initial evaluation of the relevance, which could influence what papers we included. Simply reading the abstract and evaluating the context of terms used does not fully capture the content of an article, which might have led to a wrongful exclusion. Third, the focus of this literature review is within a rather niche part of the field, as there is written relatively few papers about the link between absorptive capacity and resilience. As a result, some published articles selected were in journals outside management science, such as healthcare or medicine.

Furthermore, many of the papers in our dataset do not look at the link between absorptive capacity and resilience directly but rather discuss how they relate to the paper's primary focus. For these papers, one could argue that less focus might have gone into validating the link between absorptive capacity and resilience as the main focus was on something else. Basing our analysis on these sorts of papers could weaken the validity of our conclusion. Finally, we might have excluded articles that use different words to describe the same phenomena. We tried mitigating this by replacing the term "resilience" with other terms with similar definitions. However, we could have used more time on this and been more systematic to ensure we missed no relevant articles.

2.7.3 The results

There exist many different definitions and ideas of what resilience is. The literature linking resilience to absorptive capacity used the word resilience to refer to two different constructs. We separated resilience into proactive and reactive resilience, with definitions as shown in Table 2.1, to capture the different definitions used by the papers.

Table 2.1: The articles within the dataset and which type of resilience they focus on

Focus	Definition	Papers
Proactive Resilience (Strategic)	The ability to reinvent and the capacity to change before the case for change becomes desperately obvious.	Morais-Storz et al., 2018; Hurmelinna-Laukkanen, 2012; Reinmoeller & van Baardwijk, 2005
Reactive Resilience (Organizational)	The ability to maintain functions and recover rapidly from adversity by mobilizing and accessing the resources needed.	Duchek, 2020; Zhang & Qi, 2021; Cheng & Lu, 2017; Hamsal & Ichsan, 2021; Valikazadeh & Haase, 2021

Table 2.2 shows the three links identified in our dataset of articles linking absorptive capacity and resilience. These findings will be further outlined in the following sections and are later used as a foundation for developing three models, one explaining each of these effects.

Table 2.2: Papers within our dataset and what findings they relate to

Finding	Description	Papers
1 - Weak Signals	Absorptive capacity helps through the detection of signals to anticipate challenges which are used to prepare for challenges in the short or long term	Morais-Storz et al.,2018; Duchek, 2020
2 - Innovative Capabilities	Absorptive capacity builds innovative capabilities that strengthen the organization's capability to self-renew over time as well as being important for survival in the face of adversity and turbulence	Vakilzadeh & Haase, 2021; Zhang & Qi, 2021; Hurmelinna-Laukkanen, 2012
3 - Dynamic Capabilities	Absorptive capacity is a dynamic capability which is an important capability for survival in the face of adversity and turbulence.	Zhang & Qi, 2021; Cheng & Lu, 2017; Hamsal & Ichsan, 2021

1 - Weak Signals

In our dataset, several articles describe how detecting signals from the environment can build resilience. Duchek (2020) argues that organizations must recognize signals of coming crises to respond quickly and avoid escalation. This activity of identification and observation is a capability that is important for resilience. The activity used to look for weak signals is called

environmental scanning, which can be used to identify discontinuities. Absorptive capacity is one way organizations acquire external information and is highly related to environmental scanning (Duchek, 2020). As a result, absorptive capacity contributes to building organizational resilience by letting organizations improve their ability to do environmental scanning, thus anticipating crises and acting proactively. Morais-Storz, Platou, and Norheim (2018) argue that absorptive capacity determines an organization's ability to harness the knowledge of future environmental states. This helps build future orientation in the top management team, which increases resilience by giving the organization a more proactive and future-oriented outlook on strategy.

Although the explanations of Morais-Storz et al. (2018) and Duchek (2020) on how absorptive capacity is linked to resilience are quite similar, there are some differences. Duchek's (2019) focus on environmental scanning seems more related to recognizing signals that might warrant a more immediate and reactive response to avoid crises and escalation. In other words, absorptive capacity can be used to identify potential adverse events that might impact the business as early as possible. On the other hand, Morais-Storz et al. (2018) argue that absorptive capacity helps build future orientation in the top management team, increasing resilience in the more proactive sense. We argue that the time horizon considered might be an important factor in how organizations interpret weak signals. This might affect whether the organization can recognize the need for a strategic shift rather than simply mitigating the problem in the short term.

Absorptive capacity can help build the ability to detect weak signals from the environment. Hamel and Välikangas (2003) argues that to achieve strategic resilience, an organization needs the ability to adapt to change before the need becomes desperately obvious. To be able to act before a need becomes desperately obvious, warning systems are required to detect signs that potential changes in the environment are imminent. Absorptive capacity may be an essential factor in such a warning system, as it may allow an organization to detect and make sense of early warning signs beyond the business's immediate focus. In this way, absorptive capacity can strengthen both the strategic and organizational resilience of an organization.

2 - Innovative Capabilities

Several articles in our dataset describe how innovative capabilities can be essential for building resilience. One paper in our dataset that presents innovative capabilities as one of the factors linking absorptive capacity and resilience is Vakilzadeh and Haase (2020). They study resilience in the strictly reactive sense and argue that avoiding adversity does not imply resilience but is an organization's effectiveness in attaining its goals. Furthermore, they argue that an organization's absorptive capacity and its resulting ability to innovate during adversity is vital for reactive re-

silience. The importance of innovative capabilities for increasing reactive resilience is further backed by Zhang and Qi (2021). Their quantitative research of manufacturing firms in China looked into how digitalization affects organizational resilience. They define resilience as an organization's ability to maintain functions and recover rapidly through mobilization of resources and found that "firms with a strong innovation capability tend to have high levels of organizational resilience." (Zhang & Qi, 2021, p. 13). Reinmoeller and Van Baardwijk (2005) defines resilience as the capability to self-renew over time through innovation. Hurmelinna-Laukkanen (2012) uses this definition and argues that firms having good absorptive capacity have greater incentives to invest in innovations since they have the potential to win the commercialization race. Increased R&D spending will, in turn, make the company more likely to be able to send superior products to the market and win market shares. This makes both Reinmoeller and Van Baardwijk (2005) and Hurmelinna-Laukkanen (2012) conclude that absorptive capacity and its resulting innovation contribute to the proactive resilience of the firm.

Multiple articles argue that absorptive capacity in some way strengthens innovation, which in turn creates resilience (Hurmelinna-Laukkanen, 2012; Vakilzadeh & Haase, 2020; Zhang & Qi, 2021). There are, however, some differences in how they present the link between absorptive capacity and their definition of resilience. Vakilzadeh and Haase (2020) and Zhang and Qi (2021) argue that absorptive capacity builds an organization's innovative capabilities, granting them the ability to innovate during adversity which is vital for resilience in the reactive sense. Hurmelinna-Laukkanen (2012), on the other hand, argues that firms with high levels of absorptive capacity have greater potential to win the commercialization race, which in turn gives them a greater incentive to innovate. This strengthens the capability to self-renew over time, granting resilience in a more proactive sense. Cohen and Levinthal (1990) argue that absorptive capacity increases the incentives to invest more in R&D. They further argue absorptive capacity can also strengthen an organization's innovative capabilities allowing it to capture spillover knowledge from its competitors. Thus one could argue there is a positive feedback loop in which firms with greater absorptive capacity have more incentive to invest in R&D and companies with higher R&D spending gain greater absorptive capacity.

The three articles from our dataset that focus on innovative capabilities argue that absorptive capacity strengthens innovative capabilities, which builds some form of resilience. However, there are still some differences in their arguments. Vakilzadeh and Haase (2020) and Zhang and Qi (2021) argue that absorptive capacity builds innovative capabilities, which strengthens the reactive capabilities of a firm by allowing them to innovate when faced with adversity. Hurmelinna-Laukkanen (2012) argues that absorptive capacity strengthens innovative capabilities, enabling

the ability to self-renew and thus builds resilience in the more proactive sense. We claim these two ways in which either proactive or reactive resilience is increased by absorptive capacity and innovative capabilities are not mutually exclusive.

Multiple published papers point to the importance of building innovative capabilities for strengthening an organization's resilience. However, only focusing on innovation will not create a resilient organization alone. The organization will also need to continuously adapt their resource base, which involves strengthening their dynamic capabilities. This implies that firms wanting to increase their resilience should focus their strategies on promoting innovation and continuously revise their portfolio of innovation strategies to ensure that it is adapted to changing environmental conditions.

3 - Dynamic Capabilities

Articles in our dataset also argued that absorptive capacity strengthens reactive resilience by keeping organizations dynamic and responsive to changes in the environment. Zhang and Qi (2021), who also stressed the importance of innovative capabilities, argue that firms with high levels of digitalization also tend to have higher levels of absorptive capacity. An enhanced absorptive capacity will enable the firms to absorb external knowledge and transform it into a competitive advantage, making it easier for them to change their operational processes to cope with changes (Zhang & Qi, 2021). In other words, Zhang and Qi (2021) argue that absorptive capacity builds reactive resilience by granting an organization the ability to adapt to changes in the environment. Cheng and Lu (2017) define a supply chain's resilience as its ability to return to its original state after facing interruptions. Cheng and Lu (2017) argues that absorptive capacity builds reactive resilience by increasing an organization's dynamic capabilities. Hamsal and Ichsan (2021) define organizational resilience as an organization's ability to absorb and adapt to changing environments. They further argue that absorptive capacity plays an essential role in keeping capabilities dynamic and responding to changes in the environment, and this responsiveness grants the organization reactive resilience.

Most of the literature agrees that dynamic capabilities and the ability to cope with changes are essential for a firm's reactive resilience and survival. However, there are some differences in their perspectives. Zhang and Qi (2021) argue that absorptive capacity builds dynamic capabilities, which build reactive resilience by allowing an organization to better recover from and cope with changes in the environment. On the other hand, Cheng and Lu (2017) and Hamsal and Ichsan (2021) agree that absorptive capacity builds dynamic capabilities but argues that it builds reactive resilience through adopting to turbulent environments. The main difference between

these two views is that Zhang and Qi (2021) focus on recovery in the face of adversity, while Cheng and Lu (2017) and Hamsal and Ichsan (2021) focus on adapting to changes. McGrath (2019) argues that mismatches between assumptions based upon what once made the organization great and the actual environment it finds itself in can lead to drops in performance or even the company's demise. Thus we would argue that the focus on simply recovering after a change in the environment rather than adapting to it might be detrimental. Such a focus can trap companies in strategies that are no longer feasible, resulting in them mitigating the symptoms instead of changing assumptions that might no longer be valid.

2.7.4 Development of three conceptual models

Based on the findings when reviewing the literature, we developed the models shown in Figure 2.3. We will further describe the models' components in the following subsections. The models describes three different ways that absorptive capacity and resilience are linked.

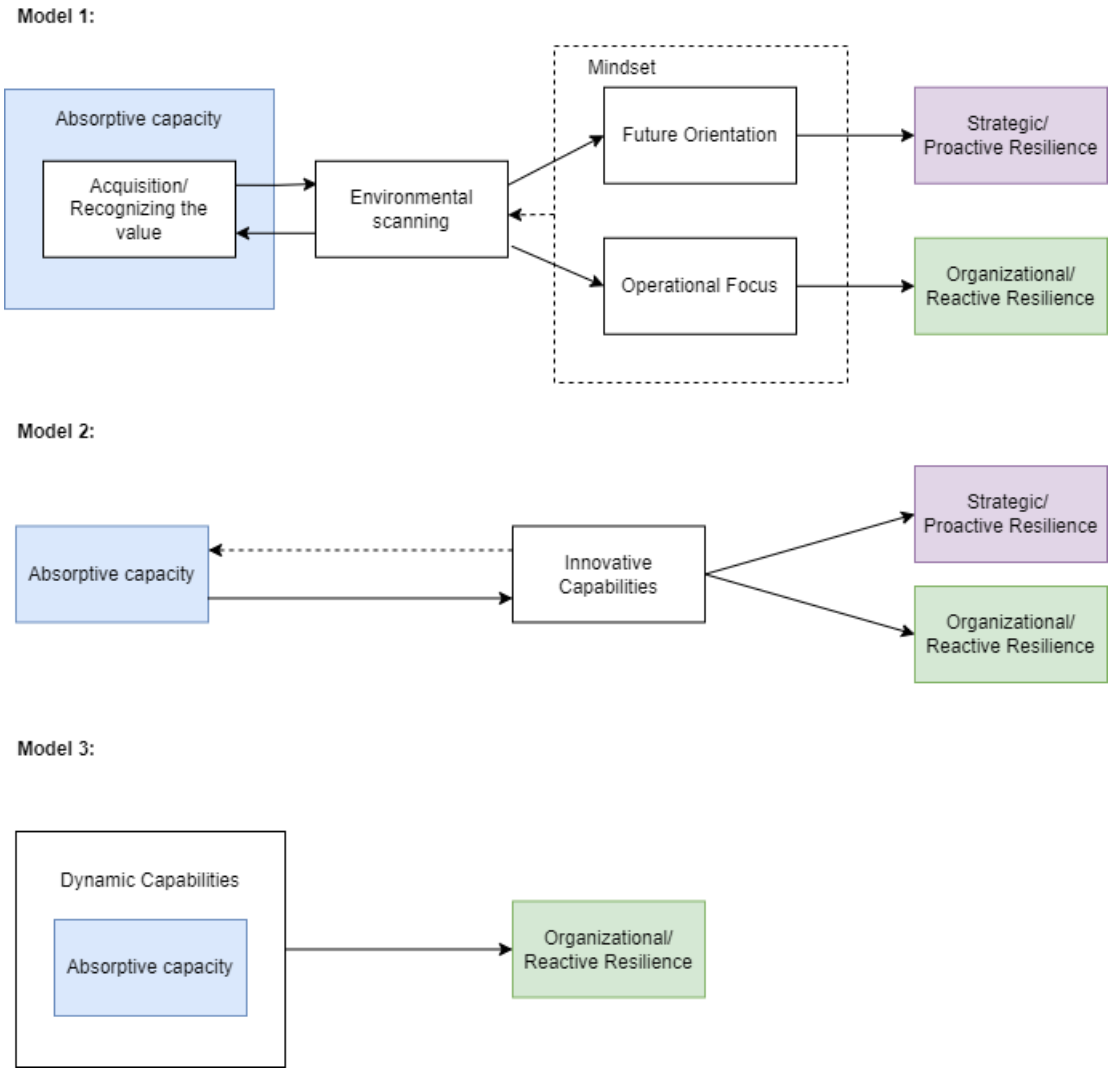

Figure 2.3: Our Conceptual Model

Model 1: Environmental scanning and acquisition

Model 1 illustrates how data interpreted from the environment can help an organization anticipate future threats and opportunities. These can be interpreted either in the short or long term, based on which time horizon management considers when interpreting the signals. This, in turn, could help build either proactive or reactive resilience.

Environmental scanning

The activity of looking for weak signals from the environment is called environmental scanning (Duchek, 2020). This activity is also analogous to acquisition, which is the process of acquiring new knowledge from the environment. For this reason, we view environmental scanning to function similarly to recognizing the value and acquisition of new knowledge, thus being a highly related to the absorptive capacity process. We define the process of environmental scanning to consist of two stages: Scoping and scanning. Scoping refers to determining the scope of the search, while scanning is the process of actually scanning the environment within the chosen scope. Relevant information about when to shift strategic direction may often exist outside the immediate focus of the organization's attention. As such, it is essential to pay attention to the periphery (Day & Schoemaker, 2004). Day and Schoemaker (2004) further argue the importance of a broadened scope that includes all relevant parts of the environment but not more. This is because a too broad scope limits the actual focus each section gets.

One important thing to note about our model is that the step of environmental scanning does not involve any interpretation of the scanned information. We instead argue that how the organization interprets the scanned information determines whether they have a proactive or reactive approach to resilience. In other words, the cognitive structures of the organization shape the sensemaking, which in turn shapes their strategy. Todorova and Durisin (2007) argue that new knowledge that does not fit a firm's current cognitive structures may trigger a transformation of these structures. Such a transformation in cognitive structure might, in turn, trigger some changes in a firm's shaping capabilities to make them fit the new cognitive structure. We further argue that what an organization considers relevant parts of the environment is affected by its cognitive structures, affecting the scoping process. As such, a positive feedback loop may exist between the interpretation of information from the environment and the environmental scanning process. This feedback loop could, in turn, lead to competency traps if the organization is not careful.

Absorptive capacity can help build reactive resilience by helping an organization perform environmental scanning, thus being able to anticipate crises and act early (Duchek, 2020). We

agree with Duchek (2020) that a positive relationship exists between absorptive capacity and environmental scanning. However, we will argue that the actual scanning for and identification of information is an antecedent to absorptive capacity, as information identification has to occur before the eventual interpretation of the information transforming it into knowledge.

Future orientation

We define future orientation as an orientation building on a long-term proactive focus when interpreting external signals. As the organization's management is responsible for interpreting information and transforming it into strategy, we will mainly focus on the future orientation of the management. For the management of an organization with a future orientation, the interpretation of environmental signals is a process of prospective sensemaking, focusing on the long term with a proactive approach to potential adverse events. McGrath (2019) argues that a discovery-driven approach is best when dealing with coming inflection points, as an organization's current strategy might be built on underlying assumptions that no longer hold after shifts in the environment. We further argue that management with a future orientation recognizes that fundamental assumptions for how the business operates might not hold true forever. As such, future orientation could lead management to reevaluate the underlying assumptions of the organization based on new information from the environment, thus facilitating double-loop learning (Argyris, 1977) and better adaptation to future environmental states.

Our definition of management with a future orientation is similar to what Day and Schoemaker (2008) referred to as vigilant leaders. Vigilant leaders are characterized by an external focus open to diverse perspectives, strategic foresight, probing deeply for second-order effects, and encouraging others to explore widely by creating a culture of discovery (Day & Schoemaker, 2008). Morais-Storz et al. (2018) argued that absorptive capacity determines an organization's ability to harness the knowledge of future environmental states. And that this helps build future orientation in the top management team, which builds resilience by giving the organization a more proactive and future-oriented outlook on strategy. We similarly argue that environmental scanning interpreted through a future-oriented focus helps an organization anticipate potential adverse events, thus building proactive resilience.

Operational focus

We define operational focus as an orientation building on a short-term focus on current operations when interpreting external signals. For organizations with an operational focus, the interpretation of environmental signals is a process of risk assessment and anomaly detection, focusing on the short-term mitigation of current or near-future disruptions to current operations.

Managers having an operational focus are somewhat similar to what (Day & Schoemaker, 2008) referred to as an operational leader. Operational leaders are characterized by a narrow internal focus with a short-term time horizon and an inside-out approach (Day & Schoemaker, 2008). However, our definition of an operational focus differs from this definition of operational leaders, as we argue that an operational focus still can have a broad scope and thus not a narrow focus. With an operational focus, external signals are solely interpreted through the lens of current operations. As such, underlying assumptions risk remaining unchanged, even after signals challenging the assumptions become visible in the environment or the assumed truths they build upon are no longer valid. This can be detrimental for organizations. In fact, holding on to outdated assumptions is the single most significant reason why some once-successful companies suddenly collapse in revenue (McGrath, 2019). Duchek (2020) argued that absorptive capacity could help build reactive resilience by helping an organization perform environmental scanning. Thus being able to anticipate crises and act early builds reactive resilience. We, however, argue that environmental scanning interpreted through an operational focus helps an organization be able to anticipate crises and act early, thus building reactive resilience. However, operational focus does not build proactive resilience as the focus is on the short term and the underlying assumptions of the organizations remain unchanged.

Model 2: Absorptive capacity's effect on innovation

Model 2 describes how absorptive capacity helps build an organization's innovative capabilities. Depending on how they are utilized, these innovative capabilities can lead to proactive and reactive resilience.

Innovative capabilities

Absorptive capacity increases the incentives to invest more in R&D. Absorptive capacity can also strengthen an organization's innovative capabilities by allowing it to capture spillover knowledge from its competitors (Cohen & Levinthal, 1990). Thus, a positive feedback loop exists between absorptive capacity and innovative capabilities. Having well-developed innovative capabilities can primarily strengthen resilience in two different ways. Firstly, firms with good innovative capabilities have the ability to innovate when facing adversity and thus are better at adapting their business model in the face of crisis. Innovative capabilities will, in this way, increase the organization's reactive resilience. Secondly, having well-developed innovative capabilities will allow organizations to reinvent their business model. A broad innovation portfolio can be one way to be prepared for coming adversity. With such an innovation portfolio, the risk of innovating can be spread out and create multiple potential revenue streams to fall back on, contributing to the organization's proactive resilience.

Organizations should focus on making many little bets rather than a few big ones to make it easier for good ideas to get a foothold. McGrath (2019) argues that the most creative ideas often die fighting corporate bureaucracy. To ensure that only good ideas get funding, a system must be in place for culling bad ideas and nourishing good ones. Organizations can nurture ideas by "giving everyone who controls a budget the ability to provide seed funding for ideas aimed at transforming the core business" (Hamel & Välikangas, 2003, p. 1). Combined with a targeted incentive structure based on the success of funded innovations, this could help create a culture for internal innovation. One example of how companies can avoid bureaucratic limitations is what Adobe did with their Kickbox project. They made funding available for everyone in a tiered system where good ideas could be scaled up (McGrath, 2019).

A broad innovation portfolio increases organizational learning and lowers risk by spreading it across different bets. Hamel and Välikangas (2003) argued that variety is insurance against risk. Rather than making a one billion dollar bet, an organization should launch a swarm of smaller, lower-risk experiments. They further argue that such a portfolio of innovations can ensure that no matter what particular future unfolds, there is a chance that at least some innovation projects are well-suited to the circumstances. In other words, innovative capabilities can help an organization build a diverse innovation portfolio that functions as insurance against future risk, which helps increase the organization's proactive resilience.

Model 3: Absorptive capacity as a dynamic capability

Model 3 describes how absorptive capacity helps keep organizations dynamic and responsive to changes in the environment, which, in turn, builds reactive resilience.

Dynamic capabilities

Dynamic capabilities can be defined as the ability to integrate, build and reconfigure competencies to act according to quickly changing environments (Teece et al., 1997). An enhanced absorptive capacity can enable the absorption of external knowledge that organizations can transform into a competitive advantage. This will make it easier to change the operational processes of the organization. Thus, absorptive capacity strengthens dynamic capabilities (Cheng & Lu, 2017; Hamsal & Ichsan, 2021; Zhang & Qi, 2021). Some scholars define absorptive capacity as a dynamic capability (Todorova & Durisin, 2007; Zahra & George, 2002); we have chosen to reflect this in our model. Our model focused on dynamic capabilities as reactive capabilities, which entails maintaining competitiveness by enhancing, protecting, and reconfiguring the organization's assets (Teece, 2007). In this way, dynamic capabilities contribute to the firm's reactive resilience.

Based on the literature, we have found that there exists a link between knowledge absorption and resilience. As resilience is primarily measured in relation to a crisis and is difficult to measure in a short time perspective, thus we focused on measuring absorptive capacity in our case company. By using these observations combined with arguments from existing literature, we will study how knowledge absorption can build resilience and create long-term success. The next chapter will present our methodology for how this is achieved.

3 | Methodology

This chapter will present the method used to figure out what processes must be in place to sense and seize opportunities and try to identify how the absorption of knowledge can help build resilience in the face of adversity. First, we will go through the data gathering and interview process, including how we developed our interview guide and the process of how we conducted interviews. Second, we will describe the work we did processing the data after the initial gathering, including transcribing the interviews and coding them. Finally, we will discuss some of the methodical limitations of our chosen methodology.

We chose a qualitative approach seeking to compare the two biggest divisions of Mørenot. Our research question for this master's thesis is to find out what a global industry actor such as our case company Mørenot can do to successfully capitalize on new opportunities and how they can utilize these capabilities to build resilience, helping them succeed in the long run. As this thesis is written in cooperation with the company Mørenot, we had access to people throughout the organization. This allowed us to investigate the company at a deeper level. As the nature of our research questions was to understand *how* organizations can sense and seize opportunities and *how* they can ensure long-term success. We chose to use a qualitative approach as this allowed us to better utilize the opportunity to gather more rich, in-depth data. At the time we did our study in Mørenot, its biggest division (Aquaculture) was in a process of restructuring, which was a reaction to some big losses the previous year. At the same time, their second-largest division (Fishery) was seemingly on a successful path, with everything working perfectly. We chose to do a comparative study (Eisenhardt, 1991) of these two divisions, wanting to investigate what differences we could find in their ability to capitalize on new opportunities. As resilience refers to an organizations ability to overcome adversity it can be challenging to measure within a small time frame, as evidence of resilience often becomes most apparent after an organization has faced adversity. For this reason we chose to focus our empirical inquiry on observing in detail how absorptive capacity functions and using the existing theory based on previous research to study

how observed processes might build resilience. In this paper, the findings section will therefore be presented as a within-case study, where each of the divisions in focus will be presented and analyzed through the lens of absorptive capacity. The discussion section will be a cross-case analysis (Eisenhardt, 1989; Yin, 2018) of the division's differences and link the findings to the most relevant theory with a special focus on absorptive capacity and resilience. In addition, we will be trying to come up with suggestions for what Mørenot can do to cope with their problems or what could be done to sustain the things already working well.

3.1 Interview process

To map Mørenot according to the most relevant theories on how businesses can capitalize on new opportunities, we chose to conduct case study interviews (Yin, 2018). We also created a questionnaire as an interview guide while keeping the interviews open-ended. This interview guide was supposed to keep us on track during the interviews and ensure that all the terrain is covered in the same order for each respondent (McCracken, 1988). Furthermore, following an open-ended interview allows for exploratory, unstructured responses to remain within each category (McCracken, 1988).

The purpose of conducting interviews in the case company was to gather data from the employees working there about the current state of the division. By interviewing the employees and basing our questions on the theories we found most relevant for capitalizing on new opportunities, such as absorptive capacity, we are trying to measure how these divisions perform according to the theories. In this way, we can utilize current literature and past research to identify problems in the company and draw conclusions on how to proceed based on what other researchers have found.

3.1.1 Interview guide

Before starting the data gathering by conducting interviews, we developed a questionnaire, which was supposed to help us stay within the desired topics during the interview. This interview guide can be seen in Appendix section B and is based on the topics we found relevant in our literature review and some hypotheses regarding what factors might influence these concepts.

Absorptive capacity

We built the main framework for our interview guide on the dimensions of absorptive capacity used in Todorova and Durusin's (2007) model (recognizing the value, acquisition, assimilation, transformation and exploitation). We chose this as absorptive capacity is a central framework for

how to capitalize on new opportunities. As Cohen and Levinthal (1990) proposed and Todorova and Durisin (2007) reintroduced recognizing the value as a prerequisite for absorptive capacity, we included it as a separate category in our interview guide. Furthermore, measuring absorptive capacity as a construct has previously been done quantitatively using scales (Flatten et al., 2011). Thus, we utilized the most relevant questions from the scale of Flatten et al. (2011) to create our interview guide, trying to measure absorptive capacity qualitatively.

Dynamic capabilities

Dynamic capabilities emerged as a central concept in our literature review as one of the capabilities linking absorptive capacity and resilience. Thus it became one of the topics we wanted to investigate in our interviews, and we included it as a category in our interview guide. We based the questions in the interview guide on Kump et al. (2019) and their quantitative scale for measuring dynamic capabilities in organizations. The questions were reframed as more open-ended questions to facilitate our qualitative inquiry and help us understand the dynamic capabilities of the case company.

Psychological safety

When starting the work on the interview guide, we early saw the psychological safety in the case company as very interesting to investigate. As psychological safety relates to team members' feeling free to speak up, we would argue this can be seen as correlated with information sharing and social integration mechanisms within the organization. Todorova and Durusin's (2007) model argues that social integration affects absorptive capacity. Thus psychological safety was included as a focus area in the interview guide. We based the questions in our interview guide focusing on psychological safety on Edmondson's (1999) work, which measured team psychological safety in 51 work teams in a manufacturing company.

The last focus area included in our interview guide was how the case company handles reporting of errors. Reporting of errors can relate to the flow of information, social integration mechanisms and power relationships within the organization. All of these concepts are, in turn, highly related to absorptive capacity. Therefore, we chose to include questions about how employees in the case company found it to report errors to their superiors and how they feel their managers handle it.

3.1.2 Interviews

We set out to use non-probabilistic quota sampling to sample research subjects (Galloway, 2005). However, our limited knowledge of the company made it difficult to get in contact with subjects fitting these quotas within the company. As such, the selection itself was initialized by our

contact in Mørenot, who provided us with the email of relevant candidates based on a list of requirements provided by us. We chose this form of selection as our contact in Mørenot had knowledge and insight into the competencies and positions that might be most relevant to our research. As our contact in Mørenot is employed at a corporate level, they also had connections to other employees throughout the whole organization. Using our contact as an intermediary allowed us to get a wide selection of the entire organization that suited our requirements. Our requirements were as follows:

- At least two managers in each division
- At least one technical person in each division
- At least one person in a sales position in each division

The reason for these requirements where that we both wanted the more strategic insight of the managers and the more specialized insight of technical and sales personnel, as we were interested to understand what knowledge and signals reached management and why. In addition to this initial list, we also chose to include several managers at the corporate level to get insight into how they view strategy from a corporate level. Our final list of subjects can are shown in Table 3.1. As can be seen in this table, we interviewed seven people from Fishery, seven people from Aquaculture and three people at the corporate level. However, it is worth noting that one of the subjects here is listed twice as they had a position in both Aquaculture and at the corporate level. Thus they were interviewed twice, focusing on one of the two roles per interview.

We attempted to schedule all interviews in-person to pick up non-verbal queues better and best facilitate interpersonal communication. However, some of the interviews were conducted digitally via Microsoft Teams due to many factors, including scheduling, travel costs and covid-19 restrictions. Each interview lasted around 1 hour and the interviews were recorded digitally and stored directly on NTNU's OneDrive. We later transcribed all interviews and stored them in the same OneDrive. A consent form approved by NSD was signed by all participants, consenting to the interview being recorded and used for research purposes (Ref Appendix section C). For most interviews, consent forms were signed digitally via email beforehand. However, the consent form was signed physically right before starting some of the interviews.

Table 3.1: The data gathered from our interviews

Position	Division	Date	Place	Duration [min]	Numbers of words transcribed	Number of Codes	Number of References
Department Manager	Aquaculture	22. February	Haugesund	67	10 194	14	20
Business Controller	Fishery	2. March	Ålesund	52	7 345	17	35
Technical Manager	Aquaculture	11. March	Digital	59	7 235	15	33
Sales Manager	Fishery	3. March	Ålesund	50	5 456	15	20
Head of Sales	Aquaculture	3. March	Ålesund	56	7 173	16	39
Senior Project Manager	Aquaculture	23. February	Haugesund	73	9 303	17	45
Division CEO	Fishery	2. March	Ålesund	51	6 090	18	24
Group CEO	Group	17. February	Digital	58	9 147	21	37
Department Manager	Fishery	14. March	Ålesund	58	7 864	21	34
Project Manager	Fishery	18. February	Digital	59	5 284	15	24
Head of HR	Group	3. March	Ålesund	69	10 193	12	18
Drafting Technician	Fishery	1. March	Ålesund	51	5 065	11	18
Strategy and Business Development Manager	Group	2. March	Ålesund	56	6 032	19	30
Department Manager	Aquaculture	23. February	Haugesund	75	8 295	17	35
Department Manager	Fishery	1. March	Ålesund	125	18 363	26	64
Interim Division CEO	Aquaculture	7. April	Digital	57	9 069	19	23
Technical Manager	Aquaculture	8. March	Digital	56	6 401	15	29

In the first interviews, we mostly followed the questionnaire. However, as a picture of the situation started to form based on the responses, several aspects related to our research outside the scope of the questionnaire became apparent. We added these topics to explore specific elements and situations more deeply. In our interviews, we added questions regarding the following concepts:

- **The change process in Aquaculture:** It became apparent to us early that understanding the reasoning behind the restructuring of the Aquaculture division and the vision was central to understanding the division.
- **The strain on employee resources:** Multiple employees described experiencing burnout and responded they did not have time or resources to prioritize innovation. This prompted us to dig deeper into the reasoning behind this strain on resources.
- **Internal invoicing:** Several employees described internal invoicing as a barrier to cooperation between divisions and departments, which prompted us to investigate this aspect further.
- **The Ocean Cleanup Project (TOC):** TOC is a project very different from business as usual in the Fishery division, which prompted us to investigate this project in further detail.
- **Sanctions against Russia:** As we were in the middle of our interviewing process, Russia invaded Ukraine, leading to sanctions against Russia affecting many Norwegian businesses. As Russia is one of the Fishery division's most prominent customers, we saw it as relevant to explore if and how Mørenot's outlook on the Russian market has changed.

In Mørenot and especially within the Aquaculture division, there seemed to be a strain on resources. This, in turn, appears to limit the division's ability to absorb and exploit new knowledge. The discovery of pressure on resources then made us return to the literature and introduce the concept of organizational slack as a factor in our analysis of the data.

3.2 Transcription and coding

We transcribed and coded the interviews to identify commonalities and categorize ideas. Grodal, Anteby, and Holm (2021) argue that qualitative analysis is fundamentally a categorization process. Therefore, to keep our categorization more explicit, we choose to code our interviews in NVivo to map out and identify commonalities in the data (NTNU, 2022). We chose the initial

codes based on the same concepts as we developed our interview guide. However, we identified new commonalities and concepts during the interview process, which we thought could benefit from being categorized. As such, some codes were added along the way, for example, the discovery of how a strain on resources affected innovation led us to introduce a code for organizational slack. All the codes, the number of files using them and the numbers of references to the code can be seen in Table 3.2. Our codes fell into three main categories: theory-based concepts, internal structures in the case company and external concepts relevant to the case company.

1. **Theory-based concepts:** This includes phenomena based on the theory that we had identified during the interviews or beforehand. The contents tagged with these codes serve as the basis for our discussion in this thesis and include codes like:

    - The dimensions of absorptive capacity, i.e. the codes "changing of cognitive structure" (transformation) or "environmental scanning" (Acquisition and recognizing the value of new knowledge).
    - Psychological safety
    - Organizational slack

2. **Internal structures in the case company:** This includes internal situations, projects or structures within Mørenot. These codes served the purpose of helping us map out the different internal structures of Mørenot as well as understanding the timeline for various events or projects. This includes codes like:

    - Restructuring in Aqua
    - Internal invoicing
    - The Ocean Cleanup

3. **External concepts relevant to the case company:** This includes situations or concepts that existed outside Mørenot. These codes served the purpose of helping show how Mørenot viewed outside events or concepts and how they believe they relate to their business. This includes codes like:

    - Foreign markets, where Russia perhaps was the most important
    - Sustainability
    - Regulations

Table 3.2: The coding data from our interviews

1. Theory-based concepts:		Files	References
Environmental Scanning	Initial code	**11**	**19**
Customer Contact	Initial code	12	27
Proactive vs. Reactive	Initial code	**12**	**25**
The importance of new knowledge	Initial code	**12**	**13**
Changing Cognitive Structures	Initial code	**13**	**25**
Who the customers is	Initial code	4	8
How groundbreaking the innovations is	Initial code	5	11
Danger signs	Initial code	10	22
Innovation	Initial code	**7**	**14**
The ability to innovate	Initial code	13	17
Willingness to invest	Initial code	12	17
Psychological Safety	Initial code	**13**	**28**
Reporting of Errors	Initial code	**14**	**32**
Organizational Slack	Added code	**16**	**56**
2. Internal structures in the case company:		Files	References
Too much Reporting	Added code	**7**	**9**
Decision Processes	Added code	**11**	**22**
Restructuring in Aquaculture	Added code	**7**	**12**
Involvement of employees	Added code	5	9
Resistance	Added code	3	6
Dismissals	Added code	8	13
Early in the process	Added code	10	16
Internal invoicing	Added code	**10**	**11**
IT-systems	Added code	**13**	**25**
The Ocean Clean-up	Added code	**12**	**20**
3. External concepts relevant to the case company:		Files	References
Sustainability	Added code	**9**	**15**
Foreign Markets	Added code	**2**	**3**
Asia	Added code	6	10
Europe	Added code	3	3
Scandinavia	Added code	2	2
Russia	Added code	8	10
USA	Added code	1	1
Regulations	Added code	**5**	**5**

These codes served two main functions in our further analysis. First and most importantly, the categorization of different statements served as a foundation for our theoretical analysis going forward. Second, it made the process of looking up a specific topic a lot easier and made sure that we knew which sections were relevant when studying a particular concept.

In the following analysis, we will introduce our empirical findings viewed through the lens of absorptive capacity. Based on this, we will describe what processes and functions enable knowledge absorption and what barriers hinder Mørenot from consistently sensing and seizing opportunities. We will then use other relevant constructs like organizational slack, psychological safety and social integration mechanisms to analyze how the dimensions of absorptive capacity function and interact. Lastly, we will use our empirical findings and our conceptual models for the link between resilience and absorptive capacity, to explain how absorptive capacity could build different types of resilience.

4 | Case Description and Analysis

This chapter will introduce our results based on the data collected and present a case analysis of the two divisions we studied. To better understand the case setting, we will first give the historical background and corporate structure at the group and divisional levels. Then we will analyze the cases of Mørenot Aquaculture and Mørenot Fishery sequentially through the lens of absorptive capacity.

4.1 Case setting

To describe the case setting, we will go through the historical background and corporate structure of Mørenot at the group level. Then we will explain the structures of the two divisions in focus, which are Mørenot Fishery and Mørenot Aquaculture. In addition, we will present some background information regarding the most central activities in these divisions.

4.1.1 Mørenot Group level

The Mørenot Group is a global provider of equipment to the aquaculture, fishery and seismic industries and has over 800 employees worldwide. The company consists mainly of three divisions in different business areas that generate revenue. These are Mørenot Fishery, Mørenot Aquaculture and Mørenot Offshore. In addition to these divisions, Mørenot also has a centralized top-management team and support functions such as Finance and HR, which make up Mørenot AS at a group level. Out of these three divisions, Aquaculture and Fishery are the largest and these are the focus of our comparative study and will be presented more in-depth later in this chapter. Figure 4.1 shows the division structure and their respective business units and the number of employees working in each division. As only six people work in the Offshore division, they are not separated into segments. In this figure, Mørenot Offshore is listed with four different product groups rather than segments to show what kind of products they work with.

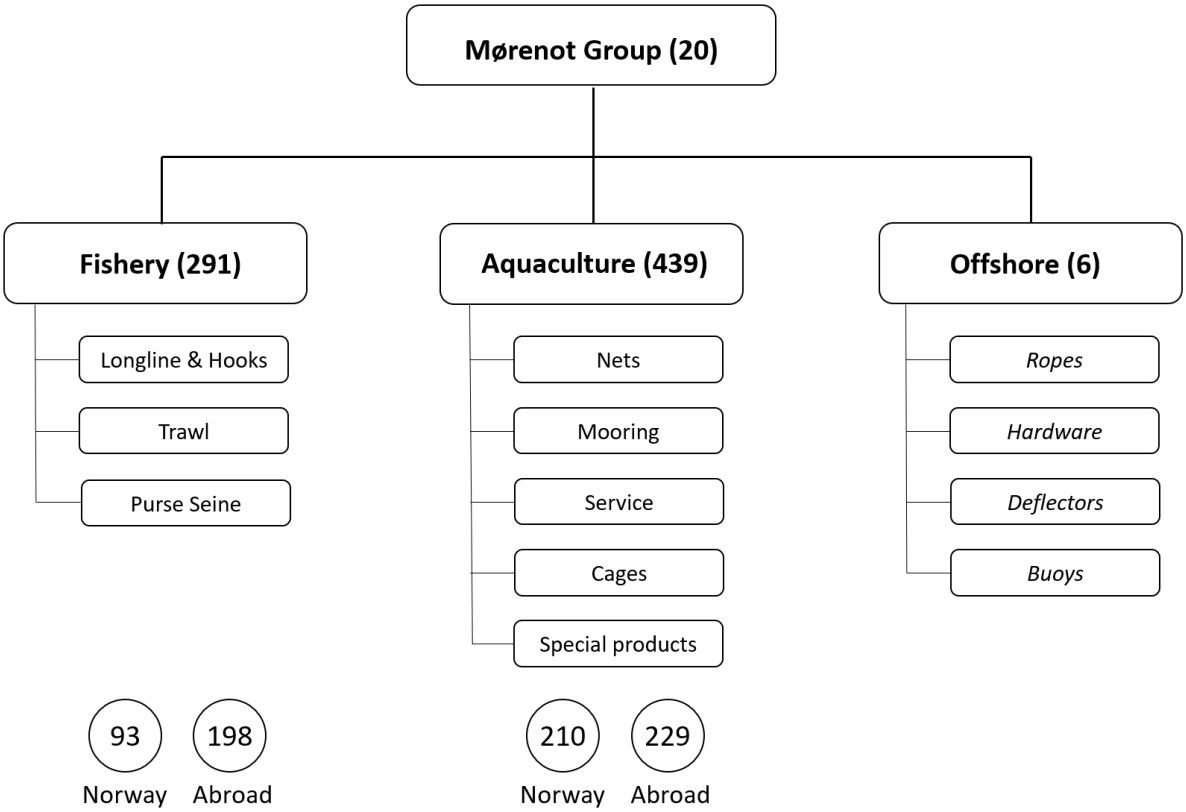

Figure 4.1: The corporate structure of the Mørenot Group (Mørenot Group Presentation, 2021)

Furthermore, Mørenot also has an Operations division in addition to the three main divisions. Operations coordinate deliveries across production units and support functional planning processes. Mørenot started this division in 2020 as they saw the need for standardized procedures as they were growing internationally. The structure of Mørenot Operations and how it supports the other divisions is illustrated in Figure 4.2.

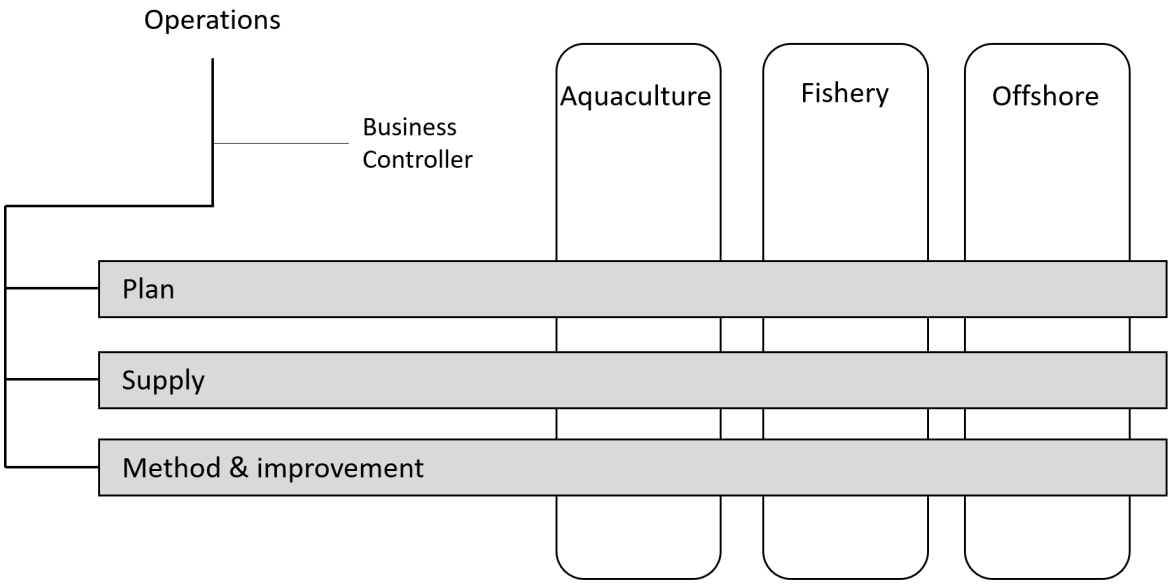

Figure 4.2: The Mørenot Operations structure and how they support the other divisions

Historical background

The Mørenot Group has its origins back in 1913 as a small fishing gear supplier. In 1917, A/S Sunnmøre Fiskevegnfabrikk started as a producer of fishing lines and nets. The official beginning of the company Mørenot was in 1948 when they began as a netloft providing repair services for fishing nets. These two companies merged in 1986 and constituted the main parts of Mørenot AS until the turn of the millennium when Mørenot started acquiring other actors in the industry (Daugstad, 1991).

During the 1980s and 1990s, Mørenot went through several mergers, acquisitions and cooperation agreements to become a complete fishing gear supplier from production to sales. A clear focus on quality throughout the entire company made them in 1994 the only Norwegian certified supplier of fishing gear according to the ISO9001 quality assurance system. A quote illustrates this from one of their competitors at this time: "Mørenot? They are a solid company, with competent people producing fishing gear of the best quality, but they are not always the cheapest" (Daugstad, 1991, p. 23). The focus on quality was further backed by an attitude that their products should be at least as good as their competitors and that the customers should get the service they need 24 hours a day (Daugstad, 1991).

In close relationships with the customers, the employees of Mørenot worked continuously to develop their products to become even better. The focus on quality made it possible to increase the revenue from around 6 million NOK in 1977, to more than 237 million NOK in 1997 (Daugstad, 1991). Today, this has increased even further, and in 2019 the group's total revenue was 1.152

million NOK (Mørenot Group Presentation, 2021). The Mørenot Group went through a period characterized by strong international growth after the turn of the millennium. In the 2000s, they established a factory in China and moved some of their production abroad. They also acquired several companies internationally, such as in Iceland and Spain. Today, Mørenot is present in 19 locations in Norway and 28 locations worldwide. Due to this strong growth and the need to differentiate the divisions for the customer, Mørenot divisionalized in 2012 into the structure as we know it today, with Aquaculture, Fishery and Offshore. Four years ago, in 2018, Mørenot was acquired by FSN, a Nothern Europe-based private equity firm, who saw some growth opportunities in the Aquaculture industry and wanted to join in. As the majority owner, FSN sets some of the guidelines for the strategic work and future directions for Mørenot (Mørenot Group Presentation, 2021). The strategy is formulated through a framework called FSN Execution Framework (FEF), which begins with an open creative process and eventually ends up with 4 to 5 strategic priorities. The framework is a strategic plan for the next three years and is reviewed yearly. In addition, for some of the process, the next three to five years are taken into account (FSN, 2022). Mørenot's current strategic priorities are:

- SP1: Secure the position as the largest service provider in Norway and targeted growth in other selected markets
- SP2: Become the second largest provider of mechanical long line solutions globally
- SP3: Increased sales through existing sales channels in Aqua
- SP4: Strong profitable growth on nets
- SP5: International growth in Fishery

Corporate structure

The Mørenot Group leadership is co-located with Mørenot Fishery and Offshore administration in Moa, right outside of Ålesund in Norway, which makes up the company's main office. At the same time, the Mørenot Aquaculture leadership is located in LØÅ, right outside of Haugesund. Additionally, each of the service locations in Norway and worldwide has its local leadership and support functions. At the same time, their HR, strategy and finances are centralized in the main offices at Moa. All of Mørenot's 30 sites in 2021 are shown in Figure 4.3. Today however, Mørenot are present in 28 locations worldwide as they no longer have a site in Chile anymore.

Figure 4.3: Mørenot's locations in Norway and worldwide (Mørenot Group Presentation, 2021)

The Mørenot AS top management team is divided into specific functions and areas, and around 20 people are working at the group level. With the Group CEO Arne Birkeland at the top and as leader of the board of management and specific people in charge of HR, Quality control, strategy, marketing and finance. The Mørenot Group is 82% owned by FSN Capital and the rest is owned by different private individuals with connections to the company (Proff, 2022). FSN Capital sets some directions for the company's future strategy and is represented on the board of management. Furthermore, after a recent restructure in the Aquaculture division, a unit of 7 people working on digital solutions has been moved out of its division. Mørenot Digital will be a supporting function on digital solutions for the entire group, in the same way as Operations. Figure 4.4 illustrates the hierarchical structure of the Mørenot Group and the supportive parts existing outside the divisions.

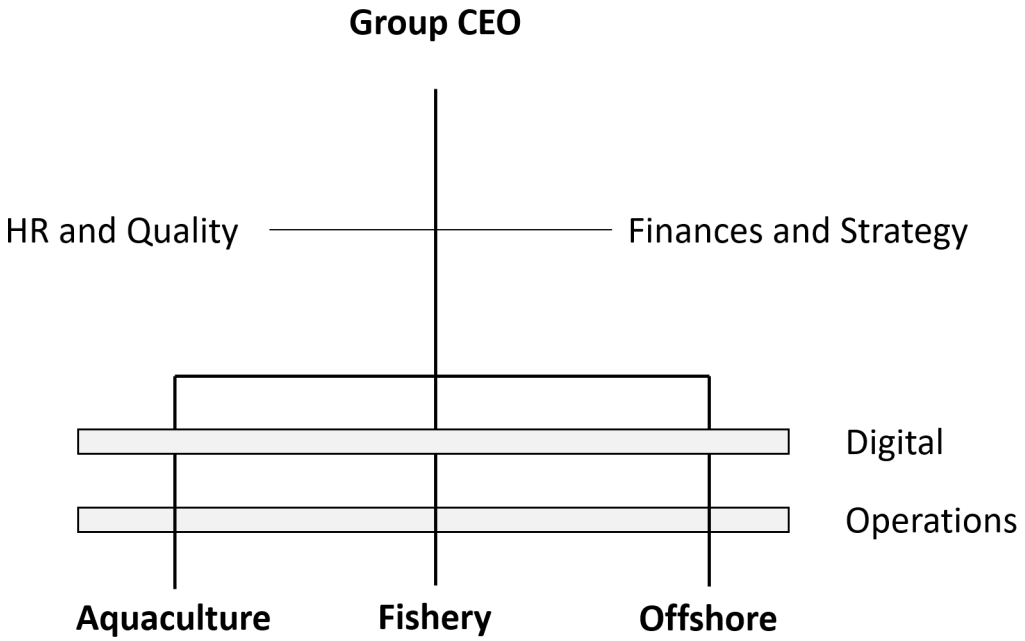

Figure 4.4: The divisions and supporting functions of the Mørenot Group.

Mørenot is a company with a long history of being a quality-driven fishing gear supplier. Its recent history bears signs of rapid growth and it remains to be seen how this will affect the organization in the long run. We will now go more in-depth into each of the two divisions, starting with a look at the Aquaculture division.

4.1.2 Aquaculture division

Mørenot Aquaculture has around 440 employees and is the largest of Mørenot's three divisions. Aquaculture is mainly focused on the Norwegian market but has subunits worldwide for everything from production and R&D to sales and services. Roughly half of the employees of Aquaculture are employed abroad. Within Norway, the Aquaculture division is very spread out, as it is divided into many service locations along the Norwegian coast.

Aquaculture was separated out of Mørenot AS in 2012 and organized as a separate division. After FSN bought Mørenot in 2018, they conducted a series of acquisitions with varying levels of success. In this process, they acquired several Aquaculture-related businesses that produced different products than Mørenot. This was for Aquaculture to become a complete supplier for aquaculture-related products. Integrating the acquired businesses has been challenging for Mørenot and several of the acquired companies continued to operate almost independently from Mørenot after the acquisition. As stated by employee 4:

> Some can be very cooperative and want to explore new things, while others are acquired and wish to continue doing their stuff. A lot of smaller [businesses] are bought by someone larger. So it takes time to break it up and get things running smoothly.

Warning signals, in the form of mistakes causing claims and other losses relating to some big contracts, started becoming visible in Aqua Knowledge by the summer of 2021. Aqua Knowledge was the engineering department operating as a separate business but working closely with the Aquaculture division. However, this information first reached corporate management by the end of the year. In December 2021, the reported losses in Aquaculture made management initialize a change process seeking to cut 15 million NOK in operating costs. This process was to reorganize to cut costs and, at the same time, move the organization's engineering capabilities closer to the people working with sales. Mørenot reorganized as the lack of coordination between units appeared to be one of the reasons for the losses in Aqua Knowledge.

Division structure

Aquaculture had five main subunits before the restructuring: Service, special products, nets, mooring and cages. Figure 4.5 shows the organizational structure before the restructuring. Each of these segments specializes in offering a product or service related to fish farming. Service provides a complete service package for the nets of customers. Special products specialize in developing new products and R&D in general. Nets offer customers the nets needed for farming. Mooring focuses on the mooring of the fish farms and cages focus on the cages holding the nets in place. Each of these subunits had a manager who reports to the CEO of Aquaculture.

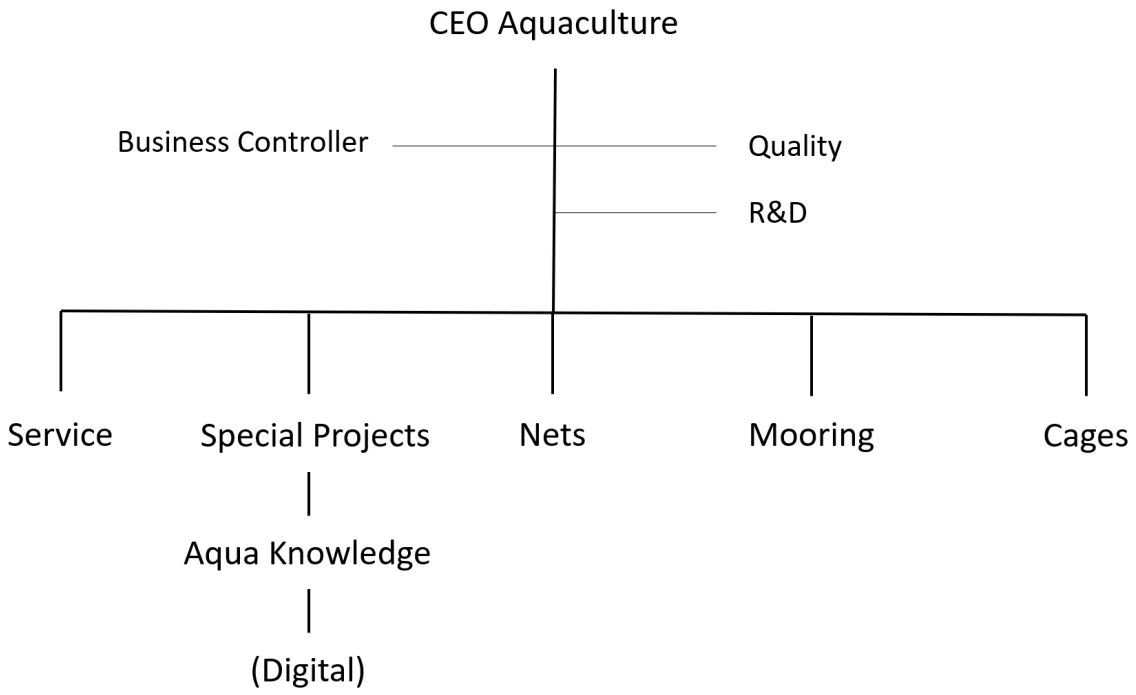

Figure 4.5: The Mørenot Aquaculture division structure before the restructuring in 2022

The main goal of the restructuring in Aquaculture is to achieve a simplified overall organization. The division was split into Service, Sales and Product & systems. Figure 4.6 shows the organizational structure after the restructuring. Service will have an "end-to-end" responsibility, including selling service agreements, and sales will have complete responsibility for the customers and generating the orders needed. The most significant change is the introduction of Product & systems, which will consist of leadership and the former segments of Mooring, Cages and Nets. Product & systems are responsible for the possibilities Sales generate and choosing solutions, price and profitability. In addition, there will be a segment within Product & system focusing on engineering, which primarily has the same capabilities as the former Aqua Knowledge. Before the restructuring, Aqua Knowledge mostly used its specialized engineering capabilities on external, more innovative and explorative projects. The reorganization split Aqua Knowledge into two separate units: Mørenot Digital and Engineering. Engineering will function as a supporting unit for the rest of Aquaculture and take on a more operational role. At the same time, Mørenot Digital will become a separate subunit after the change, which will exist outside of the divisions and be a resource for Mørenot as a whole, focusing on developing digital products. Aquaculture also had an R&D group consisting of central people from different subunits in Aquaculture. After the restructuring, this group will be dissolved and R&D will be the responsibility of more specific management groups, for instance, the management of Mørenot Digital or the management group of Product & systems.

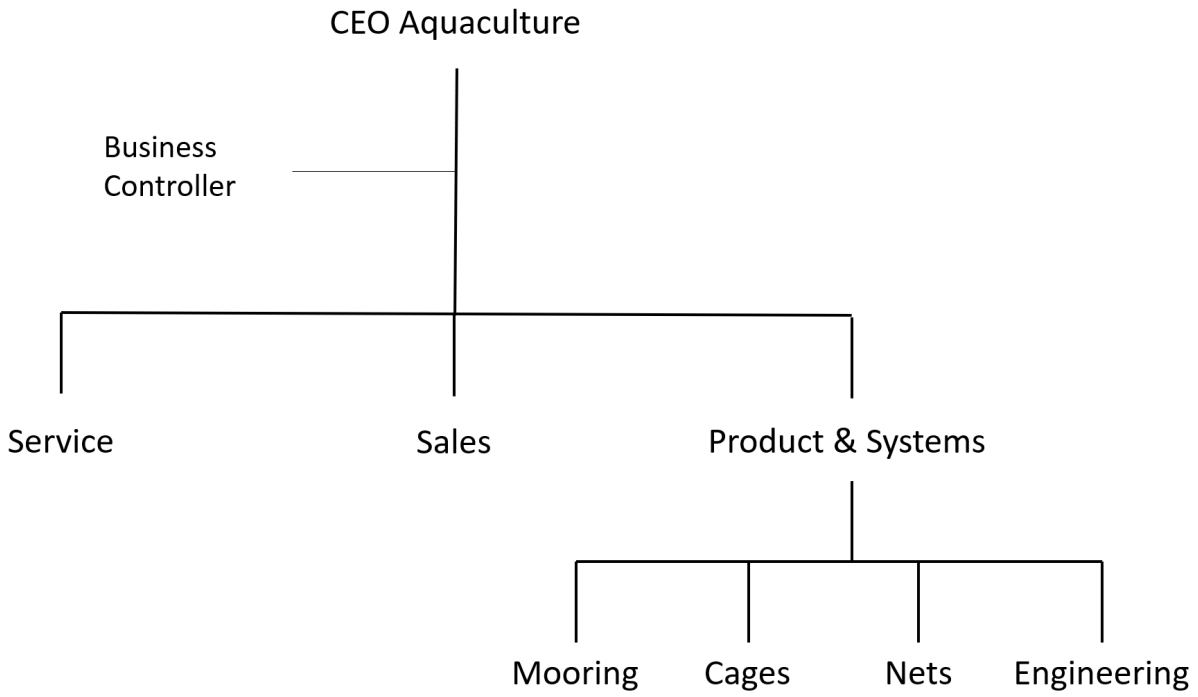

Figure 4.6: The Mørenot Aquaculture division structure after the restructuring in 2022

4.1.3 Fishery division

Mørenot Fishery has around 300 employees operating all around the globe. The employees of Fishery are dispersed across different locations along the coast, both in Norway and abroad. Around three-quarters of the employees in Fishery are employed abroad. Fishery sells to customers worldwide, and about 40% of its revenue comes from the Russian market. Fishery was separated from Mørenot AS in 2012 and organized as a separate division.

Division structure

Fishery has throughout history had three main segments: Purse seine, trawl and long line. Figure 4.7 shows the organizational structure of the division. Each subunit has a manager who reports to the CEO of Fishery. Each of the three segments is focused on a specific form of fishing equipment for specialized fishing boats. Trawls are huge nets dragged behind trawler ships either along the ocean floor or mid-water to gather fish. Purse seines are nets used to surround shoals of fish, pulling them towards the boat. Long lines are long fishing lines with many fishing hooks placed into the water behind the fishing boats.

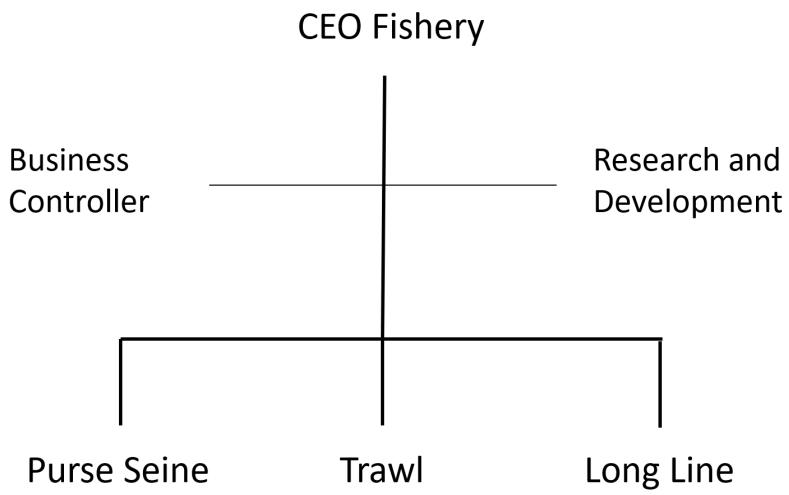

Figure 4.7: The Mørenot Fishery division structure

The Ocean Cleanup

The Ocean Cleanup (TOC) is a non-government organization (NGO) that seeks to clean up the great pacific garbage patch (The Ocean Cleanup, 2022). Mørenot Fishery got involved in this project through an employee working for them in the US, who had previously been working for TOC. The employees at the trawl department saw synergies between the competencies of their trawl department and what TOC wanted to do. When Fishery understood that it was possible to gain profits from this and future projects from the same customer, as well as this project being in line with the company's strategy regarding sustainability, they decided to take on the project. Fishery early discovered that they also needed resources from the engineering capabilities of Aquaculture to complete such a complicated project. Mørenot delivered System 2 in 2020, which is in use in the pacific ocean right now. And they are currently working on providing System 3 in 2022, which is a similar construction but much more prominent so that it can gather up more garbage. Thus TOC has become a success story of inter-divisional cooperation in Mørenot.

4.2 Case analysis

This section will use the dimensions of absorptive capacity presented in our theoretical background as a framework to structure our presentation of the empirical data gathered in Mørenot. We will sequentially go through both of the divisions in focus, with a section for each dimension in absorptive capacity to structure the data and analysis.

4.2.1 Aquaculture division

Recognizing the value

Mørenot is a company with a long history of being quality and customer-driven. As such, knowledge and experience within the field are viewed as very important. As stated by employee 16 in Aquaculture "Yes knowledge is what we are selling. So that is number one. It is very, very, very important to us with knowledge and experience". As described by employee 6, Mørenot also has several ongoing cooperative projects with other companies in the industry and research institutions like SINTEF. Due to this focus on the importance of knowledge and experience, Aquaculture seems to have quite a high level of insight into what is going on in the industry and possesses the requisite prior knowledge to recognize the value of new knowledge.

Acquisition

Traditionally Mørenot Aquaculture has been very customer-centric. Employee 12 in Aquaculture describes what they call the Mørenot culture as "focus on the customer and to take care of them". Employee 12 continues to explain how the separation into three divisions in 2012 and the subsequent fast growth through acquisitions has weakened this culture as "when you start to expand faster, it is easier to also lose the culture that lies underneath and the socialization process that is happening". The sentiment that they have lost some of their close contact with the customer as they grew bigger is shared by employee 5 at Aquaculture, who stated that before the contact with the customer happened more automatically as they were closer to product and production. However, it is worth noting that one of the goals of the reorganization of Aquaculture was to create a production department that is closer to the customer, which might address this issue.

Mørenot today has strategic partnerships with several larger customers. For example, they developed their product Mørenot Collect in cooperation with Lerøy. Mørenot Collect is a net that gathers up the waste from the fish farms to reduce their environmental impact on the ocean. There still seem to be some customer-driven products in Mørenot Aquaculture and they have just started new customer-driven projects related to IoT.

When it comes to strategic focus areas, two trends get attention in Mørenot Aquaculture. The first is sustainability, and there are several examples of working toward more sustainable business practices. One example is Mørenot Collect which gathers biological waste from the bottom of fish farms. The other is digitalization, and employee 6 in Mørenot Aquaculture describes how more and more of the customers are requesting data. This trend seems to be the motivation behind the creation of Mørenot Digital.

In conclusion, Mørenot Aquaculture seems to be very good at seeing and acting upon the larger relevant trends and signals. However, their contact with the customer has been weakened over the years, and this could be a problem if the restructuring does not sufficiently address it.

Assimilation

In Aquaculture, some warning signs are starting to show relating to how the customer's needs are communicated to the rest of the organization. Employee 9 in Aquaculture says that the number of attempts needed to get the mooring to stay in place is significant to the customer. Employee 9 explains that Mørenot does not seem to care about this and prioritizes profits over keeping the customers. When asked if they have lost customers because of this, employee 9 describes how Mørenot is continually losing their customers down south and is slowly trying to gain new customers further north along the Norwegian coast. However, they say that once these new customers have bought the product, they typically do not return to buy more.

In Mørenot Aquaculture, several employees describe what they call "walls" or "silos" between the different departments. This can be explained by the Aquaculture division being rather large and is spread across many countries and focusing on various products, which, in turn, lowers the need for information sharing between them. However, there also seem to be cases where they break down these walls, and there has been valuable learning for both sides even though they may be working on very different products. As described by employee 4, "we got our stuff and the others can keep doing their stuff. Getting them out of this way of thinking requires everyone to be gathered in one room with the intention to solve the problem". In general, the employees in the Aquaculture division seem to be capable of informal information sharing amongst those they work close with. However, this information sharing is not systematic and appears to not work well between departments. In the cases where standard procedures exist, they are often superficial and not very thorough.

There seem to be "walls" between units and also some degree of distance between regular employees and the management. For example, employee 4 describes trying to report problems with specific big fish farming projects, which eventually led to huge costs and the restructuring of the

entire division. Employee 4 was aware of the problem as early as the summer of 2020, more than a year before the top management became aware of the same problem. In this case, employee 4 was not taken seriously because they had just started working there and were met with an attitude of "this is not a problem and everything will be fine". Employee 4 points toward management being too far away from work being done and thus unable to make the best decisions and describe how this has led to many problems in the past year. Employee 4 also tells about the time another employee in Mørenot felt it necessary to pass by multiple levels of leadership and go directly to the top-level management. This resulted in rude comments from the employee's direct manager, such as "when they lift the problem so high up, they can just stand and take it themselves".

One reason why information sharing might not work as well in Aquaculture could be that the resources are strained, which leads to employees having less time to help each other. As stated by employee 12: "I have several times been in the situation where I have put stuff on hold because I know that a person is stressed and I do not want to burden them further". Employee 12 explains how people usually say yes when asked for help but that they do not have the time to help: "Everything will stutter when you don't have the time, as we have talked about today. It will just spread like a domino effect".

Furthermore, there seem to be huge cultural differences within Aquaculture when it comes to how people address each other in both conflicts and when giving feedback. Employee 9 describes how people try to avoid disputes and are not demanding things from others for fear of hurting their feelings. Yet others like employee 16 describe what they call a "rough culture", with an extreme focus on the negative numbers and parts where people are not delivering as expected. For example, employee 16 says: "You are almost afraid of reporting bad numbers because it will be uncomfortable to sit in the reporting meetings with taunts and harsh comments. Angry people are unpleasant, and you will do everything to avoid it". This could suggest a culture focused on assigning blame and focusing on the unsuccessful things. In addition to difficulties with reporting errors to both leaders and coworkers, there seems to be a lot of uncertainty amongst the employees of Mørenot Aquaculture. The recent restructuring has made a lot of noise and made many people insecure about their future in the company. As stated by employee 12: "Is it really necessary to restructure in this way, or could it have been done in another way without making so much noise in the organization and making people feel even more uncertain?"

As stated by employee 6, it is typically the best worker on the floor that becomes the site manager in Mørenot, even though they might not have any prior leadership experience or formal

training in management. This can create situations where a lack of competence makes them act in a suboptimal way in areas related to thing like HR management. Employee 6 explains that there are managers that simply avoid having employee interviews due to a lack of experience and confidence with such administrative tasks. However, it is important to note that improving the competencies of these managers has been stated as a focus area for the future. Another factor affecting employee uncertainty is the fact that employees are being measured and watched constantly. For example, during the recent Covid-19 pandemic, they widely used the home office. And as described by employee 10, who is a manager, he did not like its use because he: "thought home-office meant hiding-at-home office". Since then, however, employee 10 says they realized they were wrong and that even though home-office does not work for them, it works well for many other employees.

In sum, the information sharing and assimilation within Mørenot Aquaculture appears to be a bit low. One reason for this seems to be the strain on resources that limit the employee's ability to help each other. This, in turn, limits information flow between departments. Another reason seems to be a low degree of psychological safety which limits reporting errors and upward information flow in the organization.

Transformation

The employees of Mørenot Aquaculture generally seem open to experimentation and trying new things. There have been major investments in some big innovative new projects during the past few years. One example is investments in offshore closed facilities that do not utilize nets in the same traditional way. Even though these projects have been costly and have not been very profitable for the Aquaculture division, they suggest that the people working there are very flexible in their assumptions and open to trying new things outside of their current competencies. As described by employee 5 in Aquaculture, it is essential to have some "satellites" outside the core business to be up to date with the market changes and better prepared for the future. The real problem in Mørenot Aquaculture does not seem to be that they are too conservative and not open to trying new things, but rather that they have taken on too much responsibility and risk in some of the more innovative projects. This has led to huge losses and financial problems for the entire division, as they have not fulfilled the bottom-line requirements for profitability.

Exploitation

The answers vary among employees when asked how proactive they believe Mørenot Aquaculture to be. On the one hand, an internal strain on resources has made it hard to prioritize innovation. When asked if the workforce resources are sufficient, employee 9 responded that resources are not

sufficient at all, and as a consequence, the first thing to lose priority is innovation. Employees 4 and 9 describe how in Aquaculture internally, they are "continuously trying to extinguish fires". On the other hand, several interviewed employees in Aquaculture tell how they historically have been early at adopting and experimenting with new technologies. For example, employee 5 describes how Aqua Knowledge was early in acquiring deep knowledge regarding offshore fish farming. However, it is important to note that they were taking on more work than they could handle with these projects. This eventually led to massive losses, which ultimately triggered the reorganization of Aquaculture.

Mørenot has launched several successful innovations and Mørenot Collect and the Flexilink are examples of this. The Flexilink is a durable link used for the mooring of fish farms developed in Mørenot Aquaculture. The reorganization of Aquaculture has also attempted to improve its ability to create new innovative products. By making Mørenot Digital its own subunit, the hope is that this in the future will improve Mørenot's ability to develop new innovative products. When it comes to the willingness to invest in new development in Mørenot Aquaculture, multiple employees say there is little willingness to invest, at least compared to how it has been before. Employee 12 says: "Back then, it was the market and the knowledge we had about it that decided what the investments and budgets should be. Now you have a financial company that wants as much profit as possible." Similarly, employee 9 says:

> There have been some strategic miscalculations where some of the acquisitions may not have been so smart to do or not as expected. So they have now kind of stopped their whole willingness to invest and everything is supposed to go towards current operations.

Multiple people in Aquaculture describe a lack of resources to accomplish the tasks needed or at least that the resources are strained. Employee 9 describes the problem as follows: "What is a huge problem right now is that we have too few resources. This is completely independent of the restructuring process, even though it doesn't help." Similarly, employee 12 says: "Mørenot is in a position where I feel we have neither the means nor resources to get stuff done."

When asked how long it has been like this, employee 9 answered "for a long time" and that this was a problem before Mørenot was bought by FSN in 2018. One of the causes of this strain on resources could be related to the fact that tasks and responsibilities are not changed when people are put on projects separate from their daily work. Both employees 4 and 9 describe an issue where employees have multiple roles that causes them to have a lot to do. When asked if

goals were adjusted when assigned to projects like The Ocean Cleanup, employee 12 answered that they remained unchanged and that The Ocean Cleanup required a considerable amount of extra resources. In addition to this, employee 9 describes how they, regardless of projects, simply have too much to do in their daily work: "You cannot deliver on the expected level because too much is demanded. This kills creativity and progress and it becomes too much." When asked if the work-related resources are sufficient for the required tasks employee 9 responds: "Absolutely not. During a workday, I will get more entries on my to-do list than what I can complete. So it continues to grow each day." Employee 12 explains how the change process in Aquaculture has affected this: "When you are cutting costs in the number of employees, then, of course, it becomes more work on each employee. Who is supposed to alleviate that going forward?". The strain on resources eventually leads to the most urgent tasks taking priority, as described by several employees. Employee 2 says: "We have had to focus on current operations and to deliver on what is on the table, the most important, what is burning the most to put out those fires. This leads to us not having enough internal development". Similarly, employee 9 states:

> The most important to them is what is the most urgent, and then you downgrade the priority of everything else. You have an order of priority. Usually, that is sales, sales, sales and so on. Maybe some focus on the bottom line, perhaps some product development, or to ensure that the products we sell are good enough.

Cooperation between departments in Mørenot can be challenging and one of the reasons for this is their internal invoicing structure. Employee 4 in Aquaculture says: "We are not one Mørenot. We are invoicing each other and then it is all about what price we send along to the customer". Employee 9 in Aquaculture explains how before reorganizing, other employees of Aquaculture had to use a lot of time invoicing Aqua Knowledge to access their engineering resources. Employee 2 describes how this specific issue with accessing the engineering capabilities of Aqua Knowledge should be addressed after the restructuring, since the engineering resources will be an internal part of Mørenot Aquaculture and not its own business. However, internal invoicing is still in place elsewhere in Mørenot and might make it challenging for Aquaculture to cooperate with other divisions like Fishery in the future.

Navigating the decision-making process, in general, can seem to be challenging in Mørenot Aquaculture. Both employees 9 and 4 say that knowledge of the organization is needed to get stuff done and employee 4 describes that to get anything done, their boss might not be the best to talk to, and then you need knowledge of who to contact. One reason why the decision-making process seems hard to navigate might be, as employees 4 and 12 describe, that the decision-makers are

too far away from the subject of their decisions. Employee 4 argues that decision-makers are without the requisite knowledge to make the kinds of decisions they are making. Employee 9 describes how individual responsibility becomes diluted due to too many people being involved in decisions, resulting in no one taking responsibility. They explain how the R&D groups are an example of this, wherein everyone is discussing what they should do, but there are no project plans or budgets and every project is at a standstill because no one has a plan or the required resources.

To summarize, Mørenot Aquaculture seems to have their resources stretched very thin, which appears to be especially the case for employee work hours. In addition, the decision-making process can be challenging to navigate and it is not always clear who has responsibility for a specific task. All this results in a system in which good ideas and new projects are hard to get started, making it difficult for Aquaculture to exploit the knowledge absorbed by the division.

4.2.2 Fishery division

Recognizing the value

Mørenot Fishery can have close contact with the customers because many of their employees have a background as fishermen themselves and therefore have a lot of personal experience with and contacts within the industry. Employees also attend industry conferences, and employee 11 describes how one such conference inspired an idea they decided to implement, which now has become an industry standard. Both the knowledge of and experience within the industry, combined with their contact with other actors in the industry seem to allow the employees of Mørenot Fishery to recognize the value of new knowledge.

Acquisition

In general, the focus of Mørenot Fishery is very customer-centric. This does not mean that other external information is ignored, but the customers' needs and wants seem to be the biggest driver of decisions in Mørenot Fishery. This is exemplified by employee 3, stating that "we continuously have a finger on the pulse of the customer and what the customer experiences and what the customer wants". Testing new innovative solutions together with customers is common in Mørenot Fishery, and the customers are also described as willing to test out new experimental solutions proposed by Mørenot Fishery. Multiple people interviewed responded that the customers also sometimes approach them with new ideas.

The fishery market is in a period of consolidation, as described by several people interviewed. And as said by employee 3:

> [Fishing] quotas are transferable, and you can buy and sell them. For example, what earlier was three vessels can now be only one, which has taken the [fishing] quotas from those three. [...] Typically, one boat carrying the permits of three does not buy the same amount of equipment as the three would have, but maybe 1.3-1.4-1.5 times the amount of one small.

At the same time, there also seems to be consolidation on the supplier end through M&As, which can reduce competition on that end. Mørenot Fishery appears to be aware of trends like this due to their close contact with customers and suppliers. However, as stated by employee 3 in Mørenot Fishery, a growing population and increased focus on healthy eating and healthy proteins from fish will be necessary from a macro perspective. As such, they have a lucrative position from a mega-trend perspective.

Sustainability is a strategic priority for Mørenot as a whole, and steps are seemingly being taken to address some of the less environmentally friendly parts of the industry. Mørenot Fishery has, for instance, participated in The Ocean Cleanup, which is a project that seeks to clean up the great pacific garbage patch using Mørenot trawling nets specially designed for the purpose. On the other hand, a large number of Mørenot Fishery's profits come from bottom trawl, which is banned in several countries due to its environmental impacts. There is a risk of bottom trawls being made illegal in Norway. This could also happen in Russia, which is Mørenot's biggest customer for trawl, this is described by employee 1 as being taken seriously in Mørenot Fishery and is one of the reasons other types of trawl are more in focus now than earlier.

As Russia is one of Mørenot Fishery's biggest customers, a sanction preventing the export of fishing equipment to Russia would hit them very hard. Employee 10 explains that they have taken steps to mitigate the effects of such sanctions after the recent invasion of Ukraine, such as no longer selling on credit and sending out redundancy notices to employees working primarily in this market. Employee 6 also describes that Mørenot has access to a sanction surveillance system that lets them know if they can sell to the actors that want to buy their products.

In conclusion, Mørenot Fishery seems, in general, to be aware of different trends and signals relevant to their industry.

Assimilation

In Mørenot Fishery, employee 1 describes how people are located in the same physical locations, which makes the informal communication flow very easy. In Fishery, employees also share information at monthly meetings with the leaders, who are responsible for sharing it with their people

so that information spreads to wherever it is supposed to. Even though Mørenot is becoming a large company, employee 13 in Fishery still describes Mørenot as having a flat structure, where employees and middle-managers can quickly call their bosses to discuss things and ask for approval for the things they want to do. Employee 8 describes that at a lower level and in each of the business units, everyone knows each other and it is easy to discuss new ideas and talk to each other. And further, new employees in Mørenot must engage in conversations with others to learn which people have competencies in different areas. There is no formal overview for these competencies. Still, they describe Fishery as having a welcoming attitude towards coworkers who make contact to ask for help or simply engage in a professional discussion.

Several employees describe the culture in Fishery as open to reporting errors, from management to technical personnel. As stated by employee 3, "everybody makes mistakes and it is unnatural not to make mistakes. It is my position that if you do not make mistakes, you are not doing enough". And further, if someone makes a mistake, the most critical thing to management in Fishery is that the employees learn from it and do not make the same mistake again. Employee 11 describes that when the workers report an error, either if they have made it themselves or found an error made by others, they will celebrate by eating cake. They do this since it is much better to find errors, correct them and learn from them than to not find them leading to something dangerous or critical happening at sea.

In addition to having an open culture regarding the reporting of errors, employee 13 also describes a high acceptance for discussing and disagreeing. Nobody takes anything personally or gets offended if anyone interferes with their work, which they view as very positive since employees feel that they easily can present both positive and negative input to each other. The culture lets the people in Mørenot Fishery have good open discussions, enabling them to make the best decisions and create a positive attitude where no one becomes grumpy due to not being able to share their opinions.

The managers in Fishery build a psychologically safe environment by lowering the bar for reporting and not blaming people for their mistakes. If something experimental is being done and not going as planned, employee 14 says this is viewed as positive as long as you do something different the next time and learn from the mistakes. Trying and failing are allowed. Employee 11 explains that team spirit is also a focus area for middle managers. Something as simple as making waffles for their employees, which "makes them feel that we are in this together and are having each other's backs", creates a culture for helping each other.

In sum, information is easily shared within Mørenot Fishery, as there is an open culture for asking for help and having professional discussions with each other. The threshold for making mistakes and experimenting in their work is also low, which creates a safe environment for trying out new things, learning from them, and reporting if it does not go as planned.

Transformation

The fishing industry is old and very conservative, which is a label that also seems to apply to Mørenot Fishery. Most of the innovation done in this division is incremental upgrades strongly influenced by the customer's wishes. Employee 3 indicates that there is generally little willingness to invest in new, more explorative projects without solid indicators of the project being profitable. And states that:

> Employees must document all information and established truths, and only if you can document it will I consider if I can change my interpretation of the situation. If someone just states something, I will not accept it in my world, and then you must document your claim and your version of the reality.

The need for much convincing and thorough documentation is also supported by employee 6:

> People's ability to change varies from person to person. Someone goes straight into denial and wants to keep doing it the old way, even though it is proved wrong several times. But I feel that people mostly follow the changes I want to make, as long as I can present good enough evidence. The same applies when I want to change a process. If I can show concretely how we should do things and that it will be better because of these reasons, people will mostly join in making the changes.

This way of thinking points toward a relatively low degree of flexibility in the underlying assumptions of how the industry and market actually are. Even though Mørenot Fishery might seem to have relatively little flexibility in its underlying assumptions, this also seems to apply to the rest of the fishing industry. Employee 1 explains that new companies rarely enter the market and the existing ones are slow to change. Typically, the ownership of the existing companies is inherited and employees will stay in the same industry and companies for many years. Thus things will often be done in the same way as earlier and not change radically. Employee 3 argues that as of today, the way of fishing is highly effective when it comes to speed and cost. This might be one of the reasons why the industry is conservative, as radical changes are not considered necessary and will probably be very expensive to achieve successfully. Employee 13 argues that as the industry

is conservative, Mørenot Fishery is no more conservative than its competitors. Therefore, their focus is on seeing how trends are moving by finding out what the customers want and what their competitors are selling. Based on this, they are following those trends without breaking any barriers.

Employee 6 explains that the premise for Mørenot Fishery is the fact that the overall strategic objective for the division is to be in a "steady state":

> All our business plans are based on a "Steady-state". The fact that we have had a good growth every year so far is just a sign that we have taken market shares in a falling market. No actors are entering and stating that "there are huge growth opportunities, so we want to buy this". For example, when FSN bought us, they had Fishery in a "Steady-state" and the growth was supposed to come in Aquaculture, which was the driver for their acquisition. [...] In addition, there are synergies across Aquaculture and Fishery, which can help us stay competitive because you have half a billion in revenue within the same type of competencies and products.

This premise means that a colossal growth from the Fishery division is not expected in the coming years. Rather, it is supposed to act as a relatively safe revenue stream that they can maintain for many years to come. When asked if they could use the resources from the Russian market elsewhere, employee 3 in Mørenot Fishery answered that such a maneuver would be challenging. This is because 40% of the profits in Fishery come from the Russian market today, and due to shrinking demand, there is no alternative. However, with the TOC project, the division showed a remarkable ability to utilize their competencies about trawls to serve a completely different use and customer. This case shows that some parts of Mørenot Fishery can adapt when necessary.

When asked how proactive they believe Mørenot to be, all of the seven people interviewed in Mørenot Fishery answered that they thought they were proactive or at least not any slower than the rest of the industry. However, it is interesting to note that employee 1 talks about market research that showed that other people viewed Mørenot as a bit slow to change but still argues that they are not any worse than the competitors. Employee 14 says that they are very proactive in production and improving their products, but old-fashioned in their organizational structure and systems. As further described by employee 3:

> The fishery industry has a relatively conservative customer base, which will spread to the supplier side. If the customers do not want to make changes, the changes will be hard to realize. Using loads of money on innovative technology the customer does not want is hard to get through, and we can not throw away our money.

At the same time, employees in Mørenot Fishery are also involved in several more radical innovations. For example, employee 11 is involved in a computer program simulator for simulating how to fish with purse seines together with Kongsberg. However, these kinds of projects seem to be driven mainly by individuals rather than being pursued in an organized form. Another example of a project that differs from Mørenot Fishery's business as usual is the TOC project. In this case, employee 3 describes that after internal discussions, the project was approved as it seemed beneficial for Mørenot, both in terms of profits and sustainability, as it helped address a global problem that Mørenot's products were a part of creating initially.

In sum, Mørenot Fishery is a conservative business operating in a seemingly slow-moving industry. With the expectation for the division to be a steady income that is not supposed to take any significant risk, it has become a stable business with low flexibility in changing its underlying assumptions. They might thus have a hard time adapting to radical changes in the environment. However, this has not been problematic so far as the fishery industry historically has remained relatively stable.

Exploitation

When it comes to Mørenot Fishery's outlook on innovation, the main focus is on continuous improvements that they can develop with the customer. There are some examples of more radical initiatives. However, there seems to be a reluctance to invest in radical projects without apparent profitability. There are examples of more experimental projects internally, but these seem to be driven mainly by particularly interested individuals with relatively low costs. Considering the resource availability in Mørenot Fishery, there appears to be an understanding that if something is deemed important enough, you need to make time for it. Even though this will imply that they will not do other tasks with lower priority, this seems to be accepted by both other coworkers and managers. This also relates to if someone asks for help. As long as it is critical and helps the division make money, employees of Mørenot Fishery will always take the time necessary to get it done. Employee 11 describes how they are always available to help each other, even if it is after work hours and in their spare time, by saying: "If I call someone they will make the time. I can even call people in the evenings too. And I do not believe that people mind, as long as they feel they can help".

The practice of internal invoicing also applies to Mørenot Fishery, which has created some challenges with cooperation between the divisions in Mørenot. In the case of the TOC project, they had to use internal invoicing, as Fishery was the owner of the project in cooperation with some project management and engineering resources from Aquaculture. In this case, employee 3 says the management in Fishery got a deal where they paid a reduced hourly price for the resources in Aquaculture, which Fishery considered to be a fair price. However, employee 14 argues that Aquaculture was already stretched very thin on resources, and the fact that they could have gotten a better price for selling these hours externally, created some tension. Aquaculture did not get a cut of the profits from the project but got paid a reduced hourly price lower than what they could have made elsewhere. Employee 14 further reflects that even though internal invoicing is primarily meant to increase cooperation between the divisions by making it easier to utilize the extra resources. The fact that some divisions are already stretched to the limit makes it less appealing to set aside resources to help others as it does not increase their profit.

Like the Aquaculture division, Fishery also has a Research and Development group consisting of members from all business units within the division. Employee 11 says that this group has regular meetings, where the members can present the more innovative projects they are working on to discuss and get new inputs on how to make them succeed. There is not a list of projects they are supposed to work on in this group, but rather it is the member's responsibility to present and discuss projects. As described by employee 11, it is often the person that offers an idea that will continue working on it and takes the input given into account. This group is not structured with any budget or mandates to innovate, but instead functions as a discussion forum to promote innovation within the different business units.

During the last years, Mørenot Fishery has been profitable and has successfully more than doubled its revenue. They have built a good sense of what to invest in and who makes the decisions based on what it costs by having stable operations. For example, employee 13 explains that small, cheap changes to the products are typically made by the people working on the products without including the managers unless it is for their specific product competencies. Further on, employee 11 describes how changes and upgrades to products are decided through discussion within the business units until an agreement can be made, based on the different employee's competencies relating to the products and on what is already tested. If there are more significant, costly investments, employee 3 says that the managers in Fishery must be involved. It must then be documented that it is a good idea and that the division can make money on this project. When the managers are convinced, there will be set aside money to make it happen and the entire division will put its efforts into making the project a success.

In conclusion, Mørenot Fishery seems to have a good decision-making process and firm control over its resources. This makes them a profitable division with stable income, but it can also inhibit their ability to be explorative and may limit more radical forms of innovation. As such most of the innovation focus in Mørenot Fishery is very customer-driven and directed at incrementally improving existing solutions.

5 Discussion

This chapter will discuss the results of this master's thesis. First, we will do a cross-case analysis of the two investigated divisions and try to come up with some suggestions for what processes a global industry player must have in place to be able to sense and seize opportunities and threats. Then we will look into what implications our findings have for the existing literature on absorptive capacity. Lastly, we will utilize our conceptual model from reviewing the literature to discuss what implications the knowledge absorption in Mørenot can have for their proactive and reactive resilience level, and try to generalize how absorptive capacity can build resilience.

5.1 Cross-case analysis

We will now look at how the different divisions compare when it comes to their absorptive capacity based on the dimensions presented in the literature review. We will argue based on our findings that Aquaculture has a problem with assimilation and exploitation, while Fishery has a problem with transformation. These are processes critical for successful knowledge absorption. Even though it is possible to survive without some of these processes, it can negatively impact the company's long-term success.

5.1.1 Recognizing the value

Both divisions seem to be quite good at recognizing the value of new knowledge. They both emphasize the value of knowledge within the organization, and employees within each division seem to have long experience within the industry. Both divisions also seem to be quite well connected within their industry and are, in this way, able to recognize the trends that might hint at what knowledge might be of value and why.

5.1.2 Acquisition

Aquaculture and Fishery seem to be good at acquiring new relevant information from their environment. Both divisions seem to be aware of significant trends and signals in the external environment, like the need for sustainable products or other megatrends. McGrath (2019) argues that early signs of a coming inflection point often are weak and hard to detect, but as the inflection points approach, the signal grows in strength and clarity. Organizations usually pay attention to what is directly relevant to their current situation and what is right in front of them. However, early warnings of coming change often become visible in the periphery. As such, the periphery often suggests when it is time to shift strategic direction (Day & Schoemaker, 2004; McGrath, 2019). Both Aquaculture and Fishery seem to be good at paying attention to the periphery and at being tapped into the most significant trends and signals. However, the two divisions seem to differ when it comes to each division's focus on the customer's needs. Aquaculture is historically described as having close contact with the customer but has lost this closeness over the years. On the other hand, Fishery is described as being very sensitive to the needs of the customer. Aquaculture's reduced contact with the customer's needs could be a risk in the long run as this might lead to critical signals not being noticed early enough. In conclusion, neither division seems to struggle with acquiring new knowledge. However, Aquaculture's reduced customer contact needs to be addressed to avoid missing important signals in the future.

5.1.3 Assimilation

There seem to be several issues with information sharing in Aquaculture. This becomes visible in several ways and we would argue it is caused by three main problems: A structural issue, a lack of organizational slack and a cultural problem relating to a lack of psychological safety.

There are significant differences between Aquaculture and Fishery regarding their ability to make decisions. In Aquaculture, the customer's needs are not always communicated to the employees that need the information. This issue in Aquaculture stands in stark contrast to how the customer's needs in Fishery seem to be constantly communicated and understood throughout the division. Employees in Aquaculture also argue that decision-makers are too far away from the work being done and are thus less able to make appropriate decisions, leading to many problems for the division. This is a structural issue, as the decision-making authority does not lie with the people working on the products, but instead with their bosses, who often lack the competencies and insight needed to make good decisions. Several employees in Aquaculture also describe what they call "walls" or "silos" between the different departments. In contrast, employees in Fishery

describe Mørenot as having a flat structure, where employees and middle-managers can quickly call their bosses to discuss issues. In Fishery, it is also easy to discuss new ideas and talk to each other as everyone knows each other.

Aquaculture struggles with assimilation, as the customer's needs are not always communicated to those needing that information. Assimilation is an organization's ability to understand and internalize information obtained from external sources (Lane & Lubatkin, 1998). In the cases where the information in Aquaculture did not reach the right people, the issue was not in the organization's understanding of the issue, as the people noticing the warning signs seemed to be aware of the problem. However, we argue that the problem was not understood well enough by the people responsible for passing the information along. One could also relate the issue to internalizing the knowledge within the organization, i.e., the information reaching the people responsible for fixing the issue. This issue seems to be structural, as Aquaculture's structure does not facilitate an appropriate flow of information between relevant employees within the division. However, one thing worth noting is that one of the goals of the reorganization of Aquaculture was to create a production department that is closer to the customer. As such, it is possible that the restructuring will help to resolve this problem.

The lack of organizational slack in Aquaculture inhibits innovation as employees do not have the time to help each other. Multiple employees in Aquaculture describe that it is hard to receive help when asking for it. This is often due to the person asked being too busy to help. On the other hand, Fishery focuses on team spirit and has a welcoming attitude towards coworkers who ask for help. Proponents of organizational slack have historically argued that slack leaves room for experimenting with new strategies and innovative projects, thus being essential for innovation (Nohria & Gulati, 1996). We argue that in Aquaculture, the lack of organizational slack is harmful to innovation and inhibits cooperation and learning behaviors by limiting the employee's ability to help each other.

Several signs indicate that Aquaculture has a relatively low level of psychological safety, resulting in people not always speaking up when there is an issue. The culture in Aquaculture is described as a bit "rough" and several employees describe how conveying bad news could lead to receiving harsh comments. By contrast, in Fishery, the focus seems to be on learning from mistakes rather than assigning blame. In Fishery, employees are encouraged to speak up, and one employee even described how noticing a mistake often is celebrated with cake. Edmondson (2003) showed how team leaders who facilitate the team members to speak up make the implementation of new practices more likely to succeed. The benefits of teamwork are better realized when leaders

create psychologically safe conditions. In the case of Aquaculture, it would seem that a lack of psychological safety inhibits the division from functioning effectively. Todorova and Durisin (2007) argue that social integration mechanisms influence all dimensions. However, in the case of Aquaculture, we observe how a lack of social integration mechanisms mainly causes problems with assimilation as it inhibits the dissemination of central information within the organization.

5.1.4 Transformation

Fishery seems to be relatively rigid in its underlying assumptions and as a result risk becoming vulnerable to radical changes in the industry. Although one could argue this is not unnatural given the industry's conservative nature, it nevertheless seems Fishery has a rigid mindset regarding how the industry operates and will continue to operate in the future. There appears to be an openness to new information and employees describe how well documented evidence is needed for their outlook to change. Furthermore, the business plans of Mørenot build on Fishery being in a "steady-state", while Aquaculture is supposed to focus on growth. Aquaculture, by contrast, seems open to new ideas. One employee in Aquaculture describes it as essential to have "satellites" outside of the core business to be up to date with the changes happening in the market and be better prepared for the future. McGrath (2019) argues that the risk of being too fact-driven is that facts are often lagging indicators and by the time you are dealing with these facts, whatever led to it has already happened. Leading indicators "represent things that are not facts yet in your business" (McGrath, 2019, p. 46) and signal approaching inflection points that organizations should pay careful attention to. Therefore, one can argue that the risk with Fishery, requiring well-documented evidence to change assumptions, is that this can lead to a strategy solely based on lagging indicators. This, in turn, can make Fishery vulnerable to more radical changes in the industry.

Fishery intends to continue to sell to the Russian market, which now constitutes around 40% of their income. A significant part of the sales in Russia is from bottom trawls. Signals like the sanctions against Russian aggression in Ukraine and several nations banning bottom trawls for environmental reasons can be seen as current or even leading indicators. However, when asked if they could use the resources on the Russian market elsewhere, the response was that such a maneuver would be challenging. This is because of the high percentage of income from the Russian market and there is no alternative market to turn to. Furthermore, one could argue that it could become even more costly to later make such changes reactively than trying to make more radical changes now. It is worth noting that Fishery has taken some steps to address both of these issues. They have started work on other types of trawls and have begun developing solutions to

reduce some of the environmental impacts of bottom trawls. They have also sent out redundancy notices to certain employees associated with the Russian market. The question is whether these changes are radical enough to mitigate the negative impacts should the circumstances of the market change.

Fishery primarily focuses on exploitation and risks their competencies becoming rigid, making it difficult to change in the future. McGrath (2019) argues that as organizations focus on exploiting, the assumptions their current strategies build upon might become outdated. Organizations must therefore challenge their beliefs and what they know as the truth rather than trying to prove that they are right. When only focusing on exploitation and optimizing current operations, a company's core capabilities can turn into core rigidities. Thus Fishery having rigid underlying assumptions and only focusing on exploitation could lead to a rigid organization that is harder to change in the future.

5.1.5 Exploitation

Having sufficient organizational slack is essential for a firm's ability to innovate. Multiple employees in Aquaculture describe the resources as being rather strained and employees not having the time to help each other or to prioritize innovation. By contrast, in Fishery, there seems to be an understanding that if something is viewed as important enough and allows the division to make money, employees of Mørenot Fishery will always take the time necessary to get it done. Organizational slack is the pool of resources in an organization that exceeds the minimum level needed to produce a given level of organizational output. Nohria and Gulati (1996) argue that the link between innovation and slack has an inverse U relationship where both too little and too much slack is harmful to an organization's ability to innovate. Slack is needed for innovation, as having too little slack leaves less room for any kind of experimentation whose success is uncertain. This, in turn, is an essential factor in facilitating innovation.

There seem to be two leading causes behind the lack of organizational slack in Aquaculture. First, as several employees in Aquaculture explain, when employees are assigned to projects, their current work responsibilities are not adjusted to make time for the extra work. This is known as the two bosses problem, wherein two bosses (usually a line manager and a project manager) utilize the same employee resources without coordinating (Maylor, 2010). This causes strain on the employees caught in the middle leading to more tasks assigned than can realistically be accomplished. Second, even when assigned tasks within the scope of their positions, several employees describe being given more work than they can carry out. In political science, this is

referred to as an unfunded mandate, meaning "regulations or other requirements imposed by a higher level of government on a lower one, but without accompanying appropriations to cover the cost of compliance" (Ballotpedia, 2022). In other words, tasks are not assigned relative to the resources available and more tasks are assigned than can be accomplished. Both these effects lead to individuals prioritizing the most urgent tasks, as described by several employees. This, in turn, causes a fixation on short-term goals and sales figures rather than long-term growth and innovation. In addition, several employees in Aquaculture described at some point in their career in Mørenot as having experienced burnout. Some of these employees cited the workload as a reason for people deciding to leave Mørenot Aquaculture. If not adequately addressed, this lack of organizational slack and high workload could also lead to Aquaculture potentially losing talented individuals to its competitors.

A reduction of variance is primarily beneficial in stable environments and a low level of organizational slack can have negative consequences for future growth. Benner and Tushman (2002) argue that process management seeks to reduce variance and that this may lead to companies prioritizing exploitative over explorative activities. A reason for this is that exploration often requires activities associated with increased variation and uncertainty, like improvisation or brainstorming. With the lack of organizational slack in Aquaculture, there seems to be little room for exploratory activities or any other sort of variance. In their 2003 article, Benner and Tushman argued that while process management could benefit companies in stable environments, exploitative capabilities are also needed for innovation and change. In Mørenot, the objective of Aquaculture is to focus on growth, while Fishery is supposed to be in a "steady-state". As Aquaculture operates in a less conservative and static industry, this can, to some extent, make sense. However, following Benner and Tushman's (2003) argument that a reduction of variance is primarily beneficial in stable environments where one could more easily optimize exploitation. An unstable environment requires the ability to explore, as such, the low level of slack and less room for variance in Aquaculture can have negative consequences for its future growth. In addition, Aquaculture is in a process of cutting cost through restructuring, this can be seen as a reduction in slack and variance. As Aquaculture does not necessarily operate in a stable environment and already have an issue with a lack of slack, this could lead to problems with their ability to innovate in the future.

Internal invoicing is inhibiting cooperation between divisions in Mørenot. Multiple employees in Aquaculture describe how the decision-making process can be hard to navigate and several explain how you need prior knowledge of who to talk to to get stuff done. By contrast, the employees of Fishery describe no such issues. However, internal invoicing seems to have led to

problems for both divisions when cooperation between them has been attempted. These issues seem to be resolvable for larger projects like TOC but the process of finding solutions is time-consuming. The issue rather appears to be internally getting the help needed for smaller tasks. The way internal invoicing is practiced in Mørenot seems to discourage this sort of cooperation, even when it might be beneficial for Mørenot as a whole. The system is designed such that the department selling its resources through internal invoicing has no incentive to take on internal tasks, as it by design is less profitable to sell services internally than externally. One way to avoid this issue would be to design a system where all involved departments could get a share of the profits of a cooperative project, regardless of which department owns the project.

5.2 Theoretical implications for Absorptive Capacity

This part of our discussion will focus on the theoretical implications our observations have for the theory surrounding absorptive capacity. First, we will discuss which of the conceptualizations of absorptive capacity best explains our data from Mørenot. Secondly, we have found that the absorptive capacity literature does not cover all factors that inhibit the absorption of knowledge in Mørenot. Thus we will present our suggestions for how organizational slack can fit into the model of absorptive capacity and how these changes influence the model. Lastly, we will conclude by using our reconceptualization to answer how a global industry player can sense and seize opportunities and what processes are needed to facilitate this.

5.2.1 Support for existing theory

Our empirical data from Mørenot shows that it is possible to transform without assimilating. Aquaculture manages to transform their cognitive structures and arguably reexamine underlying assumptions and adapt these structures to radical changes in their environment. However, they seemingly struggle with assimilation, which seems to be caused by a lack of error-reporting combined with a low level of psychological safety. In addition, they do not have the time to help each other, which limits cooperation and thus assimilation. This implies that they manage to transform and change their cognitive structures in the Aquaculture division, despite having issues with assimilation. Even though they are successfully transforming, Aquaculture is having trouble with exploitation, which might be one of the reasons for them not reaching the desired level of profit. All this together suggests that it is possible to transform without assimilating, thus suggesting that assimilation and transformation are not sequential steps.

There is evidence in Mørenot for assimilation and transformation as alternative steps and not sequential. Fishery seems very successful in their assimilation and they are also often able to successfully exploit new knowledge. However, the Fishery division appears less adept at transformation and are thus less able to adapt to radical changes in their environment. However, they are very good at adapting to small changes and making incremental adaptations to their products. The Fishery division is seemingly worse at doing transformations than the Aquaculture division while still being better at assimilation and exploitation. This implies that our empirical case study contains evidence for the paths of assimilation and transformation not being sequential as proposed by Zahra and George (2002). Our empirical data instead suggest they are alternative paths, as introduced by Todorova and Durisin (2007), where one can happen without the other or in any order. As such, our data support the structure proposed by Todorova and Durusin's (2007) model.

5.2.2 Organizational slack's influence on absorptive capacity

This section proposes three changes to Todorova and Durusin's (2007) model for absorptive capacity. First, we suggest the introduction of organizational slack as a factor influencing all dimensions of absorptive capacity. Second, we emphasize the value of social integration mechanisms for absorptive capacity and suggest that organizational slack also affects an organization's social integration mechanisms. Third, internal power relationships were deemed by Todorova and Durisin (2007) to mainly affect exploitation, but having a moderating effect on all parts of absorptive capacity. However, we argue that internal power relationships influence organizational slack, which in turn influences all dimensions of absorptive capacity. Internal power relationships are thus only having a direct influence on exploitation but an indirect influence on the other parts of absorptive capacity through organizational slack. The changes proposed are illustrated in gray in Figure 5.1.

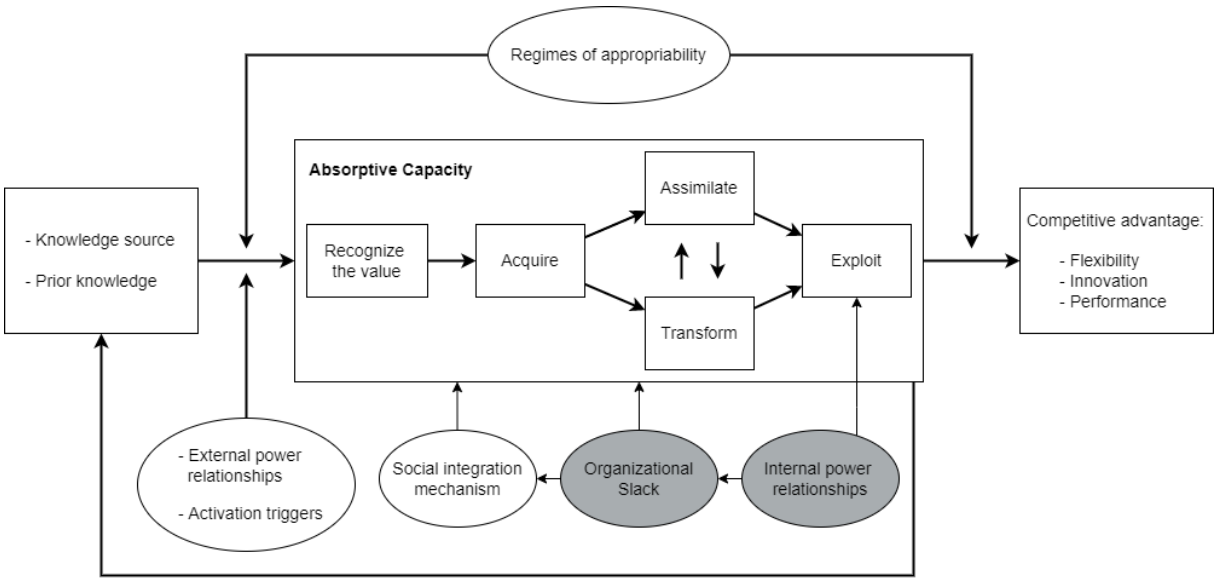

Figure 5.1: The introduction of Organizational Slack to Absorptive Capacity

Introduction of slack to the model

Based on our empirical findings, we propose introducing organizational slack to Todorova and Durusin's (2007) model of absorptive capacity. Organizational slack is the resources in an organization that is in excess of the minimum required to produce a given output (Nohria & Gulati, 1996). We have seen that in Aquaculture, there are not enough resources to produce the desired outcome and thus a lack of organizational slack. While in Fishery, the desired output is created, but there are seemingly little excess monetary resources to invest in more radical innovations. The absorptive capacity of the divisions is affected by the lack of organizational slack. In our case, the impact becomes most apparent when it comes to the division's ability to exploit and, to some degree, the level of assimilation in Aquaculture. However, we argue that a lack of organizational slack will influence all dimensions of absorptive capacity in the following ways:

- **Recognizing the value:** A lack of slack discourages employees from gaining knowledge that is not directly related to the work being done. This could in turn lead to the value of knowledge outside the immediate focus of a certain employee not being recognized due to a lack of prior related knowledge.
- **Acquisition:** A lack of slack leads to innovation being down-prioritized, and thus less knowledge is acquired. Employees stop looking for new opportunities when they do not have resources and will therefore only focus at things right in front of them and thus acquire less new knowledge from more peripheral sources.

- **Assimilation:** A lack of slack leads to employees not having the time to help each other or the time to talk to each other. This will create less interdepartmental cooperation in projects etc., because everyone has to prioritize what is most urgent for them. Thus fewer new ideas and less knowledge is assimilated into the organization.
- **Transformation:** A lack of slack leads to employees being too busy for solving operational tasks and thus have less capacity to focus on making more radical changes or challenging their current assumptions. Therefore less time is devoted to thinking in new ways about old problems and the organization will keep solving its problems in the same way.
- **Exploitation:** Even though new knowledge is acquired and assimilated or transformed in the organization, departments with strained resources will not have the time or money to implement the changes necessary to exploit it. Thus the competencies within the organization are not utilized to capitalize on this new knowledge.

Organizational slack, in the form of a cash resource, is a factor influencing the transforming activities within absorptive capacity (Choi & Park, 2017). This is consistent with our observations in Mørenot, as Aquaculture has recently had projects exploring more radical innovations like their work on offshore fishing farms. The financial costs of undertaking such projects have led to huge losses and low short-term performance. At the same time, there has not been much organizational slack in Aquaculture that could have helped reduce the short-term negative impacts of having to undergo such transforming activities. On the other hand, the Fishery division primarily does homogeneous non-transforming activities, which do not require slack to mitigate the negative impacts on short-term performance (Choi & Park, 2017). Thus the Fishery division has performed well even without having much organizational slack. But having such a high degree of homogeneous absorptive capacity can, according to Choi and Park (2017), in some cases, not be beneficial in the long term.

The financial owners of Mørenot might prioritize short-term profitability over long-term growth which may influence the organizational slack of the company. Lazonick (2014) describes how prioritized shareholder interests could negatively affect the company's growth and employee wages. For example, in many cases, stock buybacks are used solely to increase shareholder profits through increases in share price rather than the same money being invested to fuel growth in the company or increase employee wages (Lazonick, 2014). Mørenot has a financial owner in FSN, which has some power over them and is thus a significant actor within Mørenot when deciding what to prioritize. Financial owners have incentives to have slightly different prioritizations than the organization's long-term growth. They might have incentives to focus on short-term increases

in share price above the company's interest and its employees (Lazonick, 2014). This could create a situation where cost reduction and process management interventions, which increase the company's short-term profitability but might hurt its long-term growth, look beneficial from a shareholder perspective. In this way, financial owners have incentives to cut costs and reduce organizational slack through process management. Thus this relationship could directly influence the organizational slack in Mørenot.

Organizational slack's influence on social integration mechanisms

Another role that slack might have in the model of absorptive capacity is as an influence on the social integration mechanisms. The dimensions of absorptive capacity require different levels of social integration mechanisms to be fully activated. A medium level of social integration mechanisms is needed to enable maximum levels of acquisition, assimilation and exploitation. At the same time, a high level of social integration mechanisms is required to allow for the top level of transformation (Dávila, Andreeva, & Sætre, n.d.).

Helping each other and giving feedback are central social elements for internalizing information throughout an organization. As we have seen in the Aquaculture division, several employees describe that they do not have the time to help each other and do not have the time to consider feedback from coworkers. As Aquaculture appears to have a problem assimilating the knowledge they acquire, this can suggest that they do not have the needed amount of social integration mechanisms to enable the required amount of assimilation. If there is not enough organizational slack to facilitate employees talking to each other, they will not assimilate new knowledge. Thus, a lack of organizational slack might also affect the organization's absorptive capacity by negatively influencing the degree of social integration mechanisms.

Furthermore, employees in Fishery say that they always find time to help each other and get the most important things done, but they also describe always being busy and having a lot to do. This suggests that there is not considerable slack in the Fishery division either. As Fishery does not undergo many transformative activities, this might be related to a high level of social integration mechanisms being needed to transform successfully. The lack of organizational slack might inhibit them from reaching the required level of social integration mechanisms, making it more challenging to transform their cognitive structures. In this way, we emphasize the value of introducing organizational slack to the model of absorptive capacity, as it affects not only all dimensions directly but also the social integration mechanisms.

Power relationships and Psychological safety

Our empirical data shows examples from the Aquaculture division that power structures and

decision processes directly influence their ability to exploit new opportunities. Thus we agree with Todorova and Durisin (2007) that power relationships mainly affect exploitation through control over the resource allocation process. Todorova and Durisin (2007) argue that power relationships have a moderating effect on the other dimensions of absorptive capacity. However, we would argue that power relationships affect the resource allocation process and thus lay the foundation for where in the organization there is slack, in turn, a lack of slack affects all parts of absorptive capacity. Therefore power relationships affect the entirety of an organization's absorptive capacity through its influence on slack.

A central concept related to the internal power relationships of organizations is psychological safety. Psychological safety refers to team members' beliefs that it is safe for interpersonal risk-taking (Edmondson, 1999). Additionally, it has been shown that in teams where the leaders facilitate for members to speak up, the implementation of new practices is more likely to succeed (Edmondson, 2003). We observe that a pressure to deliver profits with scarce resources has led managers in Aquaculture to not facilitate team members speaking up by making it unpleasant to report bad numbers. By doing so, employees have become afraid of speaking up when they notice something that is not functioning optimally. We believe that this use of power relationships has created a rough culture, which has led to a lowered psychological safety.

In conclusion, answering how global industry players anticipate new opportunities and threats before the window to act has passed and what processes must be in place to sense and seize these opportunities. We argue that companies need a level of absorptive capacity to accomplish this successfully. We further argue that organizations need to be able to both transform and assimilate. This requires both a willingness to change underlying assumptions and a certain level of social integration mechanisms. Our empirical findings support this as we have observed the negative consequences of lacking the ability to do either one in Fishery and Aquaculture. Both of these are also facilitated by a psychologically safe environment for employees. Observations in Aquaculture show how a lack of psychological safety negatively impact absorptive capacity, especially related to the sharing of relevant information. Exploiting opportunities requires a willingness to invest in innovative projects and a decision process that is able to scale up good ideas. Observations in Fishery shows how a how a lack of willingness to invest in projects without well documented potential could limit more radical innovation, while observations in Aquaculture show how decision processes that are hard to navigate could harm an organizations ability to innovate. Lastly, we argue that a certain level of slack is required to enable all of these processes. Observations i Aquaculture show how a lack organizational slack limits absorptive capacity by leaving less room for experimentation and innovation.

5.3 Linking Mørenot's Absorptive capacity to Resilience

This section will utilize our results from reviewing the literature to discuss how absorption of knowledge from the environment can be used to build resilience in the face of adversity and ensure long-term success. This literature review looked into what links absorptive capacity and resilience. As presented in the theoretical background section (ref. section 2.7), we created three conceptual models to describe this link. Now, we will look into some of the findings surrounding absorptive capacity in Mørenot and discuss what implications this can have for Mørenot's resilience. First, we will look into the environmental scanning in Mørenot and how, according to their mindset, they will either build reactive resilience through an operational focus or proactive resilience through a future orientation. Second, we will discuss their innovative capabilities and how this helps them build either reactive or proactive resilience. Third, we will examine their dynamic capabilities and how this can only build reactive resilience. Finally, based on this analysis we will attempt to answer how knowledge absorption can build resilience in the face of adversity and ensure long-term success. As an organizations resilience is hard to measure at any current moment, we will base our assessment of what factors are needed for resilience on what is stated by the current literature. We will in this section analyze how absorptive capacity could help build these secondary factors and argue how these factors would build resilience.

5.3.1 Model 1: Environmental Scanning

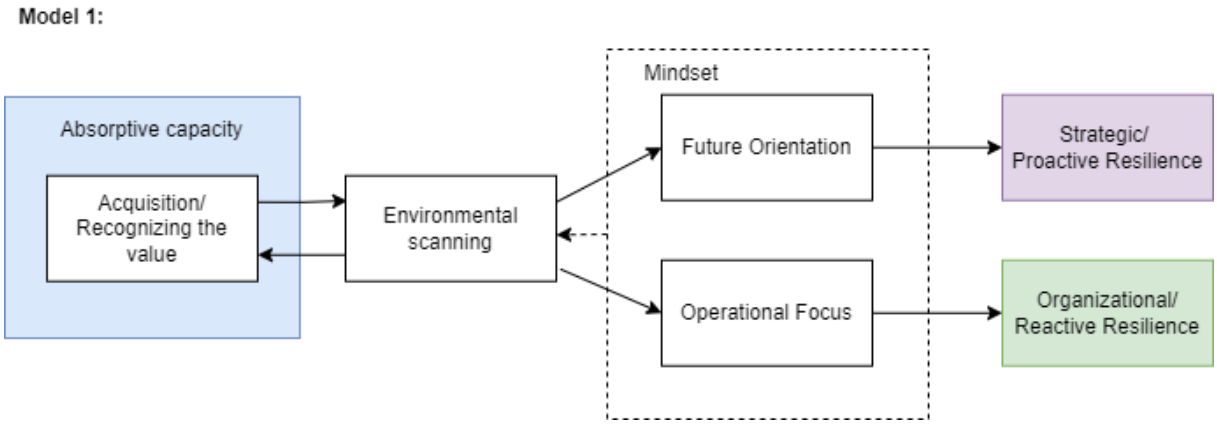

Figure 5.2: The first model of how absorptive capacity influences resilience

Our first model presented in the theoretical background concerns a firm's ability to scan the environment, interpret signals through their mindset and how this relates to its resilience. In essence, this is an interpretation of the affordances the environment presents for the firm, or in other words, the threats and opportunities it introduces, which is up to the firm to interpret

according to their mindset. The elements of future orientation and operational focus within the model are linked to the prioritization between exploitation and exploration, whether to prioritize value capture and short term profits or innovation, value creation and long-term growth. This is a paradox all organizations must handle to succeed.

Fishery and Aquaculture both seem to be adopting an operational focus. When it comes to the Fishery division, all employees interviewed consider the division as proactive or at least not any worse than the competitors. However, through market research, the customers have stated that Fishery is a bit slow to change. In Aquaculture, most employees say that they are very reactive and continuously try to put out fires. In the past, there seems to have been a focus on exploring new opportunities in Aquaculture. However, due to some failed investments, the focus seems to have shifted to prioritizing short-term profit. In general, Mørenot appears to have changed to a more operational focus. This mainly applies to Fishery, but Aquaculture seems to be moving in the same direction. One of the reasons for the seemingly operational focus in Mørenot could be their strategic priorities having a rather operational focus. Looking at the five current strategic priorities, we argue that most are operationally oriented. This can be because the time horizon for these priorities is relatively short-term, as the strategic framework generates a plan for only three years ahead while only considering the next five years. Based on these observations and Model 1, shown in Figure 5.2, we argue that Mørenot primarily has an operational focus, which only helps them build reactive resilience.

One way to handle the paradox of exploration and exploitation is by vacillating (Boumgarden et al., 2012). We argue that Aquaculture has been in a period of exploration for the past years and is now moving into a period of exploitation. This can be the right strategic choice for Aquaculture at the moment. Still, it will be essential for them not to forget exploration and move back again after some time to build up their explorative capabilities. Another way to handle the paradox is building an ambidextrous organization (O'Reilly & Tushman, 2008). In Mørenot, some parts are more focused on innovation than others, for example Mørenot Digital. One could argue that innovation focused business units like Mørenot digital, to some degree, help create an ambidextrous organization. However, they are primarily focused on developing new digital products. As such, it is crucial not to forget to explore new other types of products too. Fishery and Aquaculture still mostly have an operational, which only helps them build more reactive resilience. This can imply that they will be less able to anticipate future inflection points that can drastically change how they need to run their business. Building on this, we would argue that some of these inflection points are already visible on the horizon, for example, regulations on bottom trawl and sanctions towards the Russian market.

Our observations align with model 1 as we observe how an operational focus leads Mørenot to prioritize short term profit over long term growth. We argue based on the current literature that this builds reactive resilience, as the main focus is on the current circumstances and market situation rather than any future state. We argue this leads a company to being less able to anticipate potential shifts in the market as current assumptions remain unchallenged.

5.3.2 Model 2: Innovative Capabilities

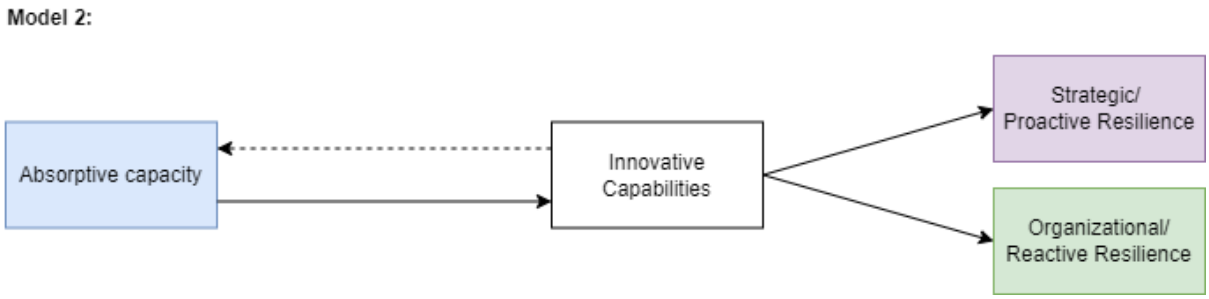

Figure 5.3: The second model of how absorptive capacity influences resilience

Mørenot, in general, seems to be rather good at launching continuous innovations, but the amount of radical innovations appears to be low. There seems to be some difference between divisions as the Fishery division is good at creating continuous innovations that address the customer's needs. However, these innovations do not seem to be very radical. On the other hand, Aquaculture appears to have lost contact with the customer in recent years, reducing this type of customer-driven innovation.

Aquaculture has been exploring more radical innovations in the last couple of years, like their work on offshore fishing farms. However, these projects proved to be very costly without any visible returns and were at least partially scrapped. This seems to have lowered the willingness to invest in innovations in Aquaculture. However, the low willingness to invest could also be temporary and a result of restructuring the division. McGrath (2019) argues that organizations should focus on making many little bets rather than a few big ones to make it easier for good ideas to get a foothold. One could similarly argue that instead of making a few large investments, Aquaculture could rather make several small investments into more radical ideas and then scale up what works. There are several examples of less expensive investments into innovation projects in the Fishery division, like smaller changes made to existing products. There also seems to be some more explorative innovation projects like the computer simulator being created with Kongsberg. However, these types of projects seem less common than the innovation projects focusing on continuous innovations. This could be because Fishery seemingly requires substantial

documentation of proven potential before granting any investment. This investment philosophy could, in turn, disproportionately harm more radical explorative projects, as such projects often have more uncertain outcomes.

Based on these observations and Model 2, shown in Figure 5.3, we would argue that the way Mørenot as a whole does innovation mostly builds reactive resilience. The factor stopping Fishery from building proactive resilience is the willingness to invest in more radical projects. Aquaculture's proactive resilience is mainly limited by reduced customer contact and a general lack of resources, both in terms of labor and monetary investments.

Our observations align with model 2 as we observe how an unwillingness to invest in more radical innovation limit Mørenot's ability to generate new competitive advantages. We argue based on the current literature that this builds reactive resilience, as any current competitive advantage is transient and new competitive advantages must be actively pursued in order to be truly proactive.

5.3.3 Model 3: Dynamic Capabilities

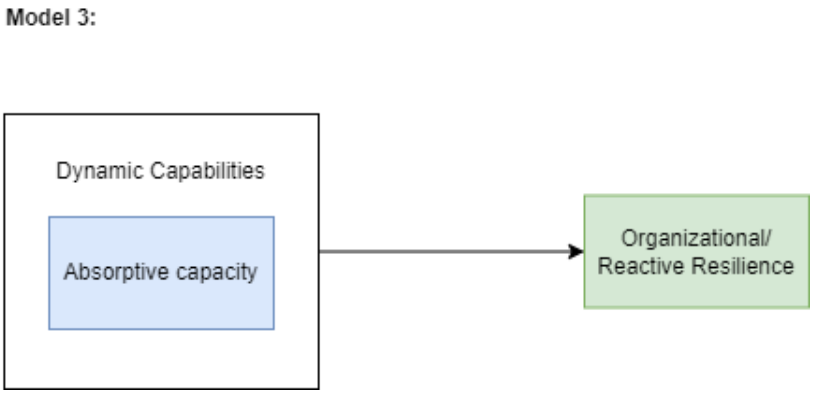

Figure 5.4: The third model of how absorptive capacity influences resilience

Mørenot seems adept at making minor course-correcting adjustments to stay dynamic relative to its environment. Fishery appears to be good at this, perhaps primarily due to close customer contact. Aquaculture seems to be less dynamic, but our impression might be biased due to the restructuring happening simultaneously with our data collation. Based on these observations and Model 3, shown in Figure 5.4, we would argue that both Fishery and Aquaculture have a level of reactive resilience resulting from their dynamic capabilities. We would further argue that due to Fishery being seemingly more dynamic than Aquaculture, they are by their dynamic capabilities granted a higher level of reactive resilience.

Our observations align with model 3 as we observe how Fishery's close customer contact allows them to make course correcting adjustments to stay dynamic in its environment. We argue, based on the current literature, that this helps build reactive resilience as it helps a company react early. However it does not build reactive resilience as the focus is on the current situation rather than a future state.

In conclusion, for knowledge absorption to build resilience in the face of adversity and ensure long-term success, organizations must consider both their reactive and proactive resilience. First, they need to handle the paradox of whether to explore or exploit, which is linked with whether they apply an operational or future-oriented mindset. In Mørenot we observe how an operational focus leads to short term profits being prioritized over long term growth, which we argue limits the level of proactive resilience in favor of reactive resilience. Second, they must be willing to invest in more radical innovations to build proactive resilience. One way to invest in radical innovation without taking too much risk is by having an innovation portfolio where the ideas with potential are scaled up. In addition, to stay reactive, organizations must also be able to innovate continuously based on the customer's needs. We observe in Mørenot how rigid underlying assumptions and a focus on the current market limit the investments into more radical projects. We argue that this in the long run could limit proactive resilience as new competitive advantages must be pursued in order to stay competitive in the long run. Finally, to ensure that they have some degree of reactive resilience, organizations must also build their dynamic capabilities, which will help them adapt when facing adversity. We observe in Mørenot how close contact with the customer allows them to stay dynamic relative to their environment. We argue that this generates reactive resilience as it may strengthens the organizations ability to react to approaching adversity. However, it does not build proactive resilience as it concerns the current state of the market without considering how it might change.

5.4 Limitations

There are also some limitations regarding our work that we must address. First, all data gathered in this master's thesis comes from one company. Even though the data is from two different departments operating as separate divisions, there will be a limitation for what our findings can imply for other cases outside Mørenot. As we are only looking into one case company, the situation can be completely different from other cases and thus the same phenomena might not be observable elsewhere (Siggelkow, 2007).

Second, our sampling could have introduced some level of selection bias, as our contact person in the case company was responsible for setting us in contact with the people we chose to interview. We tried to mitigate this by setting some requirements for which categories of people we wanted to interview and we had the final say in whom of the proposed candidates to contact. Even still, this might have inserted some form of bias, where our contact might have proposed the individuals most likely to speak positively about the case company to us. However, our results show that many interviewed people have talked openly about big problems in both divisions. This might imply that the individuals we have spoken with have been open and not trying to hide problems from us. Furthermore, as Mørenot where the ones paying for the travel expenses related to our data collection we are to some degree are doing work for them. This poses an ethical dilemma for us as we have a responsibility as researchers to remain unbiased. However, as we had the final word in every decision, and management in Mørenot have stated they want our honest and unfiltered assessment of them as a company, this should not be an issue.

Third, we based our interview guide on a relatively theoretical subject within management science and this has influenced what kind of questions we have asked. Some of these questions might be based on abstract concepts that can be difficult to translate into simple questions suitable for someone unfamiliar with the ideas. This might have led to some of the questions being too complex or using difficult terminology, leading interviewed subjects to misunderstand the question. Conversely, some of the essences of these concepts might have been lost in translation, as we did a process of simplification and reformulation. To mitigate this, we have been observant throughout the interviews and made corrections and asked follow-up questions in situations where we have suspected that the interviewee had misunderstood the intentions of our questions. For example, in cases where we have asked how good they think Mørenot is at "launching new and innovative products and services", some employees have talked about promoting the products they make, not the innovation part itself. In these cases, we explained our intentions and followed up with additional questions to get answers to what we wanted to know. In addition, in most of the

interviews, we have been three people interviewing and never less than two, which has helped ensure that as many misunderstandings as possible were identified and corrected.

Fourth, having interviews with human beings will introduce some bias, as we can not know whether the individuals are being truthful with us. For example, we have interviewed several individuals in the case company's top management team who might not want to talk negatively about their own company, even though the interviews are strictly confidential. Furthermore, two of the interviewees admitted being in their notice period and would be leaving the company shortly. This might have led to a degree of negative bias towards the company, as these individuals might have had personal reasons to represent the company negatively before leaving it. To mitigate this, we have been careful to base conclusions on single interviews and have tried to get everything confirmed by multiple employees in order to understand the bigger picture. In addition, many of the employees have talked about the same rather big problems and thus we have no reason to suspect that they have not been truthful.

Finally, our data processing might have introduced some limitations to our research. For example, we based our codes on our initial ideas of the most relevant things for the different divisions. This could lead to our initial thoughts influencing the final interpretation of our data. Our coding process is also manual and we are trying to place what the interviewees say into our predefined categories, which could lead to wrongful placements or us missing relevant data. Another factor that might have introduced some limitations to our data processing is the actual writing of this thesis. Even though we are trying to build an as accurate picture of the case company as possible, we are the ones to choose the quotes and information to include and present. Typically, this is what best supports the conclusions we believe and want to convey, and thus, we might have missed observations that do not support our ideas as we deemed them less relevant. We have tried to mitigate this by coding the transcripts to build an accurate case for the topics we are investigating, which is supposed to help us include all relevant aspects for each subject in our analysis.

6 | Conclusion

This thesis explores what global industry players can do to anticipate new opportunities and threats, what processes must be in place to capitalize on these successfully and how absorbing knowledge from the environment can build resilience in the face of adversity. To investigate this, we looked at absorptive capacity. First, we reviewed the literature to explore what it says about the link between absorptive capacity and resilience. Second, we did a qualitative case study in Mørenot's two biggest divisions to compare them and find their differences concerning absorptive capacity and the link to their resilience. After interviewing, transcribing and coding 17 interviews with 16 different individuals, we found many differences in how they absorb knowledge and their processes to capitalize on new opportunities and threats.

Aquaculture and Fishery both have problems with different processes that can help them anticipate new opportunities and threats and ensure long-term success. Aquaculture seems to be able to transform its current cognitive structures to seize new opportunities but is having trouble assimilating knowledge into the existing cognitive structures and exploiting it to commercial ends. The problems with assimilation mainly occur due to a lack of organizational slack and social integration mechanisms, which hinders the new knowledge and information from being internalized. At the same time, their problems with exploitation seem to emerge from disadvantageous power relationships within the division, leading to a sub-optimal decision-making process and a lack of psychological safety that inhibits employees from reporting errors. In Fishery, acquisition, assimilation, and exploitation are very effective, making them a highly profitable division. However, they are not undergoing many transformative activities as their cognitive structures are rather fixed.

Based on our observations in Mørenot, we have found support for Todorova and Durusin's (2007) reconceptualized model of absorptive capacity. They propose assimilation and transformation as alternative steps and not sequential. Their idea is consistent with our observations, where Fishery can absorb and capitalize on new knowledge without transforming, and Aquaculture

can transform without assimilating. Furthermore, we have found that in Aquaculture, a lack of organizational slack is a factor inhibiting their ability to assimilate and exploit new knowledge. Without sufficient slack, organizations often do not have the resources to search for new knowledge, acquire it or apply it to commercial ends. Thus, we propose introducing organizational slack as a factor influencing all dimensions of absorptive capacity. In addition, we have found that internal power relationships, which previously have been deemed to affect exploitation primarily, also affect the other dimensions of absorptive capacity but primarily through its effect on organizational slack. Thus, we introduce internal power relationship as affecting organizational slack, which in turn influence all the dimensions of absorptive capacity.

Based on this analysis, we argue that for a global industry player to sense and seize opportunities, the following is needed: a willingness to change underlying assumptions, a certain level of social integration mechanisms and a psychologically safe environment for employees. In addition, a willingness to invest in innovative projects, a decision process that can scale up good ideas and a certain level of slack are required to enable all of these processes.

Focusing too much on exploitation and doing little exploration can be detrimental in the long run. Doing too little exploration can make the division vulnerable to the consequences of coming inflection points. Both divisions seem to have an operational focus granting them a certain level of reactive resilience through the interpretation of environmental signals. However, due to a relatively short time horizon (3-5 years) in the strategy formulation process, their proactive resilience seems to be limited by a lack of future orientation when interpreting signals. Both divisions' ability to build proactive resilience is limited by their lack of radical innovation. Fishery lacks the willingness to invest in more radical projects, and Aquaculture is mainly limited by reduced customer contact and a general lack of time to exploit new opportunities. A certain level of reactive resilience is also created by the division's dynamic capabilities, for Fishery to a more considerable extent than Aquaculture. Based on this analysis, we argue that for absorptive capacity to lead to proactive resilience, a company needs a future-oriented strategy, as well as a willingness to invest in more radically innovative projects

6.1 Implications for Future Research

This thesis reveals several possible areas for future research. We have discussed the introduction of organizational slack as a factor affecting absorptive capacity. As we have based our project on observations from one case company, future research should study these observations on a larger scale to investigate their validity. In addition, we have only studied the effects of having too little organizational slack and its impact on absorptive capacity. Future research should also explore the effect of having too much slack to determine if these effects follow the same inverse u-shape as Nohria and Gulati (1996) proposed in the context of absorptive capacity.

While reviewing the literature on resilience, we have found that the concept has many different definitions. The various definitions sometimes offer contradictory recommendations on how organizations should build resilience (Linnenluecke, 2017). We chose to separate proactive and reactive resilience, but more consistent definitions are needed to avoid confusion in future research.

Based on our empirical observations, we emphasize the importance of handling the paradox of whether to explore or exploit. However, as this was not a part of our research questions, and our data does not give any implications of what solution organizations should pursue to handle this paradox. Future research is needed to understand whether ambidexterity or vacillation is best, and when organizations should use one approach over another.

6.2 Managerial Implications

This thesis has found several implications that managers must consider to position their firms for long-term success. Our research shows that managing the paradox of whether to explore or exploit can be crucial, as both are needed to succeed in the long run. Organizations must be able to exploit for them to have the baseline of operations necessary to be profitable. In addition, they need exploration to position themselves for coming inflection points and avoid the risk of rigidity by only exploiting. Whether they manage the paradox by vacillating or being ambidextrous, we have found that organizational slack is needed to absorb knowledge successfully and let organizations explore new opportunities and threats. Managers thus need a sufficient amount of slack to best facilitate exploration. However, it is important to not that as our objective is to study Mørenot's ability to innovate, we focus on the aspects that maximize their ability to do so. For managers, there are many other aspects to consider when running a business. For instance, we argue that a higher level of organizational slack in Mørenot would

be beneficial for the organizations ability to innovate. However, this would also imply increased operating costs, which could harm other aspects of the business. Managers must constantly consider all consequences of a decision and there rarely exist a perfect compromise.

We now know that for global industry players such as Mørenot to be able to anticipate new opportunities and threats before the window to act has passed (RQ1), specific processes must be in place to sense and seize these opportunities. First, organizations must be able to scan their environment to recognize the value of new external knowledge, which is the crucial first capability in absorbing new knowledge. Second, we have found that even though all of these processes for absorbing knowledge are in place, other factors influence their performance. Firms also need a sufficient amount of organizational slack to facilitate knowledge absorption. In addition, they need a good decision-making process where power relationships are utilized to facilitate psychological safety. Finally, to use knowledge absorption from the environment to build resilience in the face of adversity and ensure long-term success (RQ2), organizations must manage the paradox of whether to explore new opportunities or exploit the current ones. They need to decide whether to apply a reactive operational focus or a proactive future-oriented mindset. Vacillation or ambidexterity are two different solutions organizations can use for simultaneously achieving high levels of both.

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Appendix

A Literature Review Dataset

1	Akgün, A. E., & Keskin, H. (2014). Organisational resilience capacity and firm product innovativeness and performance. *International Journal of Production Research, 52(23)*, 6918–6937.
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B Interview Guide

Interview Guide

Today's Date:
Place:
Time:
Interviewers:

Checklist (Most of this is already in the consent form)

- ☐ Introduce us
- ☐ Purpose of the interview
- ☐ The interview will be audio-recorded and later transcribed
- ☐ All data will be stored confidentially
- ☐ All personal data will be erased when the project is finished
- ☐ All personal data will be anonymized before a potential publication of the research
- ☐ Only the research group will have access to what is said in this interview
- ☐ Do you have any other questions for us?

Can you first tell us a bit about yourself and your position in Mørenot?

- Name:
- Age:
- E-mail:
- Education:
- Work experience:
- Position in Mørenot:

Warm-up questions/intro to the subject (4 min):

- Can you tell us a bit about some projects you have been working on in Mørenot?
- How important would you say knowledge is in Mørenot?
- Can you tell us a bit about how Mørenot searches for new knowledge or information?

1. **Environmental scanning / Recognize value / Sensing (8 min)**

- How or what does Mørenot do to pay attention to changes in the environment?
  - How would you describe Mørenot's ability to pay attention to changes in the market?
  - Do you have any thoughts about how Mørenot should direct its focus?
- Can you remember a time you or Mørenot were surprised by changes in the market?
  - Do you think these changes could have been detected earlier or could have been anticipated?
  - Were any early signals ignored by Mørenot?

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- How would you say Mørenot stands in relation to knowing the market and being up to date on the current market situation?
- Would you say Mørenot are proactive and leading in new areas when it comes to changes in the market and technology, or would you say they are more reactive, handling crises as they appear and following the rest of the industry? Why?

2. Acquisition (8 min)

- Can you tell us how Mørenot searches for relevant information about the industry?
    - What sources of information are utilized?

- How does management motivate the employees to search for new knowledge?

- How does Mørenot exchange information and experience with other businesses within the industry?
    - How about outside the industry?

- How would you describe the management's attitude towards employees who search for new information from *other* industries?

3. Assimilation (8 min)

- How is knowledge shared internally in the organization?
    - Between people, teams or units?
    - Is it difficult to share information in Mørenot? Why / Why not?
    - Do you think people feel safe sharing information? Why / Why not?

- How is new knowledge integrated into Mørenot? (i.e. spread throughout the organization such that employees remember it)
    - What do you think works and what barriers exist?

- How is it for you to ask someone outside your unit for support, ideas and feedback?
    - Is communication with people outside your department encouraged? How?

- Can you think of any places in the organization where information sharing works especially good or bad? Why?

4. Transformation (8 min)

- How would you describe the employees of Mørenot's ability to utilize new knowledge?
    - What about their ability to connect existing knowledge with new insights?
    - Or to use new knowledge in practice?

- If new information appears that disprove something that up to that point have been taken for granted, how would you say the employees of Mørenot are at adjusting

their interpretations and attitudes based on this new information? *(Based on Todorva and Dursin's idea about transformation as a change in cognitive structures)*

5. **Exploitation (8 min)**

- How would you describe Mørenot's ability to launch new innovative products and services?
    - What do you think is the reason for this?
    - How is Mørenot applying new technology when innovating?

- How is the management supporting the scaling up of new innovative ideas (internally from the organization)?

- Can you tell me about a time when Mørenot adopted a new technology?
    - What did work / did not work with this?

6. **Dynamic Capabilities (8 min)**

- How would you describe Mørenot's ability to re-organize to meet changes in the market?

- To what extent are change initiatives in Mørenot completed in parallel with the daily work?
    - Is this challenging to do in Mørenot? Why / why not?

- Can you tell me about a time when Mørenot had to adapt their planned change initiative to unforeseen circumstances?
    - How did you think it turned out?

- How would you describe Mørenot's ability to react to unforeseen circumstances, and to complete their change initiatives even though they are interrupted?

7. **Psychological safety and communication with management (8 min)**

- How comfortable are you with bringing up problems and tough issues with your coworkers?
    - How about mistakes you have made?
    - What about disagreeing with your coworkers?
    - Or asking for help from your coworkers?

- How would you describe Mørenot's attitude towards employees conveying bad news?
    - Has the lack of reporting ever stopped the management from getting important information or necessary criticism in time? Any examples?
    - How would you describe the management's attitude towards employees taking risks in their work? For example through experimental projects or testing new solutions?

Lastly, can we contact you later if we have any follow-up questions we did not think of now?

Thank you for taking the time to talk to us :)

C Consent Form

Do you consent to participate in the research project

Capitalizing on Opportunities as a Global Industry Player?

This is a question for you about participating in a research project where the goal is to investigate how companies systematically can figure out which new technologies can strengthen their operations and provide increased customer value. In this consent form we give you information about the purpose of the project and what participating will imply for you.

Purpose

This research is performed as a part of a master thesis and a potential future doctoral thesis within Strategy, innovation and international business development (SFU) at the study program Industrial economics and technology management (Indøk) at NTNU. The research is performed as a series of interviews in Mørenot, where the goal is to investigate how businesses can figure out which new technologies can strengthen their operations and provide increased customer value. In addition, how they can anticipate opportunities and threats before the window of opportunity closes and which processes must be in place to exploit them.

Who is responsible for the research project?

Norwegian University of Science and Technology / Faculty of Economics (ØK) / Institute for Industrial Economy and Technology Management is responsible for the project. The project is performed by the students Vegard Sporstøl and Eivin Floer, as well as Ph.D. Candidate Liv Rasdal Håland, under supervision by Professor Alf Steinar Sætre in cooperation with Mørenot.

Why are you asked to participate?

Based on the purpose of the project having a strategic background, central personnel in Mørenot are interviewed based on their strategic insight into the business and recently performed projects. In this context, we would like to invite you to an interview.

What does it imply to participate?

Participating in this project implies being part of an interview where we will ask some questions relevant to the research project, which will be audio-recorded. We will also ask you to provide your name and email, so we can contact you about uncertainties or additional questions. All personal data and recordings will be securely stored in NTNU's OneDrive until they are transcribed. Recordings and other personal information will be anonymized before a possible publication.

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Participating is voluntary

Participating in the project is voluntary. If you choose to participate, you can at any time withdraw your consent without any reason. In this case, all your personal data will be erased. There will be no negative consequences for you if you chose not to participate or later chose to withdraw from the project.

Your privacy – how we store and use your personal data

We will only use the information provided for the purposes described in the document. Your personal data will be treated confidentially and according to data privacy regulations.

Only the research group, consisting of us and our supervisor will have access to the personal data collected in the interview.

Name and contact information will be replaced with an access code, which is stored in a separate document from the transcribed interview. All data are stored on NTNU's OneDrive where only the project group can access it.

In the event of a scientific publication, any published data will not be able to be traced back to you.

What happens with your information when the project is concluded?

Your information is anonymized once the project is completed. The planned completion date is 11. June 2025. At the end of the project all personal information and audio recordings will be deleted.

Your rights

As long as you can be identified by the content of the data, you have the right to:

- Insight into what information is registered about you and to be given a copy of this information
- To have information about you corrected
- To have information about you deleted and
- To send a complaint to Datatilsynet (the data protection agency) concerning the processing of your personal information.

What gives us the right to process data about you?

We process data about you based on your consent.

On request from Norwegian University of Science and Technology / Faculty of Economics (ØK) / Institute for Industrial Economy and Technology Management, NSD – Norsk senter for forskningsdata AS (Norwegian center for scientific data) has approved that the processing of personal information is compliant with privacy regulations.

Where can I find out more?

If you have any questions concerning the study, or wish to exercise any of your rights, contact:

- Institutt for Industriell Økonomi og Teknologiledelse (Institute for industrial economics) at NTNU via Professor Alf Steinar Sætre (alf.steinar@ntnu.no / + 47 73 55 10 13).
- Or our Data protection officer: Thomas Helgesen (thomas.helgesen@ntnu.no / + 47 930 79 038)

If you have any questions concerning NSD's assessment of the project, contact:

- NSD – Norsk senter for forskningsdata AS (Norwegian center for scientific data) at email (personverntjenester@nsd.no) or call: + 47 55 58 21 17.

Best regards

Alf Steinar Sætre	Liv Rasdal Håland	*Eivin Floer, Vegard Sporstøl*
(Professor/supervisor)	(PhD. Candidate)	(Master students)

Consent

I have received and understood the information about the project *Capitalizing on Opportunities as a Global Industry Player*, and have been given the opportunity to ask questions. I consent to:

☐ participate in an interview that will be audio-recorded

I consent to my information being processed until the end of the project

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(Signed by project participant, date)

Eivin Floer, Vegard Sporstøl

Learn to Survive: Capitalizing on Opportunities as a Global Industry Player

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Kunnskap for en bedre verden