

# MASTER'S THESIS

Course code: BE309E

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## Norwegian salmon in the European market: An assessment of competitive advantages

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## Sammendrag

Hensikten med denne studien er å undersøke hvordan norske lakseoppdrettere konkurrerer i det europeiske markedet gjennom konkurransestrategier som leder til konkurransefortrinn.

Studien er basert på funn gjennom dybdeintervjuer med norske lakseoppdrettere, samt deltagelse på industrikonferanser for å få innsikt i hvordan industrien opererer. Funnene våre ble validert gjennom ett dybdeintervju med en industriekspert, og gjennom sekundærdata hentet fra blant annet Fiskeridirektoratets database. Vi analyserte funnene i henhold til Michael E. Porters teoretiske rammeverk om konkurransestrategier som leder til konkurransefortrinn.

Alle selskapene vi intervjuet kunne vise til egen fremgangsmåte for å skape ett konkurransefortrinn, gjennom de tre ulike generiske strategiene. Vi observerte klare strategiske valg som enten har eller skaper konkurransefortrinn. Ett fortrinn skapt gjennom kostnadsoptimalisering er vanskelig å få til, da alle opererer med svært like produksjonskostnader. Før var tredje parts sertifisering ett viktig konkurransefortrinn. Nå kan det vise seg å bli utvannet, fordi flere av industri aktørene har de samme sertifiseringene. Det kan tyde på at differensiering på dette området ikke er like effektivt lengre.

Funnene viste også til konkurransestrategier som ikke skapte fortrinn. Handlingene til disse selskapene er i teorien mindre lønnsomme enn i resten av industrien. Derimot observerte vi en høy grad av åpenhet blant oppdretterne. Gjennom funnene våre kunne vi konkludere med at industrien er vennlig mot sine nasjonale konkurrenter. Det trengs videre forskning rundt dette temaet for å avgjøre hvorfor konkurransen er så lav.

## **Preface**

This thesis represents the end of our academic journey at Nord university. During our master's study we've experienced a few challenges related to the pandemic. We were both hesitant to the learning outcome of all digital lectures, but due to the great student group and lecturers, they exceeded all expectations. This made us comfortable with conducting formal conversations over Zoom/Teams/Google Meet, which made this thesis possible. This study has given us profound knowledge about international trade and marketing, through a method that was not only insightful, but also exciting.

In august 2021 Frode Nilssen invited the whole student group to visit a salmon farming location to learn more about the industry. Through this field trip we both decided that Salmon would pose as a great topic. Prior to this thesis we did not know much about salmon farming. Through attending two industry conferences and conducting in-depth interviews, we have gained significant knowledge of all aspects of the industry. We can both testify that our view of Norwegian produced salmon has changed, and that we have never eaten more seafood over such a brief period.

We want to express our sincere gratitude to our supervisor Frode Nilssen. Your lectures and stories will never be forgotten. We further want to thank the entire student group for insightful feedback and valuable conversation.

Lastly we would like to thank our families. They have provided us with food, understanding and support throughout this entire thesis.

## **Abstract**

The purpose of this study is to examine how Norwegian salmon producers compete in the European market, through competitive strategies that lead to a competitive advantage.

The research is based upon data gathered from in-depth interviews with Norwegian salmon producers, and participation at conferences to get an insight of how the industry works. Our findings were validated through an in-depth interview with an industry expert, and secondary data retrieved from The Directorate of Fisheries amongst others. We analyzed our findings through Michael E. Porters theoretical framework of competitive strategies that leads to a competitive advantage.

All the firms we interviewed presented us with how they seek to generate a competitive advantage through the three generic strategies. We observed clear strategic choices that already creates or will create a competitive advantage. Cost leadership was hard to attain as all operated with very similar production costs. A previous strategy of differentiation through third party certifications appear to become diluted, as several industry actors attain the same certifications. Which means they do no longer differentiate in this area.

Our findings also present strategies that do not generate a competitive advantage. The actions of these firms are theoretically less profitable that then rest of the industry. We further observed a high degree of transparency within the industry. Through our findings we can conclude that the industry is friendly towards its national competitors. Further research is necessary surrounding this topic to determine why competition is so low.

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## 1. Introduction

The Norwegian seafood industry is being referred to as nothing short of a fairy tale (Norwegian Seafood Council, 2021). Worldwide, Norway ranks second in exporting seafood (The Norwegian Government, 2021). Where somehow every year turns out to be record-breaking. In 2021 alone the total export volume surpassed three million tonnes, increasing the value by 15.1 billion NOK from the previous year (Kontali, 2021; Statistics Norway, 2020; Norwegian Seafood Council, 2021). Salmon accounts for the majority of the total export volume (The Norwegian Government, 2021). In 2019 Norway exported a total of 1,1 million tonnes salmon (Statistics Norway, 2020).

However, export growth of Norwegian salmon has been slower compared to OECD and BRIC countries, making the loss of global market share a reality (Menon Economics, 2021). The significant export of Norwegian technology related to farming activities, such as offshore and land-based technology, increases production in countries which previously have not been part of this industry. This makes the competitive advantage of the Norwegian coastline itself less sustainable (The Norwegian Government, 2021). Currently land based farmed salmon account for a small percentage globally, but Kontali estimates that it will reach a volume of 500 000 tonnes by 2030 (The Norwegian Government, 2021). This can potentially disrupt the competitive advantage that Norwegian salmon industry possess, as competitors may locate their operation closer to essential markets.

Introduction of new competing forces over a homogenized product can force Norwegian salmon producers to look for new strategic choices. Either through cost leaderships, differentiation, or niche segments. The Norwegian seafood federation seeks to enhance the competitive position of Norwegian farmed salmon in export markets. To achieve this, the product is being marketed as sustainable and safe compared to competing salmon, where they seek to build an identity to pose as an advantage for Norwegian farmed salmon (The Norwegian Government, 2021).

While the Norwegian salmon industry serve about one hundred different countries, EU is its largest market, with Poland, Denmark, and Netherlands as the largest export destinations. However, Germany is argued to be the largest consumer market for Norwegian salmon, but this is not reflected in direct export (see fig 1-1.) (The Norwegian Government, 2021). In 2020 Poland exported over 591 thousand tonnes of fish and



aquaculture products, where over 80% were further distributed to European countries (Eurofish, 2021). Poland consequently serves as a processing hub of Norwegian salmon and provides value adding activities before distributing further.

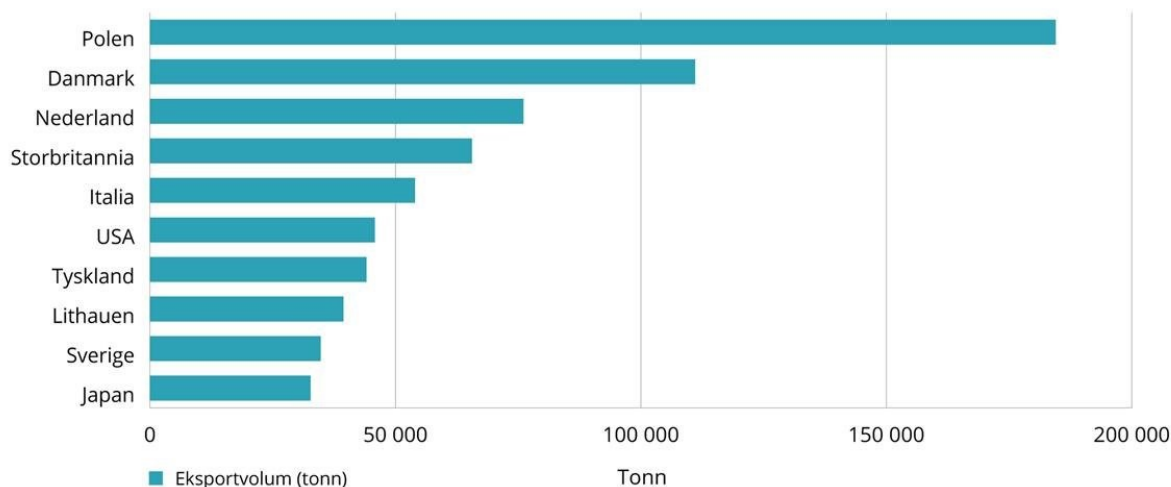


Figure 1-1 Largest markets for Norwegian Salmon in 2020, size by volume retrieved from The Norwegian Government (2021)

The industry structure is varied, where a total of 120 companies commercially produces salmon (The Norwegian Government, 2021). The industry is structured with mostly small and medium companies, and a few large ones (The Norwegian Government, 2021). However, three large competitors dominate production volume. These are MOWI, Salmar and Lerøy Seafood, and combined they account for about 40 percent of the entire industry production (Mowi, 2021). The largest producers also operate in similar industries, such as Trout and Pollock. These same large firms also control most commercial concessions (The Norwegian Government, 2021). Small producers control lesser parts of their value chain and often sell product directly to salmon exporters. Larger firms who are in possession of a more extensive value chain, further produce salmon products that exceeds the main market of fresh/frozen whole salmon. They produce products ranging from ready to go sushi, to whole fresh salmon. With assorted sizes of packaging, they can differentiate from smaller competitors.

As the Norwegian farmed salmon industry can face increasing competition in the years to come, where new competitors enter the market through new technology. It is important to study how they are already competing and seek to compete in the future. This study aims to assess competitive advantages of Norwegian salmon producers through their choice of competitive strategies.

We want to address how Norwegian salmon producers seek to improve their competitiveness in the European market through their choices of generic strategies. We believe its beneficial for the industry and stakeholders to study the companies' strategic choices in order to elevate competitive performance.

To understand the challenges within the industry and grasp how they prepare for tomorrow we pose the following research question:

***How does the Norwegian salmon producers gain a competitive advantage in the European market?***

To answers this question, we apply Porters' theory of competitive advantages through generic strategies. We believe the presence of either low-cost production methods, differentiation and segmentation are applied by the producers. Our theoretical framework is further presented in Chapter 2.

To study what competitive strategies the salmon producers pursue, we conduct an exploratory case study. We engage in both in-depth interviews, and industry conferences. This enables us to ask questions and receive detailed explanations and understanding about strategic choices within the industry. The methodological approach is further elaborated and enclosed in Chapter 3.

In the figure below (figure 1-2) we illustrate how above average performance depends on the level of competitive advantage. The generic strategies are predictor variables that determine the level of competitive advantage.

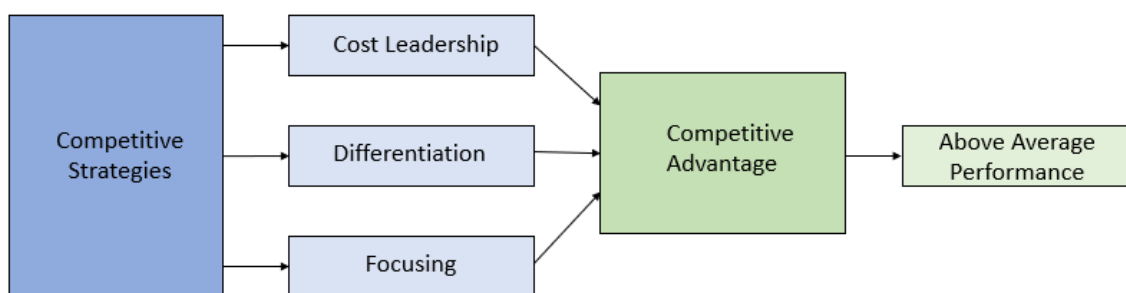


Figure 1-2 Research model - The route to 'above average performance'

This study does not seek to measure the performance outcomes but focuses on exploring the competitive strategies that could lead to 'above average performance'. We limit the study Norwegian to salmon producers to address their choices, early in the value chain. We further limit our scope to the European market, as this is the largest market the

industry interacts with. The investigation of specific value adding activities that occur outside Norwegian borders, and salmon ‘traders’ are excluded. Our unit of analysis is managers of salmon producers in Norway.

## **2. Theoretical framework**

The theoretical perspective of Porter is frequently subject to studies of competitive advantages. It promotes an in-depth understanding how firms position themselves in a competitive environment. Competition intensifies as a result of external forces entering the market. A previous study conducted in the Chilean farmed salmon industry showed that all competitors pursued a cost leadership (Felzensztein & Gimmon, 2014). Porter (2008) argues that such a situation will only harm all involved, where cost reducing measured affect product quality. Our intention is to apply Porters’ theory to uncover strategic choices, competitive advantages, and characteristics within the industry.

### **2.1. Competitive Strategy**

Competition determines companies’ failure or success (Porter, 2008). Hence, the importance of strategic thinking cannot be expressed enough. It must be considered as the rise or downfall of companies (Porter, 2008). Every company needs to at least try to understand and seek to master the concept of competition, as the importance have never been more pressing (Porter, 2008). Today this is even more crucial, as the world has become more interconnected (Altman & Bastian, 2021). Cavusgil (2020) states that there are many different strategies, but firms are limited by resources and competencies. The choice of strategy should be influenced by a firm’s current position and what they aim to achieve.

Porter (2008) argues there are two underlying questions when choosing a competitive strategy.

1. Is the industry attractive for long-term profitability and what are the factors that determine it?

As industries are not homogenous, not all will offer similar opportunities for long-lasting profitability.

2. Are the factors that determine an industry's relative competitive position present?

Most industries will have presence of superior competitors, who will be more profitable than the rest. For instance, due to scale of economies. These two questions do not suffice when choosing a competitive strategy (Porter, 2008). While these two questions are susceptible for change, so are the industry. An industry can become either more or less attractive over time due to competitors' actions. A stable period of profitability can be changed by the moves of competitors (Porter, 2008). The choice of competitive strategy can change the industry. It can either improve companies' position or weaken it (Porter, 2008). Competitors' choice of competitive strategy will dictate what activities companies should pursue to increase their performance.

Through their competitive strategy, companies seek to attain a favorable position in an industry. The goal is to establish a profitable position that can withstand erosion from competitive forces. Companies position themselves in accordance with which markets they want to target. The position is developed with emphasis on their core strategy and what goals they seek to achieve. A firm's position will function as a statement of how they will achieve their future goal (Hooley, Piercy, Nicolaud, & Rudd, 2017). The desired position when developing a strategy is to outperform its competitors. An increase in profitability tends to be an accurate measure when discussing the successfulness of a strategic choice (Day & Wensley, 1988). There are two primary perspectives regarding competitive positioning; Customer focused, and Competitor centered. Competitor centered assessment addresses the question of "how does our capabilities and offering compare to those of competitors?" (Day & Wensley, 1988). This approach is applied when companies closely monitor the activities of its competitors, where they can choose to replicate said activities to adjust their competitive position. These activities are either related to costs, market initiative or technology (Day & Wensley, 1988). Hence, companies can monitor whether a competitive position can be lost or imitated. Customer based assessment is a detailed analysis of benefits for the end consumer in various markets. The assessment is based on a backwards method, which allows for identification of necessary actions to enhance performance (Day & Wensley, 1988). Day and Wensley (1988) argue that companies give relatively little attention to its competitors and their performance, where the focus tends to be on customer relationships.

In an optimal market environment, each competitor would choose a different strategy. While not all will succeed, the generic strategies will provide different routes to gain an above average performance (Porter, 2008)

Value is what buyers are willing to pay, and superior value come from offering lower prices than competitors for comparable benefits or providing unique benefits that more than compensate for a higher price (Porter, 2008)

Companies develop and apply competitive strategies to establish a position where they are outperforming its competitors and can do so for a long time. If successful often identified as a competitive advantage (Porter, 2008). Day and Wensley (1988) argue that a successful advantage is when the company retains majority of the market share or a profitability above average. “Competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm’s cost of creating it” (Day & Wensley, 1988). Value is achieved by offering lower prices than competitors for similar products or by providing unique benefits that compensate for a higher price (Porter, 2008). Porter states that meeting and satisfying customer needs are only a prerequisite for profitability, but not at any cost. The industry will not survive if the price of meeting all customer needs exceeds their willingness to pay. Porter (1980) suggests that firms may gain a competitive advantage by creating value for its customer, by one or a combination of the following strategic options, financial performance, differentiation, or efficiency. The modern strategic thinking evolves around the premise that one seeks to outperform is competitors to gain and sustain a competitive advantage (Day & Wensley, 1988).

## **2.2. Generic Strategies**

The generic strategies are explained by Porter (2008) as “different routes to a competitive advantage, combining a choice about the type of competitive advantage sought with the scope of the strategic target in which competitive advantage is to be achieved” (Porter, 2008). There are three different generic strategies that can lead to above average performance, cost leadership, differentiation and focusing. Cost leadership and differentiation is applied when targeting broad markets, while focusing is being applied to narrow markets or segments. Focusing as a strategy can be pursued through a cost focus or differentiation focus. What strategies that might lead to above average performance can vary as the environment of markets may be different.

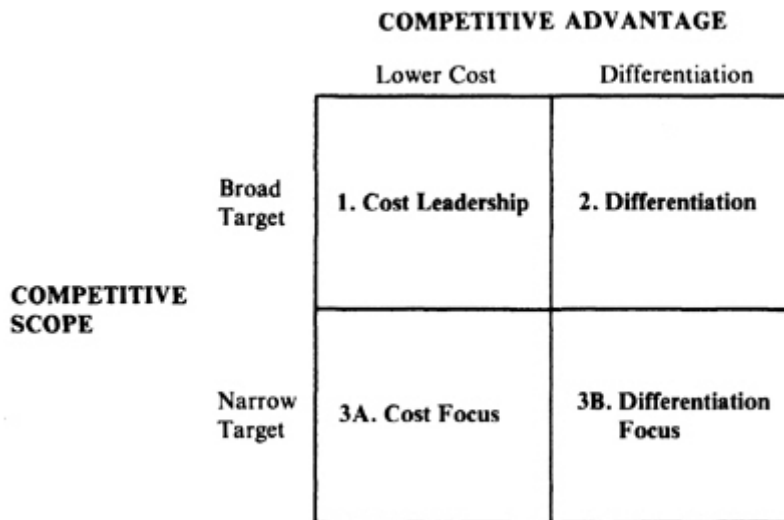


Figure 2-1 Three Generic Strategies, retrieved from Porter (2008)

### 2.3. Cost leadership

Cost leadership is performing business activities at a lower cost than all competitors, without the product itself straying too far from what competitors offer. Cost leadership can be generated by achieving scale of economies to reduce general cost, allocating overheads, minimizing R&D, extended services, and advertising (Hooley, Piercy, Nicolaud, & Rudd, 2017). Porter (2008) argues that a common misconception regarding cost leadership is that several firms can acquire it simultaneously, and that several firms have made strategic miscalculations by not acknowledging it. If several companies' pursuit this strategy they will all perform below average, as they are cutting costs to a degree where overall quality suffers, and consumers no longer find value in the product.

An important key to attaining this advantage is a good access to raw materials, where a cheap supply could also generate a competitive advantage. Companies should choose low-cost or more efficient suppliers opposed to competitors (Porter, 2008). Cost leadership as a position holds high value in markets where there are little to no difference in products. In markets with larger differentiation among products, this strategy is disadvantageous. Cost leaders must seek closeness of products to be an above average performer (Porter, 2008). When cost leaders deviate from competitors in terms of differentiation to achieve cost leadership, the lower their profits tend to be. A more similar product on the other hand leaves the cost leader with a higher margin than its competitors, resulting in a profitability advantage. As a strategy, it can be hard to sustain, as its possible for competitors to imitate (Hooley, Piercy, Nicolaud, & Rudd, 2017).

Cost leadership as a generic strategy is argued to be the easiest to understand, yet one of the hardest to implement depending on industry structure (Porter, 2008). In its true essence, a firm seeks to produce products at a lower cost than its competitors, either through more efficient methods or superior technology. Porter (2008) argues that such firms tend to serve many industry segments and sometimes even operate in similar. Cost leaders tend to have economies of scale, superior technology or exclusive access to favorable raw materials or suppliers. Close relationships with suppliers can both lower its cost and improve overall quality, as costs are strongly affected by share or interrelationships (Porter, 2008).

There are two applicable methods to gain a cost advantage, controlling cost drivers or reconfigure the value chain. When controlling cost drivers, it is purposefully to focus on the cost intensive activities or input factors of a company. While a reconfiguration of a value chain involves applying more efficient production or distribution methods. A way of reconfiguring the value chain can also be vertical integration. When adopting a superior value chain, companies may experience an elevation in their relative cost position (Porter, 2008).

A cost advantage will only result in above-average performance if it's being sustained (Porter, 2008). Its only considered sustainable if competitors are inhibited from copying it through high barriers, such as imitability. Porter (2008) states five drivers that tend to be more sustainable than others.

- *Scale of economies*, the horizontal integration of attaining scale of economies provide boundaries that are hard for competitors to imitate.
- *Interrelationship*, relationships with affiliating business units can force competitors into expand to copy a cost advantage.
- *Linkages*, Strategic alliances with independent partners can be difficult for competitors to detect.
- *Proprietary learning*, situations that result in learning outcomes which are kept exclusive.
- *Policy choices to create proprietary product or process technology*, replicating product innovation or production processes that are protected by patents or secrecy are difficult to imitate. Innovations that can be kept secret, provide a higher degree of sustainability.

The two most sustainable drivers are economies of scale and proprietary technology (Porter, 2008). Attaining a cost advantage through several drivers creates higher barriers for competitors to imitate, rather than one or two. Cost leaders gather multiple sources of advantages throughout the value chain. Multiple barriers lead to a higher degree of sustainability (Porter, 2008).

A company are considered a 'cost leader' when the total cost of performing all value activities is lower than the cost of its competitors. (Porter, 2008). Hence, cost leaders seek to exploit all sources of cost advantage (Porter, 2008). Cost leaders typically thrive in industries where products are to some degree homogeneous, where differentiation is low or non-existent. If the products are not perceived as comparable or are equally valued by consumers, cost leaders might be forced into reducing prices to maintain their market share, eliminating their positional advantage entirely (Porter, 2008). Cost saving however, can be achieved without impacting firms' differentiation if significant cost saving measures have not been applied before. "Firms should never assume its costs are low enough" (Porter, 2008).

#### **2.4. Differentiation**

Differentiation as a strategy is value adding activities that leads to a perceived superiority that consumers value (Day & Wensley, 1988). "Differentiation which is achieved through uniqueness in products and services rendered to customers allows firms to sustain a superior performance over time" (Porter, 1996). Differentiation is advantageous when seeking to provide value for consumers (Porter, 1980). Activities may differ across markets or products, but differentiation as a strategy does not uphold is value if the consumers are unwilling to pay for the differentiation itself. "Firms are also often different but not differentiated, because they pursue forms of uniqueness that buyers do not value" (Porter, 2008). Differentiation is done differently within each industry based on what needs it seeks to fulfil. Differentiation can come from a variety of factors, such as product specific attributes, price, distribution, availability, etc. Firms chose one or more attributes that are valued by consumers to position themselves as unique, allowing them to charge a price premium. Differentiation is perceived as superiority and sometimes uniqueness regarding attributes that are considered important to consumers and tend to exceed the core product (Day & Wensley, 1988). A cost leadership in general creates a financial advantage, meanwhile differentiation generates a market-based advantage. Differentiation itself creates value for consumer, unlike cost leadership (Hooley, Piercy, Nicolaud, & Rudd, 2017). Grant (1999) argued that competitive advantages generated from differentiation are more likely to be sustainable as unique services and products are harder to imitate by competitors. A notable problem with differentiation, is the cost of "uniqueness", which may outweigh the value consumers give the product (Hooley, Piercy, Nicolaud, & Rudd, 2017). Differentiation strategies that prove to be successful, are prone to being copied by competitors, where they either copy the value adding activity itself or



introduce a cheaper version. Ultimately diluting the positional advantage that was initially gained (Felzensztein & Gimmon, 2014).

Differentiators will outperform its competitors in its industry if they can charge a price premium that exceeds the additional costs associated with the differentiation itself (Porter, 2008). Companies that choose differentiation as a strategy must always seek ways that allow them to charge a price premium. Similar to cost leaders, if firms don't acknowledge the cost, its position will be lost as the cost of producing eliminates large portions of their margins. Differently from cost leadership there can be various ways to be successful through differentiation, as there might be a variety of attributes that consumers value, rendering the product unique. To further strengthen their position, firms should aim to cut costs in areas that do not affect differentiation (Porter, 2008). Porter (2008) states that differentiation as a strategy requires firms to choose attributes that are different from its rivals, or else consumers won't perceive it as unique, and a price premium can no longer be expected. Any product or service can be differentiated. However, differentiation strategies may provide advantages for only limited periods of time, as competitors may dilute it, or consumers no longer find it valuable (Levitt, 1980). The common differentiation methods are CSR (corporate social responsibility), product differentiation strategy and export performance (Fombrun & Shanley, 1990). As the focus towards CSR activities are of increasing importance, it has become a part of several company's overall differentiation strategy (Siegel & Vitaliano, 2007). This has changed the environment of several industries.

A differentiation strategy is sustainable when it's hard for competitors to imitate and continue to generate value for consumers. Changes in needs and perceptions of consumers may change, and aspects of the value created through differentiation can be lost (Porter, 2008). According to Porter (2008), differentiation will be more sustainable if the following requirements are met:

- *The firm's source of uniqueness involves barriers*, barriers that come from proprietary knowledge, strategic alliances, and affiliating businesses are harder for competitors to imitate.
- *Cost advantage in differentiating*, maintaining a cost advantage of the activity that generates differentiation will create a higher degree of sustainability.
- *Multiple sources of differentiation*, the more sources that needs to be imitated by competitors, generates higher barriers for imitation.
- *Switching cost and differentiation*, switching costs are fixed costs experienced by buyers when switching suppliers, allowing a company to maintain a price premium even if the product is comparable to competitors.

Differentiation tends to increase overall costs, as it may require investments. Companies must allocate financial resources to separate themselves from competition, where uniqueness requires them increase their value adding activities compared to competitors (Porter, 2008). As an example, achieving greater quality by purchasing better raw materials, to enhance the product. The cost of differentiation can be found within the cost drivers of the value adding activities that generates uniqueness (Porter, 2008).

Both cost leadership and differentiation are not mutually exclusive, and both can be applied at the same time. Through differentiation with emphasis on quality as an attribute, one can gain lower production costs through achieving large market shares and scale of economy (Hooley, Piercy, Nicolaud, & Rudd, 2017). Industries heavily influenced by different segments, and companies who specifically target such segments, both strategies are prone to risks. Such companies may achieve lower costs or different attributes that are valued by consumers. Thus, markets with heavier segmentation presence are generally prone to more risks, rather than more industry wide markets (Hooley, Piercy, Nicolaud, & Rudd, 2017).

## **2.5. Focusing**

Focusing distinguish itself from the other two, as it is based upon choosing a smaller market scope. “Companies select a segment or a group of segments in the market, and tailors its strategy to serve them exclusively” (Porter, 2008). Through optimization for different segments, the “focuser” can achieve a competitive advantage in industries where they previously did not possess an advantage at all (Porter, 2008). The strategic choice within focusing tends to have similarities to the two already discussed strategies, where firms can either pursue a cost advantage or differentiation within a given segment. The choice between the two strategic pathways is heavily reliant on the industry environment, the number of segments in an industry, and what consumers finds valuable. A narrow focusing strategy on itself does not outperform the above industry average (Porter, 2008). As competitors may be underperforming, the focuser capitalizes on suboptimization by competitors in broadly targeted industries (Porter, 2008).

Addressing consumer needs in different segments allows for firms to adopt differentiation as a focus strategy. Competitors who target broader markets may also be overperforming when trying to address the needs of consumers. This allows for others to limit themselves to only the necessary cost thus achieving a cost advantage in one or more segments.

Focusing as a strategy is only viable if the segments are different. If they are too similar the strategy will not prevail (Porter, 2008).

A distinction needs to be made between prior segments and a firm's targeted segment. The targeted segment must be populated with unusual needs. If not, consumers need will be fulfilled by overlapping segments or the general market (Porter, 2008). Cost leadership within segments, in its essence is easy to understand. Meanwhile, differentiation within segments tends to have more nuances, where companies seek to exploit special needs that is currently poorly served by competitors, who serve broad market simultaneously. A polarized industry for example, want a product as cheap as possible to serve a simple need, where the opposite would be to want products that are exclusive or luxurious. From a strategic standpoint it can be quite difficult to serve two segments with such differences (Porter, 2008).

A firm that can achieve a cost advantage or differentiation in attractive segments will be considered an above average performer in the industry (Porter, 2008). Porter (2008) emphasizes the importance of structural attractiveness in segments, where some may be vastly more profitable than others. Most industries have a presence of several segments, where each individual segment cater to different consumer needs. By choosing different segments, one can achieve multiple sustainable advantages, even simultaneously (Porter, 2008).

“Market segmentation is the process of dividing the firm's total customer base into homogeneous clusters in a way that allows managers to formulate unique marketing strategies for each group” (Cavusgil, Knight, & Riesenberger, 2020). The customer base often follows similar characteristics, such as income level, age, gender, or lifestyle (Cavusgil, Knight, & Riesenberger, 2020). Segmentation as a unit of analysis can help firms gain knowledge regarding consumer preference, and thereafter tailor their products or services accordingly to increase consumer satisfaction and revenue (Liu, Liao, Huang, & Liao, 2018). The nature of placing consumers into different categories is clouded with complexity, where the different methods often need to address descriptive and predictive variables simultaneously (Liu, Kiang, & Brusco, 2012). Attributes are defined as characteristics of a product that are relevant as predictors of the anticipated consumer experience (Carlucci, 2015; Olsen, Tuu, & Grunert, 2017). The characteristics of a product may vary depending on what attributes its seeking to serve. Apart from the characteristics related to the core product, the perceived value of some attributes needs to justify the additional cost for the end consumer. Visible attributes are easier for consumers to observe

and acknowledge as valuable, meanwhile less visible attributes need to be communicated appropriately through either labels or certifications. Attributes change based on how the products are being consumed and who is consuming them. These attributes may also change due to emerging consumer trends, which can be found through various consumer behavior studies.

Attributes related to food choice could lead to new segments as different attributes are valued by different consumers. Literature regarding food choice differentiates between sensory and non-sensory factors. Typical sensory factors are, taste, smell, freshness, texture and odors, where non-sensory factors tend to be price, convenience, packaging, social influence, health concerns, GMO, self-identification and availability (Nilssen, 2008; Carlucci, 2015; Olsen, Tuu, & Grunert, 2017). In recent years however, issues related to animal welfare, eco- and ethical friendly production have emerged, where consumers tend to discriminate firms whose actions are not in line with the attitudes of consumers (Paul & Rana, 2012). Previous studies have shown that consumers are valuing third party labelling, as it helps validate the product itself (Nie, Liang, & Wang, 2021).

### **2.5.1. Stuck in the middle**

A failed attempt in applying a generic strategy is referred to as “stuck in the middle” (Porter, 2008). This position generates no competitive advantage, where firms who are trapped in this position tend to underperform in the industry. By being stuck in the middle, companies are competing against:

- Cost leaders, Companies who retain higher margins.
- Differentiators, Companies who provide unique offerings.
- Focusers, Companies who optimize their offerings for specific segments.

The positional disadvantage can be so extensive, that any attempt of creating a new advantage may be shut down by competitors with superior resources. In most industries, there are several firms who are stuck in this position (Porter, 2008).

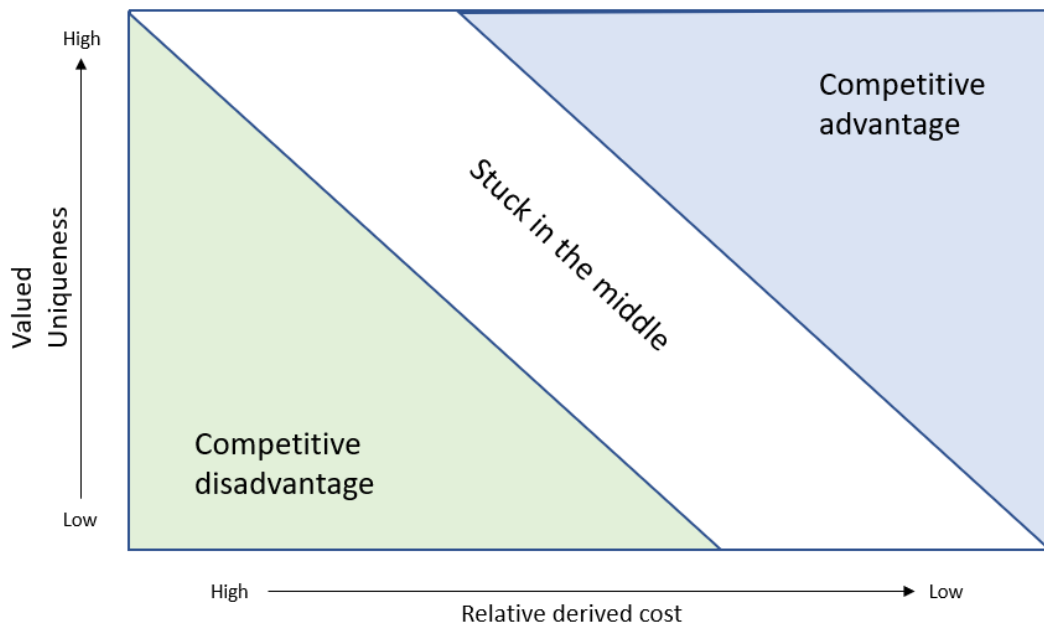


Figure 2-2 Routes to Competitive advantage, retrieved from Hooly (2017)

According to Porter (2008), firms who are stuck in the middle will only earn attractive profits if the industry structure is favorable, or if the industry is represented with several competitors who are also stuck in this position. Firms who apply generic strategies successfully, will outcompete rivals who are stuck (Porter, 2008). As the industry matures it will expose suboptimal strategies that have been brought along by rapid industry growth.

Being or becoming stuck often reflects a firm's unwillingness to make strategic choices (Porter, 2008). Some strive for a competitive advantage by trying every possibility yet ends up short. Porter (2008) explains this as some advantages require inconsistent actions. Companies who already possess strategic advantages may unintentionally sacrifice them to increase additional growth. Facing competitors who are stuck may pose a threat, where firms will compromise its position to pursue both cost leadership and differential advantage (Porter, 2008). This leaves them exposed to competitors who emerge from an unfavorable position. It is argued that the stuck in the middle position is temporary, and that firms will eventually choose a strategy that competes with above average performers (Porter, 2008).

## 2.6. Summary

In this chapter we have mentioned Porter's three generic strategies, where each provides a different method of creating and/or sustaining a competitive advantage. Firms can combine different strategies, based on which market they are supposed to be carried out.

In most cases firms should make a choice among them, because a too broad strategic spectrum might be too demanding, and a firm can get “stuck in the middle”. Porter (2008) argues that the advantages companies can gain from optimizing the firms focus strategy, cannot be gained if the firm is already supplying multiple segments. One way to overcome this is when firms create separate entities or subsidiaries to pursue different strategies within each entity (Porter, 2008).

Cost leadership and differentiation is often incompatible and can be hard to attain simultaneously. Usually, differentiation will raise the cost to achieve its uniqueness, where a price premium is necessary to retain margins. Meanwhile, a cost leader wants to lower these costs drivers. However, reducing costs does not always mean that firms need to sacrifice differentiation (Porter, 2008). Through different skills or capital, firms have been able to reduce costs without hurting their differentiation (Porter, 2008). Cost reducing measures does not benefit firms in the same way as a cost leadership. In situations where there is a present ‘cost leader’, firms can only lower their costs to a certain degree without losing their differentiation. In such an event, the generic strategies become inconsistent, and firms will be forced to choose (Porter, 2008). However, when both cost leadership and differentiation is achieved simultaneously, one can benefit from a price premium at the lowest industry costs.

### **3. Research Methodology**

In this chapter we will describe our methodological approach and explain the reasoning behind choices made in the design of the study. We will address how we collected our data and conducted the analysis. Finally, we will discuss and reflect upon the quality of our research.

Our research is an exploratory case study of the strategic choices within the Norwegian salmon farming industry. The empirical work consists of,

- Primary data, such as semi-structured in-depth interviews, observations, informal conversations at industry conferences (see Chapter 5).
- Secondary data, such as data retrieved from the Norwegian Directorate of Fisheries and prior empirical research published- by amongst others Nofima and Milarex (see Chapter 4). We also include our archival research, which are supplementary information from reports and websites.

We believe this data will complement each other and validate our findings.

### 3.1. Research design

A research design is the logical building of steppingstones that bridges the empirical data to the initial research question and the conclusive remarks in a study (Yin, 2018). It must not be confused or reduced to a misconception that it is merely a working plan, as it provides a framework that aims to generate chosen evidence to answer the questions raised in the study (Bryman, 2008). A smart research strategy is to devote time and effort to construct a purposefully research design. This will reduce the unnecessary gathering of data/empirical work that is not relevant for the study.

Stebbins (2011) describes the explorative design as “a broad-ranging, purposive, systematic, prearranged undertaking” (Stebbins, 2011, s. 3). Maanen et al. describes the process as labor intensive and craves a persevering interest in the topic studied (Stebbins, 2011). An exploratory research design seemed suitable as we were curious to widely examine the industry in an unstructured and flexible manner to gather as much data and information as possible.

The research process is iterative and involves, from start to end - back and forth, a plentiful number of decisions to be made, ranging from choice of sample, method, data collection- to more detailed parts of research implementation. For example, when are we more likely to connect with a respondent in the right mood to accept our request? Is it before lunch or after lunch, on a Tuesday or a Friday? Are physical in-depth interviews more favorable than carrying them out on a digital platform? Perhaps the home-office ‘era’ (during the pandemic) has made us more comfortable socializing through a webcam? Vogt (2008) states that innovative research happens when the researcher is “consciously seeking the most effective methods rather than simply proceeding along traditional lines or following an algorithm” (Vogt, 2008). Instead of focusing on conducting a rigid set of methods, it’s important to acknowledge the minor, but numerous decisions that together have a great importance in shaping the research adjusted to research environment, limitations, and purpose of the study (Bryman & Teevan, 2007).

The purpose of our study is to understand and explore how the Norwegian Salmon producers pursue a competitive advantage by their choice of generic strategy in the European market. As this is the primary location of which the Norwegian salmon is exported (Norwegian Seafood Council, 2021).

To gather information about companies’ competing strategies, we decide to approach managers. For instance, a CFO/CEO to receive reliable and correct information of the

industry. Hence, our unit of analysis is managers representing Norwegian salmon farming companies (subsidiaries/group representatives) and experts to validate industry response.

### **3.1.1. Suitable choice of Theory and prior empirical research**

The end of our academic life as students are near, and it seems reasonable to study the practical implication of the theoretical perspectives we have learned.

To start of our research process, we naturally began searching for information, and we went through a great number of peer-reviewed articles. We assumed the topic surely must be of such an interest and importance to industry actors that it already would be a lot of material available just waiting for us to do a literature review (Easterby-Smith, Jackson, & Jaspersen, 2018). Time seemed limited, as the pandemic posed some restrictions. To ensure that we were not solely reliant on external actors to complete our master thesis, a literature review would provide us this safety-net. However, we appreciated the exciting and ever-changing time we are in. This made us realize we wanted to study current strategic choices in the salmon farming industry. The theoretical perspective for this dissertation is Porters (2008) competitive advantage through generic strategies. Our research is therefore not based on a clear research gap compared to prior research, but more phenomenon-driven research (Easterby-Smith, Jackson, & Jaspersen, 2018).

To illustrate the two approaches that explain how the research create meaning and knowledge from either, a bottom to top approach (induction) or a top to bottom reasoning (deduction) (Alvesson & Sköldbberg, 2009), see figure 3-1. Inductive approach creates knowledge by taking the empirical into account first to generate a theory, while the deductive approach starts on theory or existing research and test it through logical and rational tradition to either falsify or verify a truth (Dybvig & Dybvig, 2003). An inductive approach seems more advantageous to our study, as we wanted to base our theory on empirical findings and would risk a mismatch if we chose the theory first not exactly knowing what we would find in our research. We aimed for an interactive process, where the researcher can return to literature and check if a certain finding is already remarked. Our study is based on a few cases, and while it might not be representative for the whole salmon industry, new discoveries in this can bring forth new topics of discussion and enrich existing theory.



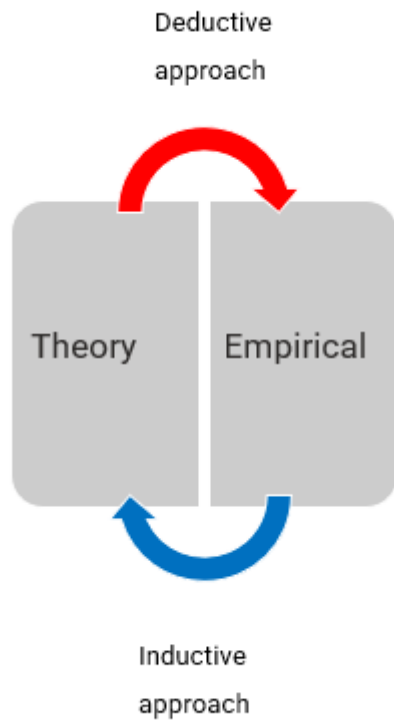


Figure 3-1 Deductive and Inductive approach, figure inspired by Alvesson & Skoldberg (2009).

We believe that asking questions about strategic choices could be a gateway leading to an upstream funnel of information which could uncover managers reasoning for strategic choices, e.g., segmentation, product development and so on. Consequently, we found it purposefully to address the theory of competitive strategies as we believed it could elevate our analysis and contribute to a multifaceted discussion around the concept of competition.

Additionally, the discussion of competition regarding homogenous products might turn out different, respectively from a consumer and a producer point of view. As we know, the salmon is mostly exported across Norwegian borders, and this might reduce the knowledge of end-user preferences. Findings could identify a gap in how the industry perceive and understand their role of being competitive.

Given our research limitations we decided to collect secondary data concerning consumer trends and behavior. We recognized the importance of consumer trends and decided that this was another element we wanted to include, to connect a reasoning behind the industry

behavior. The data from Directorate of Fisheries would work as a supportive secondary addition to our thesis.

### **3.1.2. Choosing research methods**

There are two categories of research methods, quantitative and qualitative. The main difference is that quantitative research methods are used to get a broad representation of a small, separate phenomena, by using numeric measures to decide upon the connections and representativeness in the study (Dalland, 2012). While qualitative research is the gathering of data in a non-numeric form (Easterby-Smith, Jackson, & Jaspersen, 2018). Hence, it provides a better method for detecting experiences and opinions that are not easily quantified (Dalland, 2012).

Some experts argue that applying both methods into the same research will enhance the validity and generalizability of both the results and the creation of new theories (Easterby-Smith, Jackson, & Jaspersen, 2018). While others claim that it is probable that the design will lack competence in implementing the various methods which will weaken the quality of the study. Another obstacle is that the paradigms shaping the methods might contradict each other (Easterby-Smith, Jackson, & Jaspersen, 2018).

If our research limitations were wider in timespan, we would use both quantitative and qualitative methods in a sequenced order, where our in-depth interviews would first create a wide basis of findings, and hence result in a broad knowledge within the seafood industry. Secondly, we would conduct a quantitative questionnaire survey to purposefully contribute compensatory (Easterby-Smith, Jackson, & Jaspersen, 2018). This could help us to narrow our study even further but would possibly end up in the scope of two master thesis. Besides, as our experience within research is rather limited, sticking to one method seemed more contributing to research quality.

Qualitative research methods are more compatible with pursuing an explorative study as it makes it easier for us to probe into the 'how' and 'why' of competitive strategy and gain an in-depth understanding of behavior (Dalland, 2012). Typically, it is suitable when investigating new terms in high complexity such as the term 'competitive advantage' in the seafood industry. Often, qualitative research is referred to as the act of singing or dancing - manageable for most people, though with varied level of endurance as a spectator (Easterby-Smith, Jackson, & Jaspersen, 2018).

Eventually we considered our best method of science to thoroughly answer our research question was simply to go 'dancing', by conducting in-depth interviews. We decided to

concentrate on conducting in-depth interviews as we are most familiar and accustomed to this method. It seemed like a more desirable and exciting approach, as we were able to keep a wholistic ownership to our material from the beginning to the end compared to for example by only using secondary data.

### **3.1.3. Sample, data gathering, and analysis**

Due to the pandemic, social restrictions, and a rise in sick leave during January and February, we stressed and had our doubts about successfully reaching out to businesses. Our prior experience with reaching out to companies during other courses as part of our master program has often resulted in neglect of our inquiries at different points of the working-process. We believe the lack of responses is not at all a sign of disrespect, but maybe a natural effect of stressing times with pandemic, war in Europe, and a rise in similar inquiries from students reaching out to companies for their research.

In the middle of February, society seemed to stabilize, and conferences were announced to be held physically again. Perhaps we would be able to successfully get in contact with businesses through these events? The programs were put together combining views from the industry representatives, politicians, and researchers. It seemed as a very good idea to include the output from conferences in our selection, as it provides ‘fresh’ input of the current industry environment.

Our type of sampling has a non-probability sampling design. We asked our counsellor along with other prominent actors within the industry to recommend fitting respondents for our study. This is also known as the snowball sampling method and is a type of non-probability sampling design (Easterby-Smith, Jackson, & Jaspersen, 2018). In advance we defined certain criteria for our selected respondents:

- Knowledge and experience within the salmon farming industry
- Currently a part of /or been part of the decision-making group/managerial within a salmon farming company.
- All respondents combined should represent various company sizes.
- Their main market is Europe (this is where the salmon is consumed).

#### **3.1.3.1. Interviews**

We conducted seven interviews, six from the industry and one expert. All kept anonymously.

The semi structured in-depth interviews had an approximate duration from 30 minutes to 1 h 30 minutes. We interacted either by Teams/Zoom/Google meet, or physically at the conferences. Respondents were informed that they at any time were rightful to withdraw from the interview, and to refrain from answer certain questions. The interviews were transcribed. As a validating tool, a summery was sent or presented in the end of the interview, to ensure we interpreted attitudes and opinions in the right manner.

When structuring our interview guide, we applied Porter's theory of competitive advantage, as a basis (see attachment). We further included industry specific actions, such as interrelationships (e.g., buyer-supplier) to connect theory to the practical world. Our counsellor also helped structuring the interview guide.

At all times, we humbled asked the respondents to pick time, date, and means of communication after their own preference. This way we ensured motivated and hopefully relaxed respondents.

We retrieved external information about the respondents' companies, such as key numbers from annual reports, websites, and publicly available information from search monitors (e.g., [www.brrg.no](http://www.brrg.no)).

We always ended our interview by asking if the respondent had some additional thoughts or something they would like to mention. We also encouraged our respondents to give feedback, for us to improve or alter the interview guide.

### **3.1.3.2. Pilot testing**

As a preparation for the interviews, we did some fictional interviewing/roleplay- testing our social capabilities and interview styles. As many of the questions were designed as open, we consciously practiced our listening skills, and deliberately misunderstood the questions asked to better formulate and prepare for misinterpretations during interviews.

### **3.1.3.3. Researchers' prerequisites**

Being two students writing a master thesis is rewarding in so many aspects, but also a tricky process. The saying "Two heads are better than one" implies that writing a master thesis in collaboration with another fellow student is an advantage. Still, there has been times where our interpretation has come off as two-minded. A challenge is to make sure we both have the same understanding of statements, body language and what is of relevance to our thesis. We value all the aspects of learning in this process. We both agree

it prepares us for working life by building a growth mindset. Which includes desirable features to future workforce (Dweck, 2015; Forbes Magazine, 2020).

The personal philosophical principles may differ between researchers, and so will the research designs. A consideration of the underlying principle that guide how we as researchers collect and analyze data should be addressed (Easterby-Smith, Jackson, & Jaspersen, 2018).

We both identify more as constructionists who base their understanding of the world as contextual and reliant on the many interpretations and truths. This is contrary to a positivistic scientific approach which assume that there's a true or false answer which can be found by testing a hypothesis (Easterby-Smith, Jackson, & Jaspersen, 2018).

When we observe and collect stories and experiences from the industry conferences, we apply a narrative method. Our way of performing the narrative method is considered in the detached spectrum of figure 3.1 as the storytelling is emphasized, without the researcher influencing the subjects telling the story. A strength that is pointed out by this method is that it provides a holistic view on organizational behavior (in this case: the industry behavior). It provides a perception of the relationships between industry actors and different values they act upon (Easterby-Smith, Jackson, & Jaspersen, 2018, s. 115).

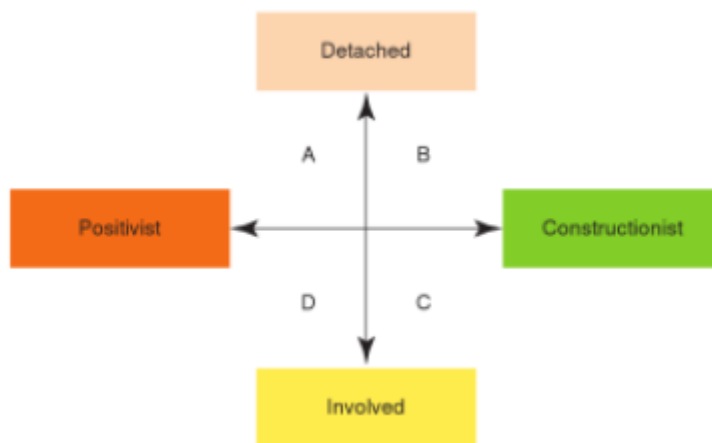


Figure 3-2 Epistemology and Research types retrieved from Easterby-Smith et al. (2018)

## 3.2. Review of research Quality

### 3.2.1. Validity

On the subject of validity, it is important whether the research method is applicable for the purpose it intends to serve (Kvale & Brinkmann, 2015). For qualitative research, the question becomes; does in fact the observations from in-depth interview provide the necessary information we need to research this subject. According to Thagaard (2013) validity refers to what degree the researcher specifies his acquired knowledge in the study. Researchers need to present how the process was structured and how information was retrieved, where it's important to present our position related to the research itself. For example, an industry executive conducting research within his own industry may be considered biased.

The findings need to represent what it was intended to, where diverse and detailed findings could increase the validity of the research (Maxwell, 2009). According to Kvale & Brinkmann (2015), the process of validation should be present through the entire research process, where all findings need to be validated and interpreted in a theoretical manner.

We seek to validate all findings through reviewing secondary data, and through conversation with industry experts. This approach is applied throughout the entirety of research, where new findings that couldn't be explained through literature, were presented to experts. We also reached out to experts to address concepts that we experienced as unclear, such as the difference between 'organic' and 'ecological'. Our intent to raise research validity was through conferences, where both researchers, industry representatives and politicians were present. In advance we screened all contribution speakers for interrelations and bias. PowerPoints retrieved from contribution speakers were cross examined to our findings, to make sure there were no misunderstandings. At these conferences we engaged in informal conversation, that allowed us to stress-test test the respondents, and by a face-to face interaction build a relation and exchange contact-information for further in-depth interviews.

However, the validity of our study might have been weakened due to certain main aspects:

- When attending the conferences, we were literally invited into the 'living room' of the industry. This may have softened some views presented by contribution speakers to avoid conflict. Thus, pressing issues may be under-communicated.

- A relatively low selection of respondents. More respondents would represent the industry more accurately.
- Our in-depth interviews were conducted on the respondent's premises and performed digitally. If performed physically, the dynamics might have improved and create a safer environment for sharing information.
- One interview was conducted by one researcher. Dalland (2012) recommends students that work together on a thesis to do the interview together. Motivation is strengthened and both researchers can interpret information that does appear in the transcript.
- All theoretical aspects were explained in a practical manner to ensure we had the same understanding. Still, there's no guarantee that all concepts were interpreted as intended.

### 3.2.2. Reliability

Reliability refers to the quality of consistency and plausibility in the researched findings (Kvale & Brinkmann, 2015). Reliability refers to applying a critical view of whether the research process has been conducted in a dependable and trustworthy manner (Thagaard, 2013). Thagaard (2013) argues that consistency is not a subject of relevance in qualitative research, where the researcher cannot get the exact same answer from acting consistently during the interview process. The question of reliability should rather be presented in accordance to how findings were derived from the interview process (e.g., by using an interview guide).

Regarding qualitative studies, there are several factors that can affect the reliability of the study. The first one being the reliability surrounding the questions asked in an interview (Kvale & Brinkmann, 2015). This relates to the researcher presenting leading questions to the respondent, or if the interview is structured in a manner that is affected by the researcher's perception. The second being the theoretical framework, and whether this affects how the researcher interpretes the findings (Thagaard, 2013). The last one being the subject of whether findings are being transcribed in a correct manner. Where spoken and written language present an interpretation, that can be poorly presented in a written manner (Kvale & Brinkmann, 2015).

In this study we applied semi-structured interviews, which can present some limitations in terms of the reliability of the research. The interview process acts as a dialog, where both

researcher and respondent can affect the outcome. This presents the question of whether another researcher would acquire similar findings. As we were aware of this issue, we sought out to increase its reliability through careful planning of our questions. Where we wanted to keep ourselves from asking questions that would lead the conversation. We presented all respondents with the opportunity to refrain from answering different questions, as we were made aware by our counsellor that we might come across sensitive information. Everything we transcribed that would be applied in our thesis, was then presented to the respondents. Then they could choose to exclude parts, or the interview entirely. As we are two researchers, we both transcribed separately during the interviews. This can potentially have weakened our ability to listen to our respondents, but we wanted to ensure that we interpreted responses similarly. When dealing with language barriers in terms of transcribing and translation, we focused on asking questions that could easily be translated in both languages.

### **3.2.3. Ethics**

Prior to the planning of our methodological approach, we searched NSD (Norwegian Agency for Shared Services in Education and Research)'s websites to make sure that the information we share in our thesis does not require us to report our study in advance. Since our information is carefully treated anonymously and untraceable, we do not have an obligation to notify (Norwegian Agency for Shared Services in Education and Research, 2022).

In accordance with Nord University's ethical guidelines, we are considerate of our respondents, and their integrity is something we do not sacrifice on behalf of science or social interests (Nord Universitet, 2022).



#### 4. Prior research secondary data

In this chapter we present data and tables retrieved from the Directorate of Fisheries. In addition to previous reports and studies from Milarex, Nofima, and other scientific articles. This data will supplement and highlight some of our arguments discussed in chapter 6.

##### 4.1. Cost

As part of understanding how cost leaderships can be attained, one needs to break down the different cost drivers related to producing salmon. The Directory of Fishery (2020) has through their website included statistics on various aspects of salmon production. Below is a general cost breakdown of the operating costs pr kilo of produced fish (see figure 4-1). From 2008, the average cost pr kg of salmon has doubled, where feed has shown the largest increase in the period. Products who are on the receiving end of premium pricing such as ecological/organic salmon or other value adding activities will have a different cost breakdown. Feed accounts for about 40% of the cost related to salmon production. The statistics does not address R&D activities.

Calculated Costs pr. Kg produced fish														
Average pr. Company, Nation wide														
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Smoltcost pr. kg	Kr	2.13	1.97	2.45	2.27	2.16	2.19	2.52	2.72	3.18	3.43	3.44	4.10	4.14
Feedingcost pr. kg	Kr	9.93	9.99	10.98	11.00	10.85	11.50	11.83	13.18	14.55	14.38	14.15	15.63	16.62
Insurancecost pr. kg	Kr	0.15	0.14	0.15	0.14	0.12	0.11	0.10	0.13	0.13	0.13	0.15	0.15	0.16
Wage Cost pr. kg	Kr	1.45	1.30	1.69	1.60	1.55	1.80	1.92	2.07	2.28	2.73	2.80	3.19	3.22
Depreciation pr. kg	Kr	1.08	1.01	1.16	1.09	1.15	1.23	1.26	1.58	1.80	1.94	2.19	2.58	2.64
Other Operating Costs pr. kg	Kr	2.93	2.94	3.30	3.36	3.26	5.58	5.54	6.31	8.71	8.13	7.24	8.98	9.71
Net Financial Cost pr. kg	Kr	0.95	0.39	0.29	0.19	0.22	0.28	0.20	0.16	-0.04	0.02	0.12	-0.10	-0.39
<b>Production Cost pr. kg</b>	<b>Kr</b>	<b>18.61</b>	<b>17.73</b>	<b>20.03</b>	<b>19.66</b>	<b>19.31</b>	<b>22.69</b>	<b>23.38</b>	<b>26.15</b>	<b>30.60</b>	<b>30.74</b>	<b>30.09</b>	<b>34.54</b>	<b>36.11</b>
Slaughter cost incl. Shipping cost pr. kg	Kr	2.37	2.38	2.84	2.52	2.67	2.64	2.46	2.95	3.26	3.09	3.79	3.72	4.05
<b>Total Cost pr. kg</b>	<b>Kr</b>	<b>20.98</b>	<b>20.11</b>	<b>22.87</b>	<b>22.18</b>	<b>21.98</b>	<b>25.33</b>	<b>25.83</b>	<b>29.10</b>	<b>33.86</b>	<b>33.84</b>	<b>33.88</b>	<b>38.26</b>	<b>40.15</b>

Other Operating Costs pr. kg Specified														
Average pr. Company, Nation wide														
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fish health pr. kg	kr	..	..	..	..	..	..	..	1.83	2.02	2.25	1.59	2.21	2.61
Environment and maintenance pr. kg	kr	..	..	..	..	..	..	..	1.57	1.74	2.14	1.81	2.09	2.08
Other pr. kg	kr	..	..	..	..	..	..	..	2.91	4.95	3.74	3.85	4.68	5.03
<b>Other Operating costs pr. kg</b>	<b>kr</b>	<b>2.93</b>	<b>2.94</b>	<b>3.30</b>	<b>3.36</b>	<b>3.26</b>	<b>5.58</b>	<b>5.54</b>	<b>6.31</b>	<b>8.71</b>	<b>8.13</b>	<b>7.24</b>	<b>8.98</b>	<b>9.71</b>

Figure 4-1 Costs and other operating costs (average) per kg produced salmon, retrieved from Directorate of Fisheries

The Norwegian Directory of Fishery has calculated the average feed cost according to firm size and general area, where there has been a significant increase over the recent years. Since 2009 to 2020 the general cost of feed has increased by 62,15% (see figure 4-2). This cost is expected to increase further because of the ongoing war in Ukraine, where

this could result to a deficit of key feed ingrediencies such as wheat (The Norwegian Government, 2022).

Calculated feed price pr. Kg														
Average Country wide														
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Norway in total	kr	7.80	7.84	8.15	8.88	8.94	9.19	9.68	10.68	11.68	10.90	11.26	11.70	12.55
Group 1 - Small Firms	kr	7.93	7.98	8.29	8.89	8.95	9.40	9.73	10.70	11.76	11.26	11.63	11.81	12.87
Group 2 - Medium Firms	kr	7.76	7.83	8.54	9.20	9.34	9.47	9.96	10.65	11.31	10.65	12.20	12.29	12.37
Group 3 - Large Firms	kr	7.72	7.75	8.02	8.82	8.87	9.02	9.71	10.67	11.72	10.79	11.06	11.55	12.49
Troms og Finnmark	kr	7.86	7.83	8.34	8.69	8.98	9.30	9.60	10.72	11.94	11.66	11.85	12.50	13.04
Nordland	kr	7.72	7.91	8.20	8.79	8.95	9.51	10.17	10.78	12.06	10.90	12.42	13.01	13.16
Trøndelag	kr	7.69	7.76	7.84	8.89	8.81	9.17	9.26	10.53	12.09	11.24	11.41	11.08	12.79
Møre og Romsdal <sup>1)</sup>	kr	7.72	7.82	7.94	8.82	8.78	10.54	10.21	15.10	11.64	10.53	-	-	-
Sogn og Fjordane	kr	8.30	8.26	8.88	9.23	9.42	9.42	9.51	10.74	11.28	11.43	11.83	11.73	-
Hordaland	kr	8.04	7.83	8.23	9.06	8.76	9.54	9.58	10.61	11.36	10.66	10.97	11.36	-
Vestland	kr	-	-	-	-	-	-	-	-	-	-	-	11.46	12.07
Rogaland og Agder	kr	7.97	7.88	8.11	8.87	8.48	9.82	9.67	10.69	12.43	11.18	10.95	11.50	12.46

Figure 4-2 Feed price per kg, retrieved from Directory of Fisheries

While there is limited differentiation in terms of cost, there is a significant difference in terms of operating margins (see figure 4-3). Where Vestland has marginally the lowest feeding cost, they have also the lowest operating margins in 2020. This stands out compared to the previous year. Both Rogaland and Nordland are reporting the highest operating margin in 2020, meanwhile the average has been high amongst all geographics. In terms of operating margin, the ‘cost leaders’ at Vestland seems to have by far the lowest margins in 2020. The region Rogaland (south of Vestland) are close to the ‘margin leaders’ up north.

Calculated operating margin														
Average pr. Company														
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Norway in total	%	10.2	20.9	32.9	16.4	6.5	26.4	25.4	19.4	36.0	33.9	32.4	27.6	17.1
Group 1 - Small Companies	%	10.0	20.1	33.1	16.2	4.2	27.0	26.0	19.5	37.7	31.9	26.7	25.2	11.6
Group 2 - Medium Companies	%	8.0	15.3	34.0	18.0	6.5	26.4	27.4	14.8	29.7	33.3	29.9	21.9	13.7
Group 3 - Large Companies	%	7.6	22.4	32.6	16.3	7.5	26.2	24.9	20.5	36.8	34.9	34.1	29.3	18.9
Troms og Finnmark	%	9.1	17.3	29.9	14.5	7.9	29.5	26.5	21.0	41.7	33.4	35.0	28.4	15.1
Nordland	%	13.9	21.6	33.9	17.0	9.3	28.4	26.0	25.8	40.6	35.4	35.2	33.8	22.3
Trøndelag	%	14.7	20.0	32.8	15.4	6.7	28.9	25.2	22.2	33.2	35.5	28.6	33.2	16.5
Møre og Romsdal <sup>1)</sup>	%	2.8	14.1	30.8	13.2	-3.9	23.9	28.9	12.7	22.2	26.2	-	-	-
Sogn og Fjordane	%	9.1	23.1	34.0	20.9	6.9	32.2	27.5	18.6	38.1	30.0	22.2	22.6	-
Hordaland	%	1.7	18.9	29.2	15.3	0.6	21.2	15.5	8.1	28.8	24.9	18.7	12.9	-
Vestland	%	-	-	-	-	-	-	-	-	-	-	-	15.3	4.7
Rogaland og Agder	%	0.2	20.8	30.5	16.2	6.6	22.9	21.7	16.0	41.7	37.0	29.1	34.4	21.3

Figure 4-3 Operating margins per company and in different regions, retrieved from Directory of Fisheries

## 4.2. Differentiation

There have been limited studies regarding differentiation of Atlantic salmon. A combination of the current trends observed in the market by Milarex report (2022), and a study conducted on the behalf of Nofima (2020), addresses differentiation as a strategy within the industry. As previously mentioned, differentiation is a value adding activity that is unique, where it provides value for consumers (Porter, 2008). The Nofima report argues that the salmon has matured as a product, hence the producers seek to differentiate on extrinsic qualities such as brand and service elements, rather than intrinsic qualities (Nofima, 2020).

A study conducted by NSC (Norwegian Seafood Council, 2018) stated that price was one of the most important factors when consumers are purchasing salmon.

An emerging trend in the industry is the usage of third-party labelling (Milarex, 2022). As there are several types of labelling, it is reported that consumers have an increasing interest for GG and less for ASC certification. Global G.A.P (GG), is a set of criteria related to legal compliance, food safety, safety and welfare, animal welfare, environmental and ecological aspects (KIWA, 2022). Aquaculture Stewardship Council (ASC) are focused towards the social and environmental impacts related to aquaculture (KIWA, 2022). In Norway there is a separate certification (Debio) regarding ecological production that also covers the EU regulations of ecological farmed salmon (Debio, 2022). According to the report of Milarex (2022), certifications differentiate in terms of creating value for younger consumers that have an increasing focus on sustainability, healthy ingredients, animal welfare and transparency.

The report from Milarex (2022) further addresses a change in preference regarding size of packaging, where there is a declining trend in terms of medium and large packaging, and an increase in smaller packaging sizes. As 90% of salmon is being purchased through retailers (Milarex, 2022), differentiation through packaging is important. Particularly where consumers perceive seafood in general to be inconvenient (Olsen, Tuu, & Grunert, 2017).

Milarex (2022) and Nofimas (2020) reports of an increase in brand concepts. While the Norwegian industry has historically been portrayed as country brand, there are some that seek to differentiate, such as MOWI. A strong brand would increase perceived differentiation amongst consumers (Nofima, 2020).

#### **4.3. Focusing on attributes**

As previously mentioned, focusing as a strategy seeks to serve needs that otherwise are not served through the main market. Firms can seek to attain cost leaderships or differentiation within given segments. The segments need to vary from the main market to a degree that consumers find valuable (Porter, 2008). MOWI (2021) states in their industry handbook that the main market is fillet fish. The segments are either whole, smoked, or other value-added processed products. such as boxed sushi in supermarkets, salmon with attributes such ecological certification. There is limited research related to segmentation within the salmon industry, however a study conducted on the importance of attribute segmentation of Norwegian seafood consumers addresses several attributes that

are structured through five categories: quality, packaging, convenience, affective/exclusive, and price/value (Olsen, Tuu, & Grunert, 2017).

## **5. Empirical findings**

In this chapter we will present our findings from our primary research. We attended two large conferences, the annual seafood conference in Bodø (initiated by Seafood Norway), and Salmon City 2022 in Bergen (initiated by Student organizations). We also conducted seven in-depth interviews. Six with industry representatives, and the last one was an expert interview which we regard as independent of the industry

First, we will present our impressions, descriptions, and learnings from contribution speakers at the conferences we attended, along with some informal conversations that took place throughout the event. Secondly, we will present our semi-structured in-depth interviews with our industry managers and our expert. The identity of all respondents is kept anonymously, and some key characteristics are displayed in a table to neaten and make comparisons easier. The interviews are presented separately to better portray each respondent.

### **5.1. Seafood Norway annual conference 2022, Bodø**

The atmosphere seems upbeat, and people is outgoing and in search for conversation. The Ministry of Fishery (Frank Bakke Jensen) gives a contribution speech where he expresses the current challenges with climate crisis, pandemic, and the war in Europe. He emphasizes that despite the pessimistic view, Norway is still breaking records on export volumes. He further stresses that Norwegian salmon is a popular product of origin and has an exceptionally good reputation abroad. The industry's role, and main aspirations should be the creation of workplaces, and to deliver on reduction of climate footprints in all joints of the value chain.

During a snack-break we immerse in a conversation with an executive from a fish feed-ingredient supplier. He comes across as highly devoted and knowledgeable. He presents several views about sustainable salmon production. He expresses his impression about ecological produced salmon not necessarily being a better sustainable alternative compared to the Norwegian conventional salmon farming. He estimates that the feed ingredient input in ecological salmon production contains 30% additional fish meal compared to the equivalent conventional salmon-farming production. He defines the

ecological salmon as a niche segment (approximately 5 000 ton of total production) and tells us that in Scotland they have successfully reached this segment and obtained a premium price. He suspects that this is due to an exceptional ability to develop the ecological segment. He further suggests that the business environment may be ideal since it successfully supports and enables various segments for retail market end-users. On a general note, the demand for ecological salmon is bigger in UK and Europe. He believes that the Norwegian salmon producing companies not necessarily manages to exploit the segment, and that the small amount of this production ends up mixed in the conventional seafood sales volume.

When we return to our seats it is time to overhear some debates. Participants are both politicians, company representatives from the industry, experts, and representatives from authorities that the industry are in continuously interaction with, e.g., The Norwegian Food Safety Authority.

Politically, they argue there is a wide understanding that its necessary to implement more indicators on sustainability in the seafood industry. Today, the only parameter that measure sustainability is the frequency of lice infested fish. Many representatives from seafood companies agree, however in conversation with company executives' they express ambiguity. The concern is that with more parameters, companies would to a greater extent be demonized when not scoring high on one of the parameters.

The debate highlights several challenges. One politician argues that the increase in listed companies within the industry would result in foreign ownership and a local abundance of value creation. The discussion quickly moves onto the taxation system, whether it is equitable or how it hinders maneuverability at the company's hand. A suggestion of putting intake cost as a basis for valuation (which results in lower taxation of owners) receives an immediate applause from the audience. On the contrary, another politician argues that the taxation in fact is low compared to other countries in Europe (e.g., Germany, France), but acknowledges that the recent change in valuation of fixed assets is a greater readjustment for small-medium sized companies.

The Norwegian Food Safety Authority argues that fish health and welfare must be focus points. The industry is growing rapidly and expanding with many new species. This is a challenge, and there is a need to promote the actors that perform well on these measures. The debate takes a turn when addressing the collaboration between companies and authorities. The companies express frustration over the complex and high demand of documentation and calls for a dialogue (in a simpler language) regarding the process of

managing applications and meeting the requirements of the authorities. The companies argue that ‘in the field,’ the representative from the authorities seems unclear of their role, and the authorities lack a view on what builds the industry. The Norwegian Food Safety Authority agrees that they have a potential for improvement, but notes that there is a lot of issues in the interaction that needs to be addressed. Harassment of their representatives does not lead to dialogue. The industry expresses heavy regulations and case processing with alterations and reorganization of authorities. This negatively affects the company’s strategies. A person sitting behind us quietly whispers, “the reorganization is a sign of something not working properly”. The politician replies that the extensive demand in documentation is due to off-border requirements, to increase the transparency (e.g., in the supply chain). To comply with this is an advantage for the industry as most of the seafood is exported.

A representative from the National Authority for Investigation and Prosecution of Economic and Environmental Crime addresses a new topic; “Corruption that facilitates environmental crime or makes environmental crime lucrative “. A prosperous industry like the seafood industry will attract criminals. It has been uncovered ownership and transactions to organized crime abroad. The representative utters and strongly recommends the industry to urgently address this matter, as it can damage the whole trade. The head of investigation and compliance from PWC adds that it would be an advantage to take a proactive stand in this matter, as it often is a requirement from external future business partners. A family-owned seafood company representative agrees and adds that reputation is temporary, and continuously needs to be demonstrated a rightful deed to. On a general note, the companies agree that there is a potential for improvement in the industry and claim the saying “know your customer” is ever so important. “We need to know our customers in foreign waters with the cultural challenges that brings”. The Crime authorities respond that the burden of evidence is so excessive in the Norwegian legal system, and strongly advise the industry to not base the amount of financial crime on the level of sentences. It is imperative that one take a closer look on a lower level to work with risk assessment in a correct manner.

It is time for a coffee break and people starts to chatter around us. We approach the man sitting behind us. He tells us he is retired from a lengthy career in the salmon farming industry, working as managing director and chairman of the board. We encourage him to share his views on topics discussed, to which he gladly responds. In his opinion there’s too much focus on what the industry does wrong, instead of making an example and cheer for the businesses that practices excellence. He also confirms our impression of a slow

bureaucracy regarding the application processes. He also questions the taxation system and suggests that the local municipalities should be granted a greater piece of the pie instead of the government. He explains that this would take care of the environmental issues, as the local fishermen would have strong interests in preserving his/her livelihood. We ask him about his opinions regarding gene-editing, and he quickly responds that he believes it would solve the problem entirely and make the industry more sustainable.

Our coffee break is over, and it is now time for an academic approach to the seafood industry. Malin Jonell is a researcher from the Blue Food Assessment (BFA), which is a joint initiative of the Stockholm Resilience Centre, Stanford University and EAT (Stockholm Resilience Centre, 2022). Her research area is primary sustainable blue food consumption and production. The assembly is listening attentive to her when she speaks about the planetary boundaries and the latest IPCC report which says its “code red for humanity”. The BFA aims to fill the knowledge gap and bring understanding regarding the role of blue foods, especially for farmed fish. Supplementary, the report aims to “inform and drive change in the policies and practices that will shape the future of food” (Jonell, 2022; Stockholm Resilience Centre, 2022). According to BFA, blue foods are important because of the potential in nutrition and social-economic contribution. It is comparable to poultry when measuring greenhouse gas (GHG) emissions. When estimating the environmental performance, twenty-three species are considered to cover 70% of the global blue food production (Jonell, 2022). Production of salmon, either farmed or wild, still has much the same GHG emissions. Silver Bigheads, Salmon, Bivalves and Seaweeds are low in GHG emissions compared to other farmed species (cf. Figure 5.1 1). Malin then puts a reminder to the fact that when calculating sustainability, not all parameters are considered, e.g., by-catch (dolphins). The measurements do neither cover the negative impacts on local environment or biodiversity.

Environmental performance

## Comparing Blue Foods

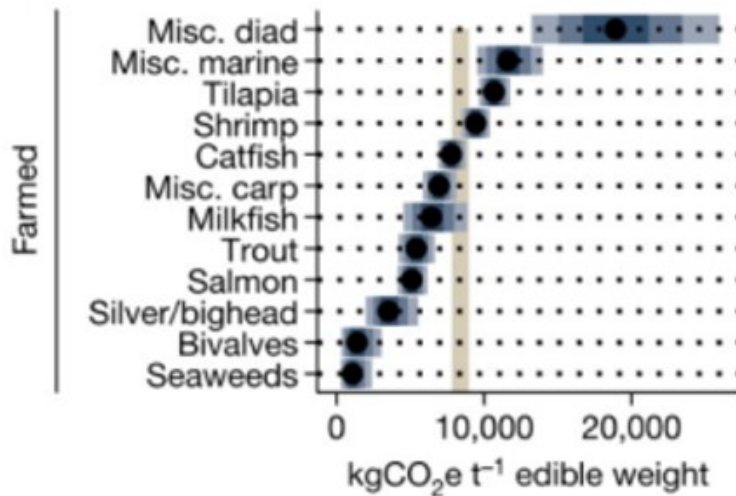


Figure 5-1 Environmental performance among farmed species. Retrieved from Malin Jonell, 2022

The Government Pension Fund Norway, which is responsible for managing public financial assets, by investing on a long-time horizon to ensure financial return fills us in on why they invest in the salmon farming industry (MOWI ASA, Salmar ASA, Lerøy Seafood ASA Austevoll Seafood ASA, Grieg ASA). A low growth in supply naturally provides a higher price which is the basis argument for investing in the industry. The further reasoning behind the investment exposure in salmon farming specifically is:

- The salmon farming contributes with a stable volume for sale compared to wild catch
- There is an increase in demand due to trends such as sushi
- Prospects of value creation in the industry is considered remarkably high.

The attribute of the product is unique, as the companies produce Atlantic salmon which is the most sustainable protein food before transport. Norwegian salmon producers also have a position in the market that is one-of-a kind, as they possess a competence regarded as a strong competitive advantage in the international market. Some of the main challenges the industry faces that occupy their concern are the mortality among fish, and fish health.



Another contribution speaker was David Hughes who is an international food analytic. He announces that “Global demand for blue food is expected to double in live weight by 2050”.

A global megatrend is moving towards more protein-based diet. Proteins are found in many foods; plant-based, meat (fish, cattle, poultry), eggs and dairy and non-traditional proteins also called ‘fake-meat’. To many people proteins are vegetables, especially in India where a large part are vegetarians, hence plant-based foods are their natural source of proteins. Fish and seafood are the most important protein meat, as they are the largest singular category globally. Still, poultry (chicken) has turned out to be an enormous disruptor on a long-term horizon in the US meat consumption, while fish has remained stable. Why is that? Can seafood learn from this success? In one of David’s PowerPoint slides (Hughes, 2020) he presents success drivers for chicken and how it checks the lists respectively from consumers, and citizen views. Marked in red are the drivers that fish has the equivalent benefit or better, compared to chicken (cf. Figure 5.1 2). He pinpoints that the potential in making fish more attractive to consumers, lies in developing the snackability and becoming a more convenient product. On the citizen check list, it is evident they are becoming more ‘eco-active’, meaning they modify their food purchase activities based on citizen issues where achieving a climate and environmentally friendly diet is preferable. Fish and seafood are considered “to be in a rather good place” environmentally. Nonetheless, the food industry is paid close attention to in the public eye. In international and influential media ‘Big stories’ about food stories are making headlines to a much greater extent than before. He further adds that globally, there is a high trust and awareness in the MSC label.

Consumer Checklist	Citizen Checklist
<ul style="list-style-type: none"> <li>•Affordable</li> <li>•<b>Healthy/ Nutritious</b></li> <li>•<b>Protein content and quality</b></li> <li>•Versatile</li> <li>•Snackable</li> <li>•<b>Easy to add taste</b></li> <li>•Eat hot and cold</li> <li>•Kids like</li> <li>•Food service favorite</li> <li>•Widely available</li> <li>•Local provenance (often)</li> <li>•Consumer-orientated products</li> <li>•Wide product range</li> <li>•Reasonable shelf life</li> <li>•<b>Religious neutral</b></li> </ul>	<ul style="list-style-type: none"> <li>•Climate friendly (e.g., low on GHG)</li> <li>•Environmentally-friendly (e.g. plastics)</li> <li>•Sustainable (e.g. Biodiversity)</li> <li>•Animal welfare-friendly</li> <li>•Human health friendly (e.g., antibiotics, hormones)</li> </ul>

Figure 5.1 2 Success drivers for chicken consumption compared to fish/seafood (retrieved from David Hughes; Imperial College London)

He reveals that a recent trend due to the pandemic has made consumers more creative in cooking (increased confidence in cooking), and meal-kit companies such as “Mindful Chef”, “Freshly”, “Blue Apron”, equivalent to “Adams Matkasse” in Norway has had an outmost success. He encourages the seafood industry to “work on the young group, as they don’t just wake up and fancy seafood”. Because in the end, it all boils down to habits. Youngsters do not eat three meals a day, they have a different meal pattern where they eat when they are hungry and have several “snack-meals” during the day. David refers to one Dunnhumby Report from Tesco Media and Insight. The report shows that young people that has a balanced work and social life, are most likely to choose plant-based diets. He also presents fun facts as, “did you know there’s a Norwegian Salmon ATM in Singapore”? Consumers want to hear the “story” of the salmon, about where it’s from and the sustainability of their seafood.

## 5.2. Salmon City 2022, Bergen

Through workshops, lectures, and panel conversations offered at this event we gather more information about the seafood industry and can connect with key persons of knowledge and expertise within the industry. We indulge in a short conversation with a chief advisor of fish health from a big salmon-farming company. She expresses an opinion about the Norwegian gene technology act (1993) being obsolete. Much has changed

within society and technology, and she identifies and presents several opportunities that gene editing could offer the industry. For instance, eliminate problems regarding lice, feed-ingredients, and reproduction that endangers the wild-salmon. We further ask questions about attitudes within the salmon-industry regarding ecological produced salmon. She argues that it seems little solidarity to opt for ecologically produced salmon, as the world are facing a population growth and food resource deficiency. Ecological salmon craves more resources/input factors and are only affordable by the middle-upper class of society.

The term “sustainable” is frequently used, and throughout the conference people seem somewhat confused or reluctant using the term without acknowledging that the industry was not there yet- because it has a long way to go. One representant from a salmon producing company states that, “We try to avoid the term ‘sustainable salmon farming’ and prefer to express ourselves in the term ‘responsible salmon farming’ instead”.

We are presented with the ‘status quo’ and the prospects of production and price forecasting by a contribution speaker. He states there’s “No growth in harvest from top five producing countries in 2022 so far. We need to remember that 2021 was a good year, so it should not surprise us if the production declines in 2022”. The industry expects prices to peak in 2022. Despite reduction in export to Ukraine, Russia, and Belarus, it has been no difficulties rearranging this export to other markets.

To summarize, he argues that supporting companies, suppliers and industry closely related to salmon-farming industry, is exposing themselves and eager to get a piece of the pie. It is clearly considered a lucrative deal to get a foothold within the industry.

The Directorate of Fisheries also addresses the group and pronounce they adhere to the precautionary principle. They strive to “promote profitable economic activity through sustainable and user-oriented management of marine resources and the marine environment” (Norwegian Directorate of Fisheries, 2022). They present awareness that this may come across as conflicting goals for some. The foundation of their authority is a workforce with solid knowledge and research both multi- and interdisciplinary within for example law, biology, and economy. This enables their responsibility in enforcing the Aquaculture Act and the Biodiversity Act. Further they emphasized that Norway is among the leading countries of exporting Atlantic salmon, and in when it comes to sustainable salmon farming, they are aware that the requirements for granting localities should be stricter.

Challenges related to areas available for salmon farming is also a pressing issue, as the locations are limited. This brings the salmon-farming further offshore, e.g., Salmars “Ocean Farm 1” or Nordlaks’s “Jostein Albert”.

The distribution of offshore farming localities is restricted by so-called R&D (Research and Development) deals, but with a permission to continue commercial operation after completion. R&D localities are given as an incentive to make actors in the industry invest, as it demands substantial and financial muscles to build and operate a farm in this category. The conversion access to continue commercial activities is highly lucrative and rewarding.

Throughout the presentation given by the Directorate of Fisheries, again, a permeating message of the industry’s overall purpose: “We need to produce more food because of the alerted resource shortage in the years to come, as salmon is a preferred source of protein because of its low carbon footprints.”

A representative from McKinsey gives a summary of their recent report “Norway tomorrow”. It states that Norway’s geopolitical and natural resources is an advantage in many industries. Still the bureaucracy and decision-making process of authorities are too time consuming and comprehensive, compared to other countries (McKinsey & Company, 2022). Nonetheless, according to sustainability, the industry is moving in the wrong direction. We have over the years become less sustainable (McKinsey & Company, 2022).

It is time for a break, and the audience is invited to try some sashimi samples that is being served out on the terrace. Shortly after, it is time to attend the next speaker, Bremnes Seashore AS. They have developed the well-known fresh salmon product «Salma». It is presented as a high-quality product without skin and bones. Their business model is based on a fully integrated value chain – with processing included. When the smolt is around 500 to 800g it is put in the cages. When they reach a growth of 5,5 kg, they are ready to be harvested. It is crucial that they deliver the same quality all year round to provide stability for their customers. They believe their product was quickly adapted in market due to the sushi trend from 2006 to 2010, where salmon is the most frequently used fish. At some point Bremnes Seashore got into a joint venture with Tine to launch a new product «salmon sausage». This attempt failed, and after a review the customers expressed that “never mind the sausage- give me the fish.” In other words, the consumer desired the raw material.

Bremnes declares that they believe their success is due to their unique marketing mix: They use celebrity gourmet chefs (e.g., Eyvind Hellstrøm) as opinion leaders to front their

products, retail demonstrations and sample testing to end-user, participation at different festivals and exhibitions, and well-developed websites with different recipes. This altogether gives a direct contact with the end-user. They present their newest product development: The Salma burger.

### 5.3. Interviews

Respondents	Representant	Company type	Company size	Duration by hours	Conducted by one or two students
Company A	Manager	Group/industry network	Small	2h	Two students
Company B	Manager	Group	Medium	Written	One student
Company C	CFO	Subsidiary	Small	1h 30m	Two students
Company D	CEO	Independent	Small	1h 30m	One student
Company E	Manager	Independent	Large	1h	Two students
Company F	Industry rep.	Organization	N/A	1h	Two students
Company G	Expert	Organization	N/A	2h	Two students

Figure 5-2 Key characteristics of respondents

#### 5.3.1. Company A

We speak with a representative from company A, which is a product of a joint venture of two-family owned salmon farming groups. Sustainability is a major theme on their website, which we understand to be their identity. Our respondent from Company A argues they provide the best quality salmon in the market, which they claim to substantiate with factual arguments. This company holds both ASC, GG and Debio certifications, differentiating from most competitors. Our respondent further states that they even go beyond the demands of the certifications, while arguing that GG is somewhat an industry standard. When producing ecological salmon, the whole value chain needs to be ecologically certified, which adds a significant cost in terms of production. While the general cost pr kilo is around 40 NOK, this would add an additional 15 NOK on top of that (almost a 40% increase). However, the respondent argues that prices for premium products are not affected by the price of regular salmon. To make sure a price premium

could be attained. They sought to find specific market routes, where they did a significant screening process to identify potential intermediaries. These were intermediaries who could identify with the product quality and distribute it to markets that would pay a price premium. As the conversation moves further onto market issues, he presents us with two obstacles with which they are currently dealing. Firstly, they struggle on how to successfully communicate and inform their market about the product in a way that does not portray its competitors badly. They want to display their product qualities without comparing them to others in the business. The respondent indicates that they do not want to hurt competitors or generate rivalry. Secondly, he states they have had several attempts of market communication, but as of now they have unfortunately not been successful. This is particularly pressing because if the consumers do not understand the value of the product itself, it would be difficult to charge a price premium. He further goes on describing how the market is interested in ASC or fully ecological products. This company is present in both in the European market and on the west coast of America. There are two major differences that set these markets apart from each other. In the European market, they are allowed to market product as ecological, meanwhile in the American market they are not. It is difficult to get the customers to pay a price premium when they are not allowed to market their product as a premium product. The representative goes on describing how they have tried to make themselves and their actions more visible. He states they have invested in social media marketing and sponsoring. To make their logo visible they have further integrated a QR code on the packaging of their product. This enables them to display whatever they want. Product attributes, information about the value chain were mentioned as possibilities. To address these obstacles, he presents different strategic options, such as brand building or a different communication strategy. The challenges were to fit time into their schedule as they were a bit undermanned for now, but the potential to apply these strategies are there. The future implications of failing to charge a price premium would indicate they would have to produce in a more standardized manner. He argues that they are leading as a good example in terms of sustainable farming and would like to continue to do so.

### **5.3.2. Company B**

We engage in written conversation with a representative from a family-owned salmon farming group. On their website they take pride in their fish-welfare, product development and define themselves as a supplier of sustainable seafood. Their operating revenue for 2020 is above 3 000 MNOK, and they are in control of operating activities across several

parts of the value chain within salmon farming. They have Debio certification, and for 2020 the total sold ecological salmon was approximately 500 kg. Our respondent shows extended insight about certifications and how consumers perceive the different labels. Furthermore, she reveals that the certification programs are costly, and only a designated share of the salmon is presented aligned with its certification 'attributes'. This is a phenomenon that occurs across other food products as well, e.g., milk. It is the lack of demand for ecological products that eventually puts the ecological salmon in the same basket as conventional salmon. She states "In the end, the consumers are not so willingly to pay the additional cost. If consumers want ecological salmon, they need to show action and willingness to pay. Demand is key for ecological production of salmon".

From a production point of view, it is relatively easy to transform into an ecological production. However, it involves more expensive feed (due to the higher demand in share of both marine ingredients and natural color substances).

Regarding the density in the cage, the requirements are almost the same of conventional versus ecological salmon farming. Conventional salmon farming is limited to 25kg/m<sup>2</sup> compared to 20 kg/m<sup>2</sup> for ecological. While the density is normally 20-22 kg/m<sup>2</sup>.

Furthermore, our respondent identifies the American market as the segment with the greatest demand for ecological salmon. To be considered as a candidate for certain supermarkets (e.g., Wholefoods) there's additional requirements to meet the qualifications as an "organic" product. A prerequisite is being able to consistently provide a set volume. This necessitates the availability of several certified locations (farms), which provide challenges in planning, processing, and harvesting and of ecological salmon. To sum it up in a cost/benefit perspective, the production is slightly more expensive, with an even meagerly difference in animal welfare and other parameters that are key performance indicators that salmon farming companies strive to improve. Significantly decisive is also the fact that the total amount of certified ecological salmon is not sold as ecological.

The industry regards the certifications GG and ASC as a greater regulatory contributor to 'responsible salmon farming,' hence are more popular than the ecological certification. Customers expects their product to have a GG or ASC certification. Approximately 55% of the localities in Norway are ASC certified, and even more are GG certified. Another certification, "Friends of the sea" is now obsolete, due to rise of the ASC certification. This is the certification producers strive to achieve. She states that their customers also have checklists and specifications, that we as a producer thoroughly revise to ensure we comply.

An important discussion related to certification is the label itself on the packaging, where ASC charge royalties of 0,5 NOK per package. Our respondent asks, “Who pays for this? Are the consumers willing to pay the additional cost for the label?”.

She further exemplifies the innovative production process applied by one of their subsidiaries. They use a live cold fish technology that enables a pre-rigor slaughtering. This results in a ‘hyper-fresh’ raw material (product availability 2-4 hours after slaughtering), which is a critical success factor related to their RTE (Ready to Eat) product free of bones. Filet that are processed right after slaughtering shrinks and gets a thicker texture and distinctive color which is considered favorable. This ensures a fresher product available for end-user as opposed to post-rigor slaughtering where the fish must wait 3-5 days before it can be processed due to the post-mortem rigidity (rigor mortis). The pre-rigor slaughtering also means that costs related to storage and cooling are reduced. Normally their product ranges from whole salmon, fillet, and loins and salmon-burgers. The biproducts are distributed as ensilage.

She continues to explain that if there is a possibility to distribute the products fresh and with low core temperature with long durability, you do not need to transport that much ice on the way, and the transport trucks are able to fit in more fish instead. This is an advantage that makes us able to compete with processing facilities/actors in Europe. It is a substantial contribution to ensure local workplaces, and to increase value creation within our own borders.

She addresses several topics regarding customer habits and preferences:

- It is the post-rigor fillets that is available in the supermarket. They are produced two to four days after slaughtering. Some customers buy whole fish or pre rigor filet and remove the bones themselves/at home.
- The level of salmon available with or without skin, all depends on the customer demand. A significantly part of the HoReCa segment is single-vacuumed fillets without skin which makes it easier for the chefs to prepare sushi meals.
- The customer prefers products that are highly convenient, thus without skin and bones. In some markets and restaurants, they prefer salmon with skin to apply a rubbing technique (“scaled fish”), so the chefs can fry the salmon and obtain a crispy salmon skin. This is also a popular method in Japan and other Asian countries (“silverskin”).

To highlight the complex processing, she explains that fillets can be ‘trimmed’ differently from a category of A to E. A, B, C and D are with skin, and category E is without skin.



Due to salmon with wound injuries, this must be distributed to another facility that are able to manage the salmon post-rigor. The purpose of that facility is to amend these damages. This is a legal requirement by the regulation of Fish Quality §17. The pieces of the salmon that are damaged are removed and transported to be processed as a residual raw material (cf. regulation of fish quality §12). The unscathed, and freshly declared pieces are free to handle as export commodities.

### **5.3.3. Company C**

We speak to the CFO of a land-based salmon producer, who is a subsidiary of a family-owned salmon farming group. They are currently building the land-based facilities, that through their website is characterized as means for innovative and responsible production. The CFO states that they entered land-based farming as the concessions operate under a R&D regulation that are attained free of charge. There are limited areas and concessions available throughout the Norwegian coastline. The government seek to incentivize innovation on land to further increase salmon production. The initial purpose for land-based operations was to reduce the number of problems that occur in traditional farming. The two most pressing are escapes and lice. As the farm is located on land in a tub, no fish can escape. The water would be pumped at a sea-level where there are no lice, which reduces the costs related to lice treatment. He explains this to be one of the larger cost drivers related to salmon farming. Land-based farming also facilitates for better feed utilization, as the feed does not drift away with the currents, lowering feeding costs. Through our interview, the explanation for responsible production were explained through how they could collect the waste left by the fish to further produce fertilizer.

The CFO discusses two approaches of land-based farming: purifying and recycling water or facilitating a constant flow of water through the farm. He states that competitors have faced challenges regarding the first method, as they previously experienced limitations relating to salmon growth. The second method has a greater need for energy, as the water is being pumped out of the ocean. He identifies water quality to be a critical factor. This is due to the regulations surrounding land-based farming, where the bottom of the pool needs to be above the highest astronomical water level. He further states that these regulations were put in place so that land-based farming could not outcompete traditional farming. The CFO estimates that the industry standard of such facilities in terms of power usage would be 5-6 KWH pr kilo of salmon. Their goal is to produce at 2 KWT pr kilo of salmon, which could potentially outcompete its competitors in terms of costs. The average production pr kilo of salmon are estimated to 40 NOK, while the CFO states that once

they reach full capacity the average production cost will be 27 NOK. This is significantly lower than industry average. He argues that land-based farming could outperform conventional farming at sea. They have also applied for permission to add water turbines to recycle some of the energy used in the water pumping process.

He expresses that they do not aim for a price premium but suspects there are consumers with willingness to pay more for the increased sustainability of land-based farming. However, they cannot pursue this premium as they sell directly to exporters. He further shares his belief that it is conceivable to charge a price premium for ecological salmon. This was not considered for their farm, as the entire value chain must be ecological.

During the interview, the CFO mentions several competitors who are all going through the same construction process and are learning from one another. He states there is a widespread notion in the industry that Norwegian producers work in a cooperative environment with little competition.

Finally, he emphasizes that land-based farming has limited expansion potential due to its structure. According to the CFO, they are already looking at other potential locations because it takes years to construct and obtain all the necessary approvals.

#### **5.3.4. Company D**

Company D is the smallest company of our selection of respondents. Similar to some of the other firms, this one is also a family business, dating back to the 1980s. In 2019 the firm reports a turnover of over 280 million NOK. We got to interview their CEO, which came forth as open and fascinated that some would try to shed a light on the industry.

The CEO mentioned they own several concessions and bought even more through their cooperating ‘competitors’. This venture evolves outside of the day-to-day activities. He further argues that such ventures are sustainable, where there is no need for each firm to own all the necessary equipment such as boats by their own. Through cooperation, several firms can use the same boats, which is both good for the environment, but also the economy. This came across as positive, as value creation was considered the most important aspect. There is an understanding that competitors communicate several types of learning with one another, which is thought to be beneficial for all. He further argues that smaller firms, such as themselves, are more ‘hands on’ than larger firms. This provides the opportunity to make decisions in an instant and adopt rapidly to changes. Consequently, they can improve metrics they are being measured on, such as number of escapes and lice. The company has GG certification, but states its purpose is mostly for

their own consciousness. Making their actions come across as legitimate. However, he is not under the impression that this certification really matters for their customers. This company, like many others, sell their products through third-party exporters. Exporters would place a bid each Friday, then the firm could choose to accept the offer or not. It is frequently the same customers, but due to the nature of this process, they are not obligated to sell to them every time.

He further describes which markets the product tend to be allocated to. The main market is Europe (Denmark, Spain, Poland, and Germany), which receives about 80% of their total production. They have chosen this way of operating due to excessive costs related to value adding activities in Norway, of which he expresses distress. Such activities should be conducted within proximity. This could increase control and create additional sustainability for the industry. He reminds us that sustainability is not only about the environment, but also socioeconomic aspects. As the company is small, they are very cost oriented. Feed being one of the largest outposts, are bought through an organization at competitive prices. This organization facilitates similar deals for all its members, allowing small firms to compete with the larger actors in the industry, as everyone operates under the same conditions.

The CEO goes on to discuss how they are cost-effective while seeking to maintain a higher level of quality than their competition. They constantly compare themselves to competitors, and he names a handful who are known to perform well. Due to industry transparency, it is simple to uncover each other's production costs, with the goal of outperforming the industry's biggest actors. To ensure that they are meeting their performance targets, they routinely measure success metrics such as salmon death, lice treatments, total output kilos, and profit margin. Their clear goal is to keep costs as low as possible without it affecting the product. He further goes on to discuss their cost saving measures through preventive measures related to lice treatment. The standard has been the usage of cleaner fish in the cages, which is a significant investment, but nothing compared to a full-scale lice treatment. It further prevents unnecessary stress for the salmon itself, which the CEO expresses as a key component in producing a quality product. He further states that the usage of such fish is currently met with some resistance by government officials.

He presents his predictions about the future of the industry. Regarding an increase of differentiation to achieve price premium, or enhanced production through gene editing, CEO says that he is reluctant to tempering too much with nature, and that all production

along the Norwegian coastline is very sustainable. He further expresses their concerns regarding governmental imposed taxes, which could potentially force smaller producers to leave the industry. Leading to increased presence of foreign actors. He presents concern regarding the evolution of both offshore and onshore farms. He describes land-based farming as a hostile operation towards nature. The future would need more education towards aquaculture, as he believed to the industry would continue its growth as the market was getting better.

### **5.3.5. Company E**

Company E is the largest company we interviewed. While it originates from a family business, it developed into a significant actor in the industry. We interviewed their distribution manager, who expressed in-depth knowledge throughout their entire value chain, and the industry in general.

Company E explains their ambition to become a complete provider of salmon related products with different third-party certifications to reach a broad variety of markets. This choice was made through their connection with retailers who requested a variety of assorted products and labels. They seek to maintain customer relationships, as these were viewed as quite lucrative. A long-term relationship is estimated to last for more than two years, and these relationships are important if differentiation becomes too diluted. She shares her understanding of customer expectations and how they strive to satisfy them. These expectations were related to,

- Raw materials
- Value chain
- Dependability and whether they are perceived as credible.

She then explains they want to label all their products, but as substantial portions end up in Poland for processing and re-distribution, this becomes challenging. However, they process 25% of their own production, which allows them to stay connected with the end-user. While they have some trouble branding their product in some markets, they experience a rising brand recognition in others. They consider themselves ahead of the industry in terms of building their brand. She further states that the company are producing the most sustainable seafood in the world, which knowledgeably is a key to their success. She compares their strategy to a car manufacturer. They aspire to be the 'Volvo' of the industry, known for being dependable, not necessarily performing the most radical activities.

When speaking about strategic choices, she expresses how they seek to differentiate and fulfil market needs. As an example, she highlights a product that has an increasing level of omega 3, which has sparked the interest of several retailers.

By having a wide product range, they can target and enter different segments. Such as charging a price premium for ecological salmon. This allows for many offerings in different markets, which expresses a variety of demands and willingness to pay. She presented two examples,

- In Germany, where numerous certifications generate value for the consumers, combined with a low willingness to pay
- In USA in terms of ecological or organic products.

She adds there is an industry standard in terms of production and product, with the exceptions of ASC and ecological certifications. She believes that ASC could become a standard in the industry. As the sector strives to differentiate itself from the homogeneous farmed salmon product, competition will intensify, and more companies will be forced to exit the industry or enter low price segments. Continuous growth will render some companies' incapable of competing. She mentions a few attributes that their customers value, which is the added omega 3, traceability, and responsibility. While freshness and price are two of the more common attributes consumers seek when purchasing farmed salmon. She explains there is a lack of understanding amongst consumers in terms of how fresh the products are and argues that the term 'freshness' is old fashioned. Due to their distribution channels, products they sell are usually slaughtered two days prior.

When we ask about future changes, she states that there is great uncertainty surrounding the industry, in terms of external factors. As mentioned, the increasing differentiation could dilute its advantage, and the standard would become "harder" to attain. She also mentioned the rise of substitutes such as fake salmon that is plant based.

### **5.3.6. Company F**

Company F is an organization representing the industry where members are salmon farming producers in Norway. Our respondent from Company F is a political scientist with expert knowledge within Russian-Norwegian interactive trade, market, and communication. His daily work involves market, logistics and aquaculture.

We ask about his thoughts and perception of sustainable salmon farming, and he speaks about the corporate social responsibility (CSR) and how sustainability has become the new paradigm. He proclaims that the biological issue often is the center in this discussion, where preservation of species, and fish welfare are emphasized. Although, it is the production part one should revise, such as input factors related to feed ingredients or methods of transport logistics, traceability is key in this matter.

He argues it often is the wholesaler who sets the criteria for what is to be determined as the support beams that balances the ‘sustainable product’- and not necessarily the consumer.

When we ask about ecological salmon, he argues that it is less of a rational manner to exploit our food resources. If everybody should eat ecological, we would not have enough food to feed the planet.

We address the European market and ask him which part he consider is dependent on the Norwegian export. He replies that the French and German market is dependent on Norwegian import of salmon to satisfy its domestic demand. He underlines that the Germans are focused on using the correct concepts regarding sustainability.

He claims that there is a general trust in Norwegian seafood. That is why the “masses” will not crave nor demand ecological salmon, it will remain a niche segment. “Salmon is salmon,” so to attract the segment that favors ecological salmon, communication and branding are crucial strategies.

The conversation leads back to the issue of feed-ingredients. He informs us that input factors in conventional feed are residual raw material, and that herring has replaced soy. It is exceedingly difficult to attain feed that is GMO free. For not to mention, at this point, 20- 30% of our input factors in feed ingredients are from Ukraine/Russia. Hence, due to the war on Ukraine, Norwegian fish feed producers must search the market for replacement which intensifies the competition and might create a surge in prices.

### **5.3.7. Expert interview**

Our expert provides additional insight regarding salmon farming activities. He argues that the notion of quality is often referred to sensory factors. However, he is hesitant and wonder, how much the terms of production matter for consumers. He argues quality is based on the contents of the product, and consumers are aware of unnatural substances added to the feed. He further argues that not everything considered ‘natural’ is necessarily

good. He addresses the consensus of artificial additives being bad, and that natural is good. This is not always the case, as consumer perceptions of product is often influenced by organizations of interest.

Moving on to farming practices. He states that Chilean farming practices are far from sustainable. They apply antibiotics in an uncritical manner. They further have a substantial number of escapes, and a high mortality rate. He goes on explaining how the Chilean farming technology are almost identical copies of Norwegian technology. But not always copies of the most sustainable Norwegian practice.

We present an open question of the use of labeling as means for validation for consumers. He states that with all these different labels, consumers have a tough time understanding what they represent. He uses ASC certification as an example, which are remarkably similar to the regulatory requirements of Norway. Where companies abroad instead market their product as “produced with Norwegian standards”. Labeling acts as a double-edged sword. On one hand it validates the producers’ activities to consumers. On the other hand, producers might report information wrongfully in fear of losing their certifications (e.g., high escape rates).

When asked about the competitive environment for the industry, he presents the following example. Local salmon farming producers in Bergen used to meet up once a month at hotel Neptune to exchange information and conduct 'business talk'. Back then, the local salmon farming producers were pioneers. Today, professional businesspeople have replaced the pioneers. Consequently, they share information, but in a different manner to safeguard business secrets. Competing firms now ‘buy’ knowledge in various forms. Thus, he argues the willingness to provide competitors with information used to be higher.

The competition has evolved, and he brings forth MOWI as an example. Norwegian produced salmon is branded as the same product, while MOWI seeks to reduce this practice, by marketing their salmon as ‘MOWI Salmon’. He believes consumers want food with history, where a brand is associated with the story of the product. The quality of the product is not necessarily being reflected, but the story itself sells.

He states that some manage to produce ecological salmon and charge a price premium, where increasing market differentiation is good. However, differentiation should include other species and not only a predatorial species like salmon. He argues there is a difference in terms of Norwegian companies being sustainable. While some are sustainable to an acceptable degree, others are not. He further states there is greenwashing in the industry, which makes it hard for consumers to tell them apart.

He states that the industry needs to face reality and encourages to be less concerned about reputation. This will come naturally, as businesses comply with the EU taxonomy and perform with authenticity. The industry environment will change and those who act in an acceptable manner will separate from those who greenwash. Companies that produce sustainable will get a competitive advantage in the future.

## **6. Discussion**

We have structured this chapter according to how the theoretical framework was presented. This provides a structured view of the company's choice of strategies in relation to the different competitive advantages. We will include the findings from chapter 4 and 5 as the basis for arguments when discussing the company's choice of cost advantage, differentiation and focusing.

### **6.1. Cost leadership**

As mentioned, a cost leadership is attained through performing business activities at a lower cost than all competitors, without the product itself straying too far from competitor offerings. Two of our respondents, (Company C and D) presented an increasing attention to cost drivers, and how they seek to lower them. The theoretical appliance of this generic strategy finds its use in the salmon markets where the product is considered homogenous, and a reduction in cost metrics will not necessarily differentiate the product from its competitors.

When analyzing the cost breakdown from the Directory of Fisheries, we discovered that feed makes up for most of the variable costs related to production, with little deviance across firm size. However, there's an indication that operating margins depend on geographical location (see figure 4.2).

An important aspect presented through Porters' theory, is the advantage of access to good raw materials. Through our interview we discovered that smaller firms tend to be organized in networking groups such as Salmon Group AS, which provide them with feed at a competitive price. Implying that all competitors have similar linkages to this cost driver, and none attain an advantage through scale of economies. Larger companies that have achieved vertical integration of their value chain, can manufacture their own feed as a result. Smaller companies we spoke to (Company C and D) said that information on manufacturing costs is widely available, and they want to be as cost competitive as the



largest companies. This allows for the small firms to strategically address the specific cost drivers that differentiate amongst them.

There was an indication that innovation and technology could lead to cost saving measures, especially related to lice treatment. Through the cost breakdown, this was not something that came forth clearly, but rather through the interviews. The land-based farming company (C) stated that this problem was one of the incentives that brought them to their strategy. Combined with better food utilization, their production cost could be lowered significantly, estimated to 27 NOK per kilo. Company D estimated a lice treatment could cost upwards of 20 million NOK, where they instead chose preventive measures to avoid this process. Both did however disclose that due to the industry transparency, they can adapt to proprietary learnings from competitors. For instance, Company C said that their design is based upon previous failures of others, and that they want their competitors to succeed, as this will further drive innovation.

When seeking to generate a cost leadership where the average costs (see chapter 4.1) are so similar, it can be hurtful for all involved. It also gives suppliers a greater power, as such relationships could prove to be highly beneficial in terms of reducing costs. From a statistical standpoint it is going to be difficult to attain a cost leadership, especially without hurting oneself or the industry.

Though cost leadership may be possible to attain for a limited time through innovation. Due to the industry transparency, the proprietary knowledge will not be kept secret. If the land-based producers succeed in lowering costs to their expected level, they will produce below industry average by far. Which could generate a cost leadership position. The network organization results in eliminating cost drivers that usually are the route to attaining a cost leadership. Combined with the industry transparency it might be argued that cost leadership must be achieved in other ways than through traditional cost reducing measures. For instance, geographic locations or other sustainable measures that cannot be imitated. Technology would not be considered a sustainable advantage due to industry transparency. This argument is also supported by our expert interview who argues that all technology is being sold, even to foreign competitors. This could make it too easy for others to imitate, and the advantage would be lost all together. A possibility could occur when multiple cost drivers create barriers for competitors throughout the entire value chain.

The competition is understood to be relatively low, as all respondents have mentioned the comradery and transparency that is present within the industry. This could be a result of

the demand exceeding the supply, where there is no need for a cost leader. Another explanation could be that competition is conducted outside national borders, or that a national competition might harm the Norwegian salmon brand as quality could suffer. This could again erode the competitive position of Norwegian salmon industry.

Data from the Directorate of Fisheries (Chapter 4.1) shows that the smallest companies have the smallest margins, meanwhile the larger firms have higher. This could be a result of economies of scale. There has been a significant increase in margins over the years, where it peaks in 2015, and now seems to be declining rapidly (see figure 4-4). The decline started prior to the pandemic. Although the margins are becoming significantly lower, the salmon prices have never been higher, and records are being broken quarterly. This reduction of margin is not reflected in increasing feeding costs, as it has remained stable in that same period (2015-2020).

## **6.2. Differentiation**

The second generic strategy is differentiation, and concerns value adding activities that generate customer value. Activities that create differentiation can come from the entire value chain. When researching different salmon products and speaking with industry representatives and experts about such a homogeneous product, there is a presence of differentiation, both as a core product and supplementary features. Our findings show that the Norwegian salmon producers both differentiate on intrinsic as well as extrinsic qualities (Nofima, 2020).

When differentiating on the core product, the salmon can be supplemented with additional nutrients to gain health attributes, or feed ingredients that makes the salmon look more appetizing and taste better. Company E states that they produce a product with elevated levels of omega 3, which has an increasing demand. However, we did not get information of whether they are achieving a price premium for this product, or the additional expenditures associated with raising the omega 3 levels. In terms of theory, the strategy is considered unsuccessful if consumers are unwilling to pay a premium for the added value. Without knowing what they charge and the additional cost of production, determining if this is a successful strategic move is difficult. Company B argues that consumers are not willing to pay the additional cost related to differentiation by ecological salmon.

Another method of differentiation within the industry has typically been related to third party labelling. According to industry representatives and experts, Norwegian regulations appear to have several common measures with various certifications. As mentioned,

company E argued that GG has become an industry standard, while all the companies we have been in contact with are in possession of this certification. She further mentioned that this could also happen to the ASC certification. Porter (2008) explains that once competitors start copying a differentiation advantage it will become diluted, which seems to be the case with GG, and could happen with ASC. Milarex on the other hand states that the industry trends show consumers having an increasing interest towards GG and a diminishing interest in ASC. From a theoretical standpoint based on the statement from Milarex, the additional value adding activity that is ASC certification, is not necessary and consumers won't pay the additional cost that comes with it.

When conducting our interviews, we have specifically asked the respondents whether they believe there is such a thing as sustainable farmed salmon. All respondents presented their knowledge, and the general understanding is that the industry representatives do believe that their production is to some degree sustainable in terms of environmental impact. As we now know, the companies are not being measured on all parameters regarding sustainability. Experts argue that only some are being sustainable to a degree that is satisfactory, and some are not. Regarding Porter's discussion of a changing industry climate, this could be one of the more serious issues in terms of differentiation since other companies may be forced to shift their production to low-cost segments. This issue was also presented in a similar way by company E, who suggested that raising quality could, unfortunately, make some firms less competitive. As the industry is now operating under a country brand, this could potentially explain the transparency that is being observed. When other firms no longer can follow the industry quality, the country brand could suffer and lose its competitive position, and no longer be able to differentiate from other competing countries. We also observe this in the case of company A, where they seek to promote their product as one of the best without harming its competitors. This could however change with the trends pointing towards increasing brand recognition (Milarex, Nofima). MOWI being one of the actors leading this change towards separate brands, have gone through lengths to separate themselves from the country brand. Both company B and E also express their branding strategies as a means for differentiation, while the smaller companies we have interviewed presented no intent to do so. A successful branding strategy would add significant costs for some, as there would be an increasing need to own larger parts of the value chain. Often, producers relinquish control over the product when they sell to traders/intermediaries. Larger firms who possess vertical value chains have greater control over their product and can connect with end-users. The Norwegian salmon farming industry is structured with a majority of small companies, but the largest

companies produce the majority of salmon. If this means that the larger companies will pursue their own brand, it will weaken the small companies and the “Norwegian Salmon”. Following the argument from the previous section of cost leadership, an intensive competition of branding as a means for differentiation could prove to be harmful for larger parts of the industry. This could lead to the perceived view of Norwegian farmed salmon being altered and the competitive advantage of the country brand could be lost. On the other hand, differentiation through branding can be quite hard to imitate, and could prove to be one of the more sustainable methods of differentiating within the industry.

Another method of differentiation for seafood items is described in a prior study, which includes several attributes. One of the lesser-known aspects is packaging. There is however limited research related to packaging of seafood, and it is hard to define what consumers find valuable in terms of differentiation when purchasing packaged salmon. The studies we did find (see chapter 4.2) argues that small packaging is important. Through the understanding of previous mentioned methods of differentiation, it can be assumed that consumers would prefer either labeling, quality assurance such as date stamping or visible labeling on the packaging. According to companies B and E, they manufacture pre-packaged sushi and RTG products. This also ticks several boxes in consumer checklist e.g., snackability (CF Chapter 5.1). Milarex's trend that presents smaller packages, could also be linked to convenience and reducing food waste. However, the argument can be made that this is a method of lowering the price as a means for differentiation opposed to convenience itself, as price being one of the main key factors when purchasing salmon (see chapter 4.2). Milarex's trend shows a rise in sizes around 100g and a decline in medium and large sizes around 200g. While half the product does not always mean half the price, it does mean a significant price reduction, and pricing could potentially be the means of differentiation rather than convenience in this situation.

### **6.3. Focusing**

The last generic strategy being focusing. Its purpose is to target one or more segments and optimize one's offerings to cater specific demands that are not fulfilled in the main market. As mentioned, firms can pursue the other strategies to attain either cost leaderships or differentiation within these segments. Porter (2008) argues that the choice between these two are heavily reliant on the industry environment. Three out of our five industry respondents operate in the same segment that is ecological salmon, which is a strategy of differentiation. Two of the respondents have this as their focus, while the third serve several other markets simultaneously. However, it seems like the segment of

ecological salmon has become diluted and do not provide a competitive advantage. Two of the company's present scenarios where they sell their premium product without a price premium on occasion, arguing that this this premium product either do not generate enough value for consumer, or that it exceeds their willingness to pay. Porter (2008) argued that this strategy is only viable if the segments differ from the main market, and if they are too similar the strategy will not work. This could be the case of ecological salmon.

Consumers have a certain degree of knowledge that Norwegian farmed salmon represent a high degree of quality (Norwegian Seafood Council, 2021). Company A explains that their product would supersede competitors in terms of quality, which could prove to be differentiating enough from competitors, and be hard to imitate. Yet it is difficult to measure how successful this could be as they are choosing a more reluctant way of competition, to not harm other competitors. While it is hard to determine what prove to be successful methods of differentiation for segmentation in this industry, the attributes presented by Olsen could potentially uncover some segments that could prove to be valuable. Company B presents different focusing strategies through applying the same product in the creation of products that differentiate to a greater degree to from the main market, such as salmon burgers. We were however unable to extract information to what degree this has proven to be successful. The salmon sausage that Bremnes created together with Tine was a failure. Company E explains that they indulge in value adding activities where they produce sushi in a box that is being sold through retailers, which could cater to the attribute of convenience. These products offer a high degree of convenience, through reduces the commitment that goes into preparing seafood. The case presented by these companies where they are not able to charge a price premium are explained as stuck in the middle by Porter (2008), where they are performing below industry average because of a less successful implementation of a strategy. However, due to the competitive environment of the industry they will still make profitable returns.

## 7. Conclusive remarks

In this research we have studied the competitive strategies of Norwegian salmon producers, and how they gain competitive advantages in the European market. This is being addressed through the following research question:

***How does the Norwegian salmon producers gain a competitive advantage in the European market?***

To answer this question, it was important to start the research by examining the industry environment, producers, and their strategic choices. This provided us with a general understanding of how salmon is produced, how business is conducted within the industry, and what they seek to achieve. Our new knowledge allowed us to deep-dive into the complex environment that is farmed salmon production.

To validate our data collected through several methods. Our primary data came from in-depth interviews with Norwegian salmon producers. This provided us with information of how they compete, and their competitive strategies. The secondary source of data came from attending industry conferences, which provided us with understanding of how the industry works, and the challenges they face. We further validated our findings through conversation with industry experts and secondary data.

The data we collected were analyzed through the competitive strategy framework presented by Porter (2008), where it functioned as a map towards achieving above average performance. As we were not provided with specific performance reports regarding the successfulness of their strategic choices, we included operating margin figures from The Directory of Fisheries based on company size.

Our empirical findings analyzed through the scope of Porters (2008) routes to competitive advantages provided insightful information. Based on Porters theory we can draw the companies are seeking to improve performance in terms of applying one or more of the generic strategies. Their behaviors align well with the activities Porter purpose as approaches to generating a competitive advantage. We found presence of all three generic strategies through our interviews.

While all firms provided insight of their strategic choices, we also found evidence that supports competition being relatively low. All firms did mention that they had friendly relations with their competition. The managers we interviewed provided their own perspective of the industry dynamic. Several subjects said they did not want to hurt their competitors, and some even provided each other with crucial learnings or assistance.

While these learnings could function as barriers to imitating competitive advantages, they

were openly discussed so that everyone could perform better. This was argued as a measure to further drive innovation within the industry.

Companies who sought to attain cost leaderships were doing it in a friendly manner. Feed which is the largest cost driver shows little deviance throughout the industry, limiting the areas where cost leaderships can be attained. While firms tried to perform well, they did not do it in a highly competitive manner. Quality was considered as the most important aspect and production cost secondly. One firm sought to generate a cost advantage through innovation of land-based farming, as this could provide a significant cost reduction of the largest cost drivers. However, this advantage will not be sustainable due to the industry transparency, and technology being sold across borders.

Our empirical findings further showed presence of differentiation as a means for gaining a competitive advantage. Firms differentiated in terms of third-party labeling; however, we conclude that this advantage has been diluted within the Norwegian industry. History shows that certain labels have become part of the industry standard. Through pressure from external factors, such as the EU taxonomy, all firms will have to legitimize their actions to avoid falling into low-cost segments. This could reach a point where all firms attain all possible labels, if this happens, the labels will no longer provide an advantage. While this has created differentiation of a homogenized product in the past, it may disappear entirely, and differentiation must be pursued through other means.

We were also presented with differentiation of product specifics and measures that lowers the barriers of consuming salmon, that cater to different segments. Making salmon a healthy substitute to hamburgers and other ready to go meals, could open the market for consumers who otherwise do not eat salmon.

Our research shows that their strategic choices are of importance. Even if competition is low, some firms are performing below industry average. This sub-optimum performance is the result of unsuccessful competitive strategies. It is however worth mentioning that the competitive environment could change, where this industry will only be long term profitable for the most competitive actors.

We conclude that competitive strategies are present but are not fully capitalized on as the competition in the industry is relatively low. The threats for most firms are external rather than internal, meaning that their challenge of legitimizing their actions pose a greater challenge than competing firms. As of now, the industry is currently being marketed as a country brand, where it is positioned as an industry leader. Any attempt of intense competition may harm the country brand, affecting all Norwegian producers. This could

change in the future, as larger firms seek to separate from the country brand and build their own.

#### **8. Limitation and further research**

Finally, we need to address the limitations of this thesis. The scope was to focus on, the competitive environment of the Norwegian salmon producers. The results provided will only be valid for Norwegian companies, and not the entire salmon farming industry. This research is further limited by the number of respondents. We contacted close to 40 different firms and got 6 responding companies, and one expert. While the selection was limited, they represented the main groups of firms that are found within the industry. This gives us reason to believe that our empirical findings and conclusion are valid in the eyes of further research. We propose that further research examines the competitive environment of the industry. This could prove to be fascinating, due to the low competition and its characteristics surrounding how they share information.



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## **Attachment 1: Interview guide**

Research question: *How does the Norwegian salmon producers gain a competitive advantage in the European market?*

### **Presentation:**

We are studying the competitive strategies of farmed salmon producers, where we seek to learn about different competitive advantages that firms seek to obtain. Your identity will be kept anonymously, so you can speak freely. Please notify us if you do not want to answer some questions, as we will exclude those. No answer is still a satisfactory answer to us. We thank you for your contribution to our thesis

### **Sustainable farmed salmon**

- What means sustainable salmon farming for you?
- Do you believe your production is sustainable?
- Do your competitors produce sustainable salmon?
- What is the potential of addressing the current trends of organic / ecological products?
- Does your company produce organic salmon or have intentions to do so?

### **Strategy**

- What key factors do you consider when building a strategic plan?
- How much time do you regularly invest in strategic planning? What methods do you use?
- How do you measure whether a strategy is effective? And what is an important metric for success for you company (ex. market share)
- Is a competitive advantage something you seek to attain?
- How did you reach this advantage? / How will you reach this advantage?
- Have you changed attributes based on customer or end customer feedback?
- Is it different from what competitors offer and why?
- Do you seek to differentiate from your competitors?
- What labels do you currently possess?
- Are labels important for consumers and which?
- What is unique for your company apart from your competitors?
- Who are your most important customers?

### **Market**

- What attributes does salmon consumers value?
- To what degree are salmon customers price sensitive?
- And what dominates their willingness to pay for a product?
- What is important for your clients?
- What is important for you end consumers? In terms of product attributes
- Which countries are your biggest markets and what are important to them?
- Do these markets have specific segments you are trying to reach? What type of segments is this?

## **Performance**

- How often do you analyze your competition?
- What external factors will affect your performance?
- To what degree are you reinvesting profits?
- Where do you see the salmon business going in the next years? E.g., More organic, and high-end product / or Gene editing to produce larger volumes?

## **General**

- Is there anything you want to add that might be important?



**SjømatNorge**

**5. april**  
Bodø

Konferansierer:  
*Kristin Langeland & Daniel Bjarmann Simonsen*

**ÅRSKONFERANSE 2022**

09:00 **Generalforsamling**

11:00 **Lunsj og registrering**

12:00 **Velkommen** PAUL BIRGER TORGNES, styreleder Sjømat Norge  
**Dette vil vi med sjømatnæringa** BJØRNAR SKJÆRAN, fiskeri- og havminister

**SJØMAT I DET GRØNNE SKIFTET**

12:20 **Blue Food Revolution** MALIN JONELL, PhD Stockholm Resilience Centre

**Derfor investerer vi i sjømat**  
ANN KRISTIN BRAUTASET, ass dir, Folketrygdfondet

**Samhandling for en grønnere fremtid**  
RITA KARLSEN - fiskeskjoper og havbruker BRØDRENE KARLSEN, FRANK BAKKE-JENSEN - fiskeridirektør, INGUNN GODAL - direktør Mattilsynet, LINE ELLINGSEN - havbruker Ellingsen Seafood

13:30 **PAUSE**

**SJØMAT SOM SAMFUNNSAKTØR**

13:50 **Å spille fotball med sjømatnæringa**  
FRODE THOMASSEN, daglig leder Bodø Glimt

**Handel og håndtering av risiko**  
GUNNAR HOLM RINGEN - Partner PWC, nasjonal leder gransking og compliance  
PÅL LØNSETH - sjef Økokrim, INGER MARIE SPERRE - daglig leder Brødrene Sperre AS

**Konflikt og fiskerisamarbeide**  
LIV MONICA STUBBHOLT - Advokatfirmaet Selmer AS, FRANK BAKKE JENSEN - Fiskeridirektør

**Politisk debatt** KARIANNE BRAATHEN - Arbeiderpartiet, JENNY KLINGE - Senterpartiet, LINDA HOFSTAD HELLELAND - Høyre, ARNE IVAR MIKALSEN - Venstre, SIVERT BJØRNSTAD - FrP  
TORGEIR KNAG FYLKESNES - SV

15:45 **PAUSE**

**SJØMAT - GLOBAL DELIKATESSE**

16:20 **Norge er Europas marine kjøkkenhage**  
ARNE SØRVIG, daglig leder stiftelsen Norsk Gastronomi

**World Trends - How About Seafood?**  
DAVID HUGHES, internasjonal matanalytiker

**Hvordan knekker vi kjøttkoden?**  
DAVID HUGHES - internasjonal matanalytiker  
EDEL ELVEVOLL, professor industriell matvitenskap, UiT

19:30 **APÉRITIF og MIDDAG**  
CHRISTIAN ANDRE PETERSEN - sølv og bronsemedaljør, Bocuse d'Or kokk

**Takk for maten:** BJØRNAR SKJÆRAN, fiskeri- og havminister

**sjomatnorge.no**

## Attachment 3: Salmon City 2022

# Program Dag

Kulturhuset i Bergen onsdag 30. mars 2022.

08:30-09:00 Registrering åpningsforedrag og frokost	+
09:00-10:00 Åpningsforedrag med Dag Sletmo fra DNB	+
10:00-15:00 Standområde åpent	+
10:45 - 11:30 CRISPR og Lakseoppdrett - Dorothy Dankel fra UIB & Ingebjørg O. Sævareid fra Salmon Group	+
10:45 - 11:30: CV og alt om søknad m/ Seafood People - Sjømatbransjens egne headhuntere	+
11:45 13:00 Kommunikasjonsworkshop med Sjømat Norge	+
12:00 - 13:00 Lunsjforedrag #1: Auksjonariusen, beskytterne og havbruksadvokatene med Fiskeridirektoratet & Thommessen	+
12:00 - 12:45 Oppdrett på nye arter m/ bl.a. ShrimpVision og Pure Lobster	+
13:30 - 14:30: Lunsjforedrag #2: Merkevarebygging, teknologiutvikling og analytikeren	+
14:30-16:00: Wikborg Rein: Innføring i havbruksrett & Utviklingen i næringen i et regulatorisk perspektiv	+
15:00 - 16:00 Avslutningsforedrag med McKinsey: Norge i morgen-rapporten - Hva er oppdrettsnæringens rolle?g. Norge i Morgen - Havbruk som en fremtidsnæring med McKinsey	+
15:00 Standområde stenger	+