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Norwegian Farmed Salmon: A Commodity in Need of Differentiation?

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ABSTRACT

Despite much innovation and development in the Norwegian salmon industry, the focus has largely been on building volume and reducing costs. Limited attention has been paid to develop value added products and differentiation strategies in Norway to reap stable profits associated with such strategies. In depth-interviews with a supply chain containing Norwegian salmon producers, one exporter and one feed producer, industrial buyers representing two Polish processing companies and two German retailers, aimed to provide insight into why more differentiation is not happening in the Norwegian salmon industry. Results from this supply chain reveals lack of communication and asymmetric power-dependence relations between the Norwegian salmon business actors and their industrial buyers.

KEYWORDS

Aquaculture; differentiation; market orientation; salmon; value chain

Introduction

Norway is the world's largest farmed Atlantic salmon producer, having grown immensely since the early 1980s, and now accounts for almost 70% of the total export value of its seafood (Norwegian Seafood Council, 2020). Most of these salmon, 85% in 2020, are sold as whole fresh gutted product (Norwegian Seafood Council, 2020). This emphasis upon selling farmed salmon as a commodity with standardized specifications effectively locks much of the Norwegian industry into highly competitive markets where prices are mainly influenced by changes in supply and demand (Cojocaru, Iversen, & Tveterås, 2021). Commodification of the sector has in turn resulted in comparatively minor focus on differentiated products. This raises questions as to why the Norwegian salmon industry appears to have

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largely ignored the opportunities for competitive advantage and profitability, often associated with product differentiation strategies (Porter, 1980).

Possible reasons for this commodity-centric strategy have been forwarded by Cojocaru et al. (2021). Their discussion of barriers to differentiation provides some explanations. For example, when compared to meat production, the Norwegian salmon industry was found to be immature and to market only a few differentiated salmon products whose volumes are small. However, it could be countered that comparison of a single species with the multi-species of meat, including beef, pigs, lamb, poultry, *inter alia*, is not altogether equitable. But that is not to deny the evidence of the limited share of differentiated products within the sector's total salmon production.

Within the arguably more cogent seafood sector further curious insights have been noted. Farming confers upon salmon producers far greater control over production processes, quality and supply compared to wild-caught fish (Asche, Sogn-Grundvåg, Zhang, Cojocaru, & Young, 2021). One might then expect that this superior ability to manage the production process would enable farmers to raise fish with quite specific characteristics such as weight, fat content, flesh color at the precisely determined time of harvesting. However, Cojocaru et al. (2021) explains the low level of differentiation with biological uncertainty and seasonality in production practices for all but a small share of production. Seemingly, ensuring guaranteed volumes as demanded by retailers leaves little scope for differentiated production. It is also costly to keep salmon with different quality attributes apart through production cycles, which may include all stages from eggs to finished product (Cojocaru et al., 2021).

Further explanation for the limited extent of differentiation stems from the high salmon prices from which the Norwegian industry has benefited in recent years. These raised prices resulted from lower growth in production volumes compared to earlier years alongside a steady growth in demand. From 2006 to 2011, Norwegian salmon exports grew by 69% in volume, compared to only 17% over the period 2011–2016 (Norwegian Seafood Council, 2017). Lower growth in production ensued the imposition of stricter governmental regulations, especially concerning the industry's increasing environmental footprint (PWC, 2021). The realization of very high prices for the standardized commodity, and attendant profitability, of course did little to incentivize producers to develop more differentiated products: why vacate a strong position albeit in a commodity market? (Cojocaru et al., 2021). One possible reason for so doing would be the threat to longer term tenure of such a market (Cojocaru et al., 2021). The risk of increased costs of expanded efforts to combat sea lice has already been predicted (Abolofia, Wilen, & Asche, 2017; Olaussen, 2018). Previously, production has been impacted by higher feed costs, notably

from 2012 to 2016, when a 50% increase in production costs was noted (Iversen, Asche, Hermansen, & Nystøyl, 2020).

Apart from strategic moves to avert the impact of raised costs it may, conversely, be postulated that a move away from commodity markets might be encouraged by the impact of cost increases. If the industry can reduce the negative environmental externalities related to its activities, a substantial future growth in the production of salmon may be expected, which may lead to lower prices and reduced profits. Technical advances elsewhere in terms of production and husbandry might also bring about more trenchant change in the spatial distribution and structure of the industry. For example, the predicted growth in onshore salmon farming (Timmerhaus, Lazado, Cabillon, Reiten, & Johansen, 2021), may well result in a more footloose sector. A worldwide geographical distribution enabling production closer to centers of consumption would also confer many additional benefits over the food miles associated with current logistics, in particular, those transported by air (Martin, Mather, Knott, & Bavington, 2021). Together these factors indicate that profits in the Norwegian salmon farming industry will normalize over time. To shield itself from price-based competition the companies and value chains involved in Norwegian farmed salmon might have greater cause to reconsider developing more differentiated products.

In this paper we investigate the extent, and absence, of differentiation in a Norwegian farmed salmon supply chain from its production through the next two most important stages: processing in Poland then retail in Germany. Polish processors are the most important suppliers of salmon products to the German market (Norwegian Seafood Council, 2020). In 2020, almost 185 thousand tonnes of fresh whole salmon were exported from Norway to Poland (Norwegian Seafood Council, 2020) of which Polish export statistics show some 65 thousand tonnes of salmon products were exported to Germany (Norwegian Seafood Council, 2020). Of the 57 thousand tonnes exported from Poland to Germany in 2019, approximately 80% were smoked products and the balance was exported as fresh fillets (NSC/Kontali, 2019). This physical creation of added value products from the whole fish indicates knowledge within the chain of what will satisfy end users' demands. This in turn highlights the importance for Norwegian producers to understand these markets' requirements if they are to incorporate these values in their deliveries. To do so, desired differentiating attributes such as quality grade, size, freshness, texture, feed components, fat content and type, flesh color, ecolabelling, organic production and other specifications must be understood in addition to knowledge of their probable trends.

To gain insights into how the actors in this supply chain perceive differentiation and the possibilities and barriers for increased differentiation in-

depth interviews of key actors in different steps in the chain were conducted.

In the next section, a discussion of product differentiation with a focus on salmon is presented. In Section “Methodology,” the methodology of the study is presented, followed by results from the interviews in the different supply chain steps (countries). Lastly, a discussion of the results and possible implications and directions for future research is given.

Differentiation of salmon

According to, Carpenter, Glazer and Nakamoto (1994) successful product differentiation requires a product or brand to be distinguished from competitors on an attribute that is meaningful, relevant, and valuable for customers. Over time, successful companies may achieve brand identification and customer loyalty, which implies that barriers to entry can be generated because new entrants must spend heavily to overcome existing customer loyalties (Porter, 1980). The core benefit of product differentiation is profit, gained by providing benefits not readily available from other substitutes thus making customers, *inter alia*, less sensitive to price differentials (Barney, 2007). Access to shelf space in supermarkets, thereby lessening the opportunity for competitors’ presence, can be gained by offering unique products and brands, which are sought by consumers.

Product differentiation may, however, only provide a temporary advantage as customers tend to get used to additional benefits and so, over time, may lower their willingness to pay any premium (Rangan & Bowman, 1992). In addition, competitors may imitate new products, possibly introduce superior attributes, or launch lower priced versions and thus dilute positional advantages earlier gained (Porter, 1980). The degree of imitation by competitors depends on the ease and cost of imitating differentiating features. For food products sold in supermarkets competitors can easily observe key product attributes such as packaging, product form and labeling, and copy attributes by “reverse engineering” (Zander & Kogut, 1995). Such imitation is commonly observed in supermarket shelves where most products in the same category will have the same or similar packaging, product form, size, and other physical product attributes (Sogn-Grundvåg & Young, 2013). It may, however, be more difficult to imitate intangible attributes such as a company’s long-established tradition, brands and reputation as a high-quality supplier because this usually takes decades to build. For Norwegian salmon producers changing from low-cost production to a focus on differentiation and value adding, new knowledge (e.g., about heterogeneous customer preferences), skills and capabilities is required to

succeed. Where these skills and capabilities are difficult to identify and copy, they are more valuable (Reed & DeFillippi, 1990).

Product quality may be a promising basis for differentiation of Norwegian salmon. The quality concept is, however, subjective, and multifaceted and thus can be assessed and perceived in different ways (Korneliusson & Grønhaug, 2003; Singham, Birwal, & Yadav, 2015). These can be related to intrinsic quality dimensions such as type and amount of fat (DHA/EPA¹), color of the flesh, form, freshness, and appearance, as well as extrinsic quality dimensions such as ecolabels, branding, and packaging. Any single attribute, or combination thereof, might lead to profitable differentiation of Norwegian salmon. Differentiating salmon products on quality requires understanding how quality is perceived and inferred by the buyers, which quality dimensions are important, which are not and how these perceptions influence decision-making.

There is a handful of studies showing differentiation for salmon. Alfnes, Guttormsen, Steine, and Kolstad (2006) show there are different preferences for different color intensities of salmon. Uchida, Onozaka, Morita, and Managi (2014) and Asche, Larsen, Smith, Sogn-Grundvåg, and Young (2015) discuss the value of different product attributes for salmon. Ankamah-Yeboah, Nielsen, and Nielsen (2016) look at organic labeling, Torrissen and Onozaka (2017) discuss the importance of convenience. Landazuri-Tveteraas, Asche, Gordon, and Tveteraas (2018) emphasize the diversity of salmon products found in retail shelves, revealing that differentiation of salmon is taking place. But this differentiation is not taking place in Norway, but rather in processing countries such as Poland. Weir, Uchida, and Vadiveloo (2021), examine how production process labels and information about potential positive and/or negative aspects of GM technology affects demand for salmon. Esaiassen et al. (2022) examined the nutritional value in organic and conventionally-produced salmon and found that the conventional salmon had a higher fat content than organic, 17 versus 13% respectively. In addition, organic salmon contained 48% more EPA and DHA than conventional salmon, but also lower color saturation.

Quality certification is also a way of differentiating on quality, usually involving evaluation and certification by independent bodies. While the costs of providing quality attributes (including eco-labels) are obvious and up-front, the potential benefits are far more uncertain (Roheim, Asche, & Santos, 2011). Sustainability labeling is particularly controversial: the literature provides evidence of everything from no or low impact on the purchasing decision (e.g., Delmas & Lessem, 2017; Grünert & Aachmann, 2016) to a substantial premium (e.g., Sogn-Grundvåg, Larsen, & Young, 2014; Sogn-Grundvåg & Young, 2013). Also, premiums for various quality

attributes including ecolabels vary between markets, species and even within markets (Asche et al., 2015), and where some retailers require an ecolabel, others do not. Bronnmann and Asche (2017) investigate consumers' willingness to pay for salmon certified by the Aquaculture Stewardship Council (ASC), and Alfnes, Chen, and Rickertsen (2018) and Osmundsen et al. (2020) discuss the myriad of ecolabels for salmon that producers can choose from. The ASC salmon labeling in Norway and the UK was studied by Gulbrandsen, Vormedal, and Larsen (2022) trying to explain why much of the farmed salmon certified with ASC is sold as conventional, unlabeled salmon in some countries.

Increasingly, there is also a focus on the extent to which multiple ecolabels interact with each other as well as other quality attributes (Onozaka, Hansen, & Sørvig, 2014), in some instances reinforcing one another whilst in some others cannibalizing alternatives (Roheim, 2009). This absent guarantee of certainty on the outcome from attempts to differentiate products understandably may tend to discourage its adoption, especially when satisfactory profits levels are being achieved in its absence. However, as observation of any market shows, the one constant feature that is certain is the need for ongoing proactive change.

The value chain for salmon includes different links and actors whose perceptions may differ significantly and are liable to change over time. Generation of market intelligence, actively seeking information about customers' current and future customer needs, is an important task for the market orientation of the companies (Kohli & Jaworski, 1990). It is important to examine not only the market orientation of the company, but also the value chain in its entirety because a company interacts with other members of the value chain to create value for the user (Grünert et al., 2002).

One common factor for all salmon sales is the importance of the industrial buyers, be they importers, wholesalers, processors, retailers, or foodservice. Industrial buyers constitute the critical focal point through which most of the farmed salmon must pass; in effect they are the most important gatekeepers to market entry. Industrial customers routinely have strict and formal demands regarding the specifications of the products they will purchase. Their specifications and preferences may vary between different links in the value chain, within and between different countries and, of course, over time (Korneliussen & Grønhaug, 2003). Differences and the dynamics of their changes will also result from the vagaries of the customers supplied. For example, a retail chain may have different quality demands than a foodservice organization and those in Germany may well differ from those in Poland. Moreover, the metrics underpinning criteria such as "quality" are unlikely to be consistent and may be subject to alteration according to changes in demands from the subsequent stages in the value

chain supplied. Perhaps because of this inherent complexity and dynamic, only limited research has been undertaken to better understand the demands and preferences of this important customer group. Nonetheless, only through improved understanding of the current limited use of differentiation might practice be perfected, or at least be improved upon.

Methodology

Due to the paucity of research regarding industrial buyers' demands and preferences for salmon attributes, an exploratory approach to the research was chosen. Whilst quantitative data on the volumes and values purchased are generally available, at least in aggregate terms, this research aimed to explore the reasons behind these figures. In many cases the underlying explanations are complex, interdependent, sometimes variable and, in many respects, subjective. In addition, some buyers consider their choice criteria to be commercially confidential and thus can pose a challenge for interviewers to gain their trust in assurances of anonymity in reporting.

To gain this level of insight face to face in-depth interviews were chosen as the primary mode of data collection. In this pre-pandemic era (2019) these were undertaken in person as this was considered more likely to reveal deeper insights than might be forthcoming by video conference. The downside of this deeper insight is the cost which necessarily curtailed the sample size to key decision makers. A semi-structured interview guide was developed to conduct the in-depth interviews and the key-personnel responsible for buying salmon from Norway in selected markets were identified. Such interviews create the best opportunity for engaging in deeper probing of respondents to gain understanding of different perceptions and the complex nature of buying decisions as it allows the researcher to gain insights into the informants' own interpretations (Miles & Huberman, 1994).

The interview guide contained general questions about the market for salmon and more specific questions about their perceptions of the salmon products, about differentiation, knowledge, current and future demands, and trends. The interview guide was structured so that variation in the order of topic coverage could be adjusted as required to maintain the flow of the conversation. This enabled any unforeseen tangential comments, unique to the respondent, to be developed and add to the richness of the data gathered. Importantly, respondents were asked to consent to a tape recording of the interview after being given assurances of anonymity and confidentiality of the data in any subsequent publication. The subsequent transcription of the tape also enabled greater opportunity for more accurate reflection and analysis.

The supply chain for salmon can be both lengthy and complex. A typical supply chain for salmon from Norway may consist of a producer firm, an exporter, an importer/agent in the destination country, a secondary processor, a wholesaler, and a retailer or restaurant. It should be noted that several integrated companies exist which cover two or more links in the supply chain. Given the typical length and complexity of the salmon supply chain and the actors therein it was determined that a more holistic approach to the chain was required rather than simply focusing upon those either downstream, or upstream. Consequently, a typical supply chain consisting of Norwegian producers, Polish processors, and industrial retail buyers of Norwegian salmon in Germany was modeled. Due to the project budgetary constraints the entire supply chain could not be included. Further, given their proximity a larger number of the Norwegian producers was selected.

Downstream, two large Polish salmon processors were identified along with two large retail chains in Germany. Other than the fact that all were involved in the value chain for farmed salmon originating in Norway, there was no attempt to trace product from one stage in the chain to the next. This approach was dismissed as it was considered more likely to produce a narrower band of explanatory reasons. Instead, the potentially more diverse explanations from an effectively randomized set of respondents were most insightful.

The Polish-owned processors interviewed represent two large processing companies based in Poland who buy most of their salmon raw material from Norway. Similarly, the two large retail chains interviewed were German-owned with many stores distributed all over the country. Both represented a mid-market position in the range of German retail chains. Given the assurance and required necessary condition of anonymity, provision of more detailed information about volumes and size of the processors and retailers is problematic and would be unethical; especially given the limited sample size. These interviews were generally long, intensive and lasted up to 2.5 hours.

In addition to these interviews, in-depth interviews with five Norwegian salmon farming companies, one salmon exporter, and one feed producer were conducted. Four of the five salmon companies are amongst the top ten in the sector, another is a smaller producer whilst the independent exporter, deals with Norwegian, Scottish, and Irish salmon serving primarily niche markets. All the companies operate internationally. To cover a range of producers, the two large companies harvest yearly quantities above 100,000 tonnes, two are medium-sized harvesting over 30,000 tonnes whilst the remaining two are smaller. The largest companies, and to some degree the medium-sized ones, are mostly

Table 1. The trustworthiness of the study and the findings (based on Guba & Lincoln, 1994).

Trustworthiness criteria	Methods used in this study
Credibility: the degree to which the results are a credible account of the social reality.	A thorough literature review was conducted. Interview guides were made, one guide in Norwegian for Norwegian companies and one English version with questions relevant for buyers of Norwegian salmon in Germany and Poland. Result: a credible account of the perceptions of the Norwegian producers/sellers checked and compared to the buyers' perceptions in Poland and in Germany.
Transferability: the extent to which findings hold in another context or in the same context at another time.	An extensive description, rich accounts of the details and excerpts are offered. The country context and industry are specific, but the results may be relevant to other countries/industries by comparison based on defined criteria. Result: can provide others with data for making judgments regarding the possible transferability of findings to other milieu.
Dependability: the stability or consistency of explanation—whether the findings are unique to the time or place. "Auditing" approach used to evaluate whether the proper procedures are followed.	Semi-structured, in-depth interviews, asking probing questions were conducted. Repeated findings were obtained. Complete records were kept of all the phases of the research process. The course of the research was frequently discussed with peers; "auditing" approach. Result: dependability is ensured.
Confirmability: interpretations are the results of analysis of data and the studied phenomenon, not personal values or researcher biases.	Full transcription of all recorded interviews was performed to allow for interpretation by the authors. A dyadic approach was used to limit one-perception view bias. Result: Confirmability exists in interpretation of data.

vertically integrated, but not exclusively so. Given the expectation of buying criteria involving inputs to the raw material e.g., fish feeds, a large feed producer was incorporated as the seventh Norwegian respondent. This company is one of the largest independent feed producers in Norway also operates internationally and serves, or has done so previously, most of the producing companies interviewed. These interviews combine with those from the processors and retailers to provide a novel thematic cross sectoral perspective on the identified determinants of their purchase decisions discussed in the following sections.

Before so doing mention should be made of the criteria applied to assess the validity of the data gathered. This was done using Guba and Lincoln (1994) criteria for evaluating qualitative research, thereby determining the trustworthiness of the study. Table 1 provides the detail of the methods used in this study when set against the trustworthiness criteria for assessment: credibility, transferability, dependability, and confirmability. This assessment found in favor of the approach adopted and so the more detailed results are considered next.

Results

The following insights into the interviews incorporate anonymized quotations from the respondents to underpin the views and perceptions of topics raised. To facilitate analysis a tripartite framework is followed across each

Table 2. Comparing Norwegian producers (NP), Polish processors (PP), and German retailers (GP) perception of types of differentiation.

Types of differentiation	NP	PP	GR
Origin (country/region)	x	x	x
Branding	x	x	x
Storytelling	x	x	x
Process	x		
Relationships/trust	x		
Fish welfare	x		x
Service	x		
Certification/labeling	x	x	x
Organic	x	x	x
Control	x		
Feed: EPA/DHA, microalgae, insect protein	x	x	
Freshness		x	
Lice treatment		x	
No chemicals		x	
No antibiotics		x	x
Traceability		x	x
Cuts			x
No GMO			x
Handmade			x
Convenient products			x

Table 3. Comparing Norwegian producers (NP), Polish processors (PP), and German retailers (GP) perception of barriers of differentiation.

Perceptions of barriers for differentiation	NP	PP	GR
Volume	x		
Costs	x		
Stable deliveries around the year	x		
Lack of customer base that pays a premium	x	x	x
Takes time	x		
Limited documentation		x	
Lack of demand		x	
Low-cost stores			
Norway not a story			x

Table 4. Comparing Norwegian producers (NP), Polish producers (PP), and German retailers (GP) perception of types of customer demands.

Perceptions of customer demands	NP	PP	GR
Food safety (retailer)	x		
Documentation (retailer)	x		
Sustainability (retailer)	x		x
non-GMO (retailer)	x		x
fat content (industry)	x		
Color (industry)	x		
Stable supply	x		
Stable prices	x		
Service	x		
Lack of demand from customers		x	
Power/dependence asymmetry (take what they get)		x	
Norwegian producers decide		x	
Low price			x
Convenience			x
Wild fish			x

of the three countries to identify (i) what types of differentiation are in current use; (ii) what (if anything) is perceived to constitute a barrier for more differentiation, and (iii) what factors are perceived to be significant in determining customers' demand. Coverage from upstream to downstream is followed. In the Tables 2–4 present a tabular summation of the results from these respective interviews to provide a synthesis of findings to support subsequent discussion. The tables aim to illustrate the similarities, and discrepancies in the perceptions of the respondents representing the different parts of the supply chain.

Norwegian producers' perceptions

Types of differentiation

The Norwegian salmon producers sampled, along with a feed producer and an exporter, also reported a range of differentiation mechanisms being used for their produce including origin, storytelling and branding, eco-certification, fish welfare and being a transparent and trustworthy partner with reliable delivery of required specifications.

Origin was reported by many to be of particular importance in differentiation: "... most differentiated or branded products in salmon today are about origin." National and regional identity are both seen as significant and clearly reflect the geographical range of salmon farmed in Norway. Kudos appears to be attached to the north of the country since this enables association with production under the Northern Lights. Whilst there is no known causal benefit of *aurora borealis* to salmon production it is the inferred benefit from the local environment which creates the appeal and subsequent linkage. As one respondent opined: "North of the Polar circle, that is a good place to be!" and another, "There are some customers who want fish from the north because of the Northern Lights and the story behind that. The yield is often better from the north than from the south... maybe they don't have any problems with softer texture sometimes of the year. So, we kind of differentiate on that, but it is often driven by the customers and their knowledge."

Storytelling and branding, having a credible story about the product was emphasized as important for differentiation by several of the producers. Such stories embellish the brand and provide a further means of communicating more specific identity within a generic "Norwegian" brand. Branding was perceived as a more holistic statement about the salmon: "The whole story, the value which you attach to your brand." Another respondent stated: "Branding is the whole package, it's about what kind of feed we use, what kind of farming methodology, sites we choose... grading, packaging, smoking, slicing, cutting." It was generally recognized that successful

branding takes time, needs skills, and demands having control of the process up to the end-product and ideally through to post-consumption. One respondent depicted branding as, “Differentiation is on the raw material, it’s on the processing part, it’s on the packaging part, it’s on the new product development and innovation part, it’s about delivering on all the categories for the retailers. We have a few of them, and then we take a premium price on the market, and we cover more of the cost associated with that.”

Another aspect emphasized was that differentiation reveals the quality of the entire *production process*, including slaughtering: “It is the quality of the process. It is not done just the same as another, it’s clean, it’s specially selected, not stressing the fish...” This was seen as an equally important strand of the storytelling which also needs to be communicated to the buyers. As one producer noted: “We describe the process, of course have nice pictures, show scientific work on how this makes a difference on the quality of the meat and everything. We are selling them both the story, how we are doing it, and the results.” This concern with communicating the more detailed components of the production process necessarily incorporates the welfare of the fish pre-harvest.

Several of the Norwegian respondents emphasized that communicating *fish welfare* is a way to differentiate, and that this requires to be transmitted clearly throughout the whole value chain. As one respondent said: “We must be able to show that the fish have been treated good throughout its lifetime.” Whilst another was of the view that: “We believe it is a prerequisite for achieving a quality food, that the individual, from roe to slaughtering, have optimal wellbeing, good feed, optimal living conditions, good welfare. Fish welfare is key.” High welfare standards were also noted to have tangible benefits such as “redness in the meat, fat, taste, appearance.” Welfare was also seen to be important not just for the fish but also the workforce: “We also need to show that we treat people well.” This demonstration of concern with social sustainability is also seen as part of the background narrative and may be more explicitly incorporated in future as an emergent dimension of certification.

Certification was frequently mentioned as a means of differentiating products and warranted further exploration, not least because of its longer standing and more widespread use in capture fisheries with which salmon competes in the seafood market. Launched in 2012, the Aquaculture Stewardship Council (ASC) certification scheme has become a commonplace marque on seafood counters with over 1,600 farm sites certified and more than 20,000 certified products facing end consumers worldwide (Aquaculture Stewardship Council, 2022). Perhaps because of this widespread prevalence many of the producers considered the ASC certification

label more as a pre-requisite to market entry rather than a means to differentiate salmon within the market from other products. The insistence of some buyers that products carry the ASC certification effectively acts as a barrier to entry, albeit one that can be overcome at some cost.

This raised concern in many producers that this added cost was commonly not recouped through any price premium. This absence of reward for their additional effort understandably invoked some degree of skepticism and resentment at the additional control imposed, "... we see ASC as more of a customer-driven concept... but at this time a lot of customers do not want to pay for that certification." Certification appears to be recognized as a potential means of differentiation but whether it is an efficient and effective means of so doing is more debatable. The more prolific adoption of certification, by ASC and other certifying bodies, can also result in differentiation becoming more opaque. One producer claimed: "It is difficult to differentiate using certificates... ASC is beginning to be more like the Global Gap standard, it is expected." The notion of expectation also raised the question of whether differentiation, if more restricted in its application, might have an adverse impact on non-certified products by raising questions about the reasons for their apparent noncompliance with standards. This in turn raises questions about the need for transparency of the entire husbandry process.

Transparency in *feed* was also said to have become a more important and verifiable component of salmon farming. Producers felt compelled to be able to respond immediately when asked about the constituent ingredients of the diet of the fish. Previously such knowledge was not commonly divulged: "Until recently we didn't have control (of the feed recipe). We could ask the feed companies and it could take up to 3 weeks to get an answer." Such former opacity necessarily hindered any scope for differentiation on feed, quite apart from the logic of farmers having an expectation to know exactly what they are raising their stock on. As noted by two producers, "Technical stuff, like what is in the feed, will have something to do with the quality of the fish, (the) number of lice ..."; "I think we can differentiate on feed, transparency and quality of the fish, logistics, how things are done ..."

Quality remains an underlying attribute widely recognized as a means of differentiation. However it was also noted that a primary emphasis upon quality has not always enjoyed the priority some feel it should have: "the demand is good... so even when we have the worse quality, they have something they can use it for... but I think now for years, the industry has had a focus on building volume, but I think the sales partners are now focusing more on these matters (differentiation/quality) including using the full exploitation of the fish for sustainability marketing..." "Today it is

telling a story, the quality of the fish, big scale. Ask again in some years and you will have a different answer.” Quality being the multi-faceted attribute that it is, one cannot always guarantee that the same attributes are being referred to. For example, whilst many will see “quality” as a proxy for freshness others may place equal, or greater, importance upon aspects such as flesh color, texture, fat content, external appearance, and other producers too, if not all, may envisage consistent delivery of these desired quality specifications as a precondition for continuance of transparent and open relationships.

Relationships being founded upon shared principles of trust and honesty between the buyers and sellers were also emphasized as a way of differentiating. However, one respondent did note an interesting change in this: “Earlier everything was a relationship, but now the buyer has chosen where to buy before even approaching you.” According to this individual the buyer now will check out suppliers beforehand and determine what they can deliver. Whilst this ability to deliver of course would constitute an important part of any relationship, the respondent opined those previous relationships were less important than the current product offering. In other words, there appeared to be an emergent trend of lower loyalty in the European market, at least.

This was said to be in some contrast to the US market which seemingly remains very much about relationships and so enables one to “strike a deal of many thousands of dollars over lunch, which does not happen in Europe at all. In Asia, like in Japan, it is all about trust. If you don’t have a relationship, and if they don’t feel that you are a good person and someone to rely on, they will not make a deal, no matter what product you have.” However, *trust* is emphasized as a generally important factor. As one respondent noted: “Being a trustworthy provider is further claimed to be important for the end-consumer, being someone that is chosen without having a question mark behind is important.” This of course reflects one of the key reasons for branding: to realize that position of product differentiation consistently in the buyer’s mindset. Delivery of this expectation, or surpassing anticipated levels, invoked the importance of service.

Service was recognized as a way of differentiating the salmon product provided by one firm compared to another. Essentially this evaluates the combined package of the product and all the related attributes delivered to the customer. One respondent stated that they focus their effort on building stable buyer relationships by providing good service: “...we are not interested in building attributes on the raw material itself. We want to build attributes on the service that we provide... the smokers never talk about the raw material. So, if the color is good, and the fat content is OK, then it does not matter if it is Lerøy or Marine Harvest.”

The need for stability of supply and delivery in the market was also emphasized as a point of differentiation wherein reliability of service was effectively guaranteed. It was noted that when the salmon farmer fails to deliver even just one truckload to their depot there is a considerable financial cost and damage to the retail brand reputation such that the continuation of the relationship is jeopardized. In addition to reliability of the service provided, consistency of what is provided was also noted to be important: “Delivering the same products the whole year around.” Given the recognition of these means of differentiation, the logical follow-up question concerns what was considered to preclude wider adoption.

Norwegian producers’ perceptions of barriers for differentiation

A commonly cited barrier to adoption of more differentiation appears to lie in some combination of the reluctance of the market to pay a *price premium* and the absence of sufficient incentive to overcome the costs of so doing. This was reflected in the view of one producer who stated that “to have a customer base that pays a premium for the salmon that you make and in return gives you enough extra price that makes it worthwhile. It is kind of hard to do.” This of course may be because the attribute(s) constituting the basis of differentiation are not sufficiently appreciated by the market and raises questions as to why this failure occurs, as considered shortly.

Other instances were cited where the *costs* of differentiating were significant. The case of organic salmon was forwarded by one who pointed to the higher feed costs and the lesser stocking density required to comply with organic certification regulation: “For organic the density cannot overcome 10 kg/m³, and for normal produced salmon it is 25 kg/m³. It also demands more work, like for instance it is not allowed to use ‘kobbernøter,’ so you need to wash the ‘nets’ more often.” In practice this meant that two distinct production operations had to be run with duplicate and strictly separate stores of feed, net cages, and production sites. Whilst this may be possible and viable in some locations it was not considered to be capable of more widespread adoption; such resistance to duplication is understandable and compounded by the limitations of market demand for such organic products. Whilst the organic case may be quite clear, there does appear to be alternative perceptions of the barriers to differentiation.

Arguably the most trenchant of these is the *absence of any need* to differentiate. This is said to result from the fact that salmon currently is, and for some time has been, supply driven. Limitations on the supply of salmon were said to have held back the growth of the sector since 2012 and has thus resulted in generally high prices in the ensuing years. One producer was of the view that, “... if you have a more balanced situation between

production and market, you can see a much higher degree for marketing and a higher degree of differentiation of the salmon because you need to differentiate from all the others. But right now, that is not the focus because the prices are so high.” It is difficult to dispute this compelling logic, at least in the short run, where sufficient profit levels are being realized. Given existing cost levels why increase them when no higher price is assured?

A somewhat more curious perception of a barrier to differentiation concerns branding. Perversely this reservation appears to emanate from the perceived success of the Norwegian salmon brand as promoted by the Norwegian Seafood Council: “The Norwegian salmon brand is so strong that to differentiate you really need to put in some work... You have the Norwegian brand hanging over you. When you have the Norwegian Seafood Council explaining everyone what Norwegian salmon is, (this) is what everyone sees. So, if you differentiate from that you really need to do something dramatic, like MOWI.” Whilst this view may seem to suggest that individuals are incapable of superimposing upon the basic brand values of the Norwegian salmon label, without considerable additional effort, it does arguably overlook the successful efforts of several Norwegian companies who have built upon this strong *generic foundation*. The sufficiency of corporate resources to implement such measures appears also to be perceived as some explanation of some stated barriers. This is closely linked to company size.

In practice the *size of the company* seems to be both a barrier and a facilitating factor for differentiation. In the case of a small company, it was recognized that the producer had greater control of the entire production. This makes it possible for the supplier to ensure that one can “guarantee that the salmon buyer gets exactly what they want.” On the other hand, being small can be disadvantageous as the more limited resources place more restrictions on volume capacity and the ability to ensure stability of deliveries. Related to the size of the firm is its organizational structure.

The *internal organization* of some companies is such that changes to the production schedule and doing something different tended to be perceived as time and resource demanding; changes requiring the co-operation and agreement of the whole organization to be effective. Quite apart from the difficulties perceived in making changes, the information base underlying these decisions was also cited to be variable and commonly deficient. Limited information feedback from customers, and consumers, about their wants and needs did little to enlighten producers of emergent changes and trends in the various market segments served. As commented upon by one producer: “how do you setup an organization that gathers and collects the relevant and good consumer insight and put that into action and reshaping

the whole way we are thinking about how we bring new products into the market?”

The *limited knowledge* held about consumers' demands was also given as a further reason for limited differentiation. Statements such as, “We have a lot of knowledge needs.” An admission of lacking feedback from the end-users highlights a trenchant admission of effectively not knowing what to do. Arguably more disconcerting is the apparent underlying suspicion of some that “since we don't have that many sales to the end consumers, we are not receiving a lot of reports from them. But of course, then it is put together in a way that they want to show us. All through their lenses.” One respondent reported: “The dialogue we have with the consumers is really limited,” whilst another admitted that they don't always know who the consumer is. Without such basic knowledge it is not at all surprising that the same standardized product is marketed.

This lack of knowledge about end consumers and their demands and preferences was emphasized by several of the Norwegian producers. Without such basic information, no rational decisions can be made as to what changes might be made in respect of differentiation, not least as the costs involved are also unknown. This said, one must also consider the availability of market information and in the case of Norway it needs to be recognized that there is, certainly in relation to most competitor countries, a comparative wealth of information provision through the Norwegian Seafood Council. Perhaps this raises questions as to the ability, financial implications, perceived intellectual benefits and general propensity to utilize such market information systems to create and market products that stand out from the competition and are more profitable.

Norwegian producers' perceptions of customer demand

The industrial buyer is a gate keeper with much power to decide what their customers are offered. This raises the question as to how proactive these decision makers are, whether operating individually or as part of a decision-making unit. To what extent do such decision makers research the demands of their buyers and other prospective customers and having done so, what measures are taken to communicate the products created to the target market whether retail or foodservice? Conversely, questions must also be raised as to the proactivity of end-customers in understanding what their market wants and in turn communicating these messages back along the value chain.

Opinions on the *role of the industrial buyers* are unsurprisingly varied, in part reflecting the different relationships between producers and downstream. One individual was quite insistent that retailer demands did not come from the retail chain but instead reflected the end consumers' wishes

for a specific brand which would provide assurance about its provenance. “...we believe that branding within salmon is becoming more and more important. The main reason for that is basically not the demands of retail, but the demands of customers.”

Other producers were more skeptical of this prioritization of consumer demands and reckoned that other factors would dominate the buying decision. Necessarily buyers’ demands will vary between sectors such as retail, foodservice, smokers etc. and within the respective market positions held, and again over time. One producer considered their retail buyers to be primarily concerned with food safety and secondly with sustainability, whereas salmon smokers would generally prioritize fat content and color.

Polish processors’ perceptions

Type of differentiation

The Polish processors, like the Norwegian producers, identified various means to differentiate the salmon.

Country of origin was identified as important with one respondent claiming: “Origin is the first thing.” The source country also appeared to reflect some rank order of preference with Chilean salmon least preferred, “nobody wants to touch (Chilean) in Europe basically, only German retailers want the frozen portions...” Whilst Icelandic was recognized of growing importance, both processors considered Scottish salmon to be the premium, albeit with the somewhat confusing caveat, “it does not mean that it has to be premium (quality), but it is like the origin determinates.”

Verification of source highlighted the role of *Traceability* as a way of differentiating. This emphasis was being further advanced through the development of their own traceability platforms, “to educate our customers.” QR codes were of growing importance, but it was also recognized that provision of additional information can result in incorrect adverse opinion when information is not universally provided or raises aspects hitherto unknown to the buyer. For example, if claims that the salmon is antibiotic free are not repeated for all so reared, there is a risk that all other products will be deemed to be using antibiotics, even though they are not. Such information overload can thus result in inaccurate differentiation, potentially damaging for the image of the industry. One of the processors did, however, mention the need to be more explicit about the absence of antibiotics. This concern was driven by retailer pressure but created a dilemma because whilst almost all the fish was said to be free of antibiotics, there was no supporting certification. However, because of retailers being unaware, possibly disbelieving, that only limited quantities are treated with antibiotics there is a growing demand to stamp products clearly, “No antibiotics.”

In respect of the wider use of *Certification* as a differentiation mechanism, the Polish processors perceived this as limited because of its current, and growing ubiquity. On one hand, certification has become a prerequisite for market entry, especially in the case of multiple retailers and so does not provide an effective tool to distinguish between products. Yet at the other extreme, the information load communicated to the consumer through the plethora of different schemes creates confusion, in effect a differentiation fog: "... the typical customer of a supermarket has no clue what the difference between MSC, ASC, or Global Gap is." This combination of wild capture and aquaculture standards also highlights the scope for ambiguity. The costs of certification were also perceived problematic as, "our customers don't want to pay such a big bonus as the farmers would like to have. So then more often we are covering part of the bonus, let's say." In effect ASC, and other certification was viewed as a necessity but not something that customers were willing to pay the differential cost incurred in its provision.

Whilst certification thus appears to be of more limited value in practice, because of its widespread presence, *freshness* was recognized as a very important way of differentiating products. "... more important for us is how old the fish is, how many days from harvest." A critical component of delivering freshness is the stability of deliveries and reliable logistics but also consistency in the quality of deliveries received. However, this ideal is not always what is experienced: "when I speak to Norwegians (producers), I don't get a clear answer why there is such a difference in the quality, even sometimes from the same farms." Stable deliveries encourage working with bigger suppliers: "... it is the easiest to work with the big guys because they have a lot of fish, and they have their logistics sorted." This preference also highlights the importance of the buyer-seller relationship and was said to be another way of differentiating based on good channel communications.

Whilst currently a small part of turnover, the growing importance of certified *organic* fish was noted. Despite the higher price of the raw material, it was stated to "becoming more and more popular to the customers." Concern about the husbandry of the fish was also expressed in terms of the feedstuff used: "... giving the knowledge about the feed content, and no chemical use and no antibiotics, to the customer one can increase the value of the product. The use of insects in feed is also being mentioned as a good solution in terms of sustainability..." This interest in alternative feeds reflected concern about, "... how much fish we have to harvest to feed the fish in production... I am pretty excited about the insect feed." Whilst this may be perceived by some as a positive means of

differentiation, there is some risk of confusing communications, as with antibiotics, about specific and generalized practice.

Another identified means of differentiation concerned lice treatment used. Whilst said to be something only the industrial buyers are aware of, and not the end-customers, some doubt might be expressed about the longevity of such opinion. The expressed notion that, “the customers they don’t care too much what it is, not the treatment and most of them don’t know about the problem with sea lice actually...” arguably errs more on the side of optimism than prospect. One processor’s considered solution to the lice challenge was through greater emphasis upon *offshore production*, which he thought could also be used to differentiate output. The distinguishing attribute of such fish would be its more environmentally friendly status and reduced pressure on the number of farms within the fjords. Whether the associated increased costs of production, monitoring fish health and welfare and more complex logistics might equally be valued remains moot.

Polish processors’ perceptions of barriers to differentiation

The Polish processors interviewed consider *price* to be a critical barrier to differentiation of Norwegian salmon. This is because their customers are seemingly unwilling to pay a premium and have become more entrenched in this view over time: “It was not like that maybe a few years ago when also the quality of the product and the service level was much appreciated, but right now the price is the main driver to determine the decisions about the supplier.” Some explanation for this is leveled at the retailers who, it was claimed, “are fighting so much that they are squeezing the price so much that everybody is trying to make the product as cheap as possible, so we are lowering the quality of the food...”

This increased emphasis upon price competition was felt to be further encouraged by the limitations of documented differentiation. One of the processors related their efforts to identify a Norwegian producer who could give categorical assurance of some aspect of differentiation in the rearing of their salmon: “... asking them about like a whole standard. If they do something, do they have one site which has some specialist story about marketing, some different feed content, something whatsoever. Nobody gives me the answer.” He laments the tendency for all to claim their fish as special but none with, “something that is giving the value like the Wholefood standard saying something about the density, it is about the cages without copper, it is about the different feed. Everybody is talking about their fish being special of course, because it is from the South, it is from the North, West, or East, ... it was only talk about bullshit and the

marketing that our fish is better than our neighbors' because it is better, because it is ours."

Any propensity to pay more for the salmon necessarily requires trust in the differentiating claims made. In the absence of this, customers will be unwilling to pay extra for things that they take for granted, "... they (the customers) don't know that they have to pay more because there is a logo on the top of the package." This was felt to pose a particular challenge for the processors because if the end customers had only a limited understanding of the more detailed attributes of the product, it was unrealistic to expect a price premium to be paid. The case of organic fish was cited: "The people don't know that for instance the organic salmon have different density in the cages than the conventional fish." This was viewed to have important consequences for the value chain as it questions who has responsibility, and is best placed, to improve communication and understanding of the market.

Polish producers' perceptions of customer demand

The wider knowledge gap within the value chain was felt to be exacerbated by the limitations in the typical *limited experience and knowledge* base of the retailers' salmon buyers. These notional product category specialists were said to be, "changing like every year, every two years... they don't know what they are doing and before they actually get the knowledge they are sacked or moved to another section."

Another consequence of high buyer turnover is the limitations on the depth of any relationship developed. The shorter, and thus likely shallower, relationship tends to place greater emphasis upon price. Importantly, an ability to negotiate a low purchase price is commonly one of the more evident performance indicators that can be used to assess "success" albeit an assessment which can fail to take account of other, no less important, components of the relationship such as consistent provision of the required standards. Processors believed many retailers simply change suppliers if they don't get a low price: "the problem is that they are changing so much that the new staff have no time to learn about the standards, the quality, who is the supplier, and what kind of service they are providing..."

In terms of their ability to demand certain attributes from producers, the processors also perceived there to be power/dependence relations in the chain which makes them take what they can get: "Norway is in general a monopolist in salmon... we don't have a way to demand from the farmers that you should do this, like this or like that because they have a thousand of other companies that will buy it and they won't care, ... unless something is obviously wrong." This real and perceived structural imbalance is

important as it will tend to discourage communication of potential points of differentiation received from downstream.

One final observation of the processors was their perception of the foodservice sector being more responsive and receptive of new products. “Foodservice is more exciting somehow because foodservice can take the new products much quicker and make a decision much quicker... so that is something we like to do more; with the retailers it’s so hard to convince them, especially the ones with discounters with limited shelf space, they don’t like new ideas which are not straight away a success.” This is perhaps explicable because in foodservice the product user is more likely to be a trained professional, e.g., chefs etc. and so be more likely to know what the new product developed offers. Within the foodservice environment the consumer is presented with a ready-made solution whereas in retail that solution may have to be learnt by the buyer and then translated onto their co-diners’ plates and aspire to their acceptance. This understanding and transfer of knowledge about the differences developed may also have more trenchant implications for the sectoral focus of any differentiation strategy.

German retailers’ perceptions

Type of differentiation

Storytelling is seen by the German retailers interviewed to be an important means to differentiate their salmon product range. A preference was expressed for supplying companies with longstanding traditions which could provide the basis for more detailed histories of the production process. Given the comparative recency of farming salmon this would sometimes draw upon post-harvest processes such as smoking thereby enabling the narrative to draw upon practices formerly undertaken with salmon from capture fisheries. The detail aspired to in one case meant that newspapers were used to enable prospective customers to read stories and learn more about the products. One respondent was of the view that: “I think fish is a fresh product and I think fish needs a little bit promotion or a story.” Inclusion within an “independent” source also confers the potential added advantage of greater credibility because although the content may be highlighted as “paid for,” this subtlety of source can disappear in the mind-set of the reader. Publicity, under editorial control, was also used periodically for additional endorsement. An alternative promotion channel was used by another retailer who published a weekly newsletter wherein they could present profiles of their suppliers and provide more detailed information about the production process.

These external means of communicating points of difference are important and provide reinforcement and extension of the information that can

be conveyed on the pack. However, the label was considered of great importance as it represents the opportunity to communicate immediately prior to the point of a purchase decision.

On-pack assurances about *sustainability* were considered to be increasingly important in the future, with one of the retailer's viewing adoptions of ASC as urgent. Other sustainability schemes such as Global Gap and Friend of the Sea were also recognized, but not held in such high regard. Despite the view of growing importance, more skepticism was noted in the response of the other retailer about the value of different sustainability labels to the consumer. Whilst such labels were said to be useful to the retailer in simplifying the purchase criteria: "We are buying MSC, we are buying Global Gap that is a standard for buying, that's important to buy a safer product." Doubt remained as to whether the consumer responded to these cues: "... they don't buy MSC fish fingers, they are buying Igloo fish fingers by price." In a similar vein, another retailer contended that consumers placed more trust in the retail brand than the certification labels.

Exploration of the justification of consumers' trust in the retailer revealed a seemingly quite superficial scrutiny of upstream suppliers by the retailer. For example, *fish welfare* was said to be important, but also that it was taken for granted: "I think it is important, but I trust our suppliers. We don't ask the supplier how much fish is in the cage or what is in the feed, we don't ask him." One of the retailers insisted on the importance of there being no GMO in the *feed* as was the consistency of standards.

Price was frequently stated as the big driver in the German seafood market. One respondent opined that the preponderance of discount retailers in Germany, such as Rewe, Aldi and Lidl, proved a significant challenge for those more focused on non-price attributes. Achieving a balance between low prices and other attributes was difficult but not impossible. Market segments for premium quality products did exist wherein consumers were willing to pay extra so long as this enhanced quality was perceptible and desired. In the case of salmon this was said to be especially notable in smoked products where both low and premium price products co-exist.

The perceived differentiation in this category was said to rest upon being processed, including slicing by hand in small smokeries. Lower quality products were seen as being mass-produced and on a larger scale: "The hand sliced salmon looks better, if you tell it is hand sliced, you say 'Ah, it's beautiful'." According to the retailers interviewed, consumers associated certain brands with premium products and were willing to pay a price premium for this higher quality. Conversely, this also suggests that opportunities for differentiation might be crafted based on a consistently low price, assuming that quality is offered at a level deemed acceptable.

The retailers also reported some concern about the adverse imagery periodically publicized about the farmed salmon sector. Several TV and social media documentaries were noted to have had negative impacts on sales, at times depressing them by 30–40 per cent. Typically, the imagery related to the upstream husbandry standards and the deleterious environmental impacts, often in areas which appeared, above-surface at least, otherwise pristine and scenic. Reconciliation of these contrasting images is problematic and was felt to be a particular challenge given the wider “green” ethos of many German consumers. A greater shift to land-based production was viewed by one respondent as a potential combatant of this through its more favorable environmental impact. Whilst this may serve as one means of differentiation, the likely higher production costs would probably invoke another differentiating attribute less appealing: higher prices.

German retailers’ perceptions of barriers for differentiation

Having identified a willingness to pay a higher price for smoked salmon that meets quality expectations, the potential limitations of this extending beyond the smoked sector were explored. Here price remains a central concern and the German consumers’ significant price sensitivity was reiterated. Further discussion of this general tendency however did reveal some exceptions when it came to provenance with indications of some customers being willing to pay more for the salmon labeled Scottish, and for some labels known and trusted to be of premium quality.

It was reported that relaying the provenance through storytelling was important, although paradoxically, that they did not consider this applied to Norway. “Norwegian salmon is salmon. Sorry, it is not a story..., but Scottish salmon, Scotland, is nature, pure nature.” The retailer explained the reason for this differential to be that Germans perceived Scottish salmon to be distinct and thus worthy of a higher price compared to the salmon from Norway, which was not sold as Norwegian salmon, but just a generic salmon. One reason for this distinction was said to reflect the relative quantities of salmon from both producers. Given the much larger volume of Norwegian salmon, the lesser volume and availability of Scottish salmon naturally makes it appear to be rarer and thus different; and all the more so when further brand segmentation is promoted. This perceived barrier is significant, not least because the underlying opinions may be questioned objectively on many fronts: commonality of technology, feeds, husbandry practice, welfare standards and indeed in most cases ownership.

But whatever the facts may be, the harsh reality is the differential positioning held in the German consumers’ mental mind map. This phenomenon was said by one retailer to be due to “Norwegian producers’ lack of good storytelling. Making Scotland the producer with pure nature...”

Storytelling was also said to be hampered by the complexity of the production process and the limited time that consumers have in the purchase situation, so creating limits on what could be conveyed. This combination favored messages which were short and simple, preferably with pictures/infographics. Although there was a lot to tell, this was said to make for a difficult task in telling a good story. All were adamant about the need to exclude coverage of any negative points: “The consumer has no time and if they are picking up these black spots (meaning negative aspects of the production) from the complex situation as an NGO or media presentation, they pick up only the black stuff... and you don’t have a chance to show the white spots. It is so complex.” This seemingly entrenched view reinforcing only the good rather than trying to influence or alter adverse opinion was further evident in respect of sea lice. “We can discuss with the supplier about sea lice, but never with the consumer. I shouldn’t use the word sea lice, oh my God, nobody would eat any more fish.”

German retailers’ perceptions of customer demand

The retailers interviewed reported a very rational profile of customers’ demands for good quality products ensuring sustainability and at a price not considered excessive, ideally low. Sustainability labeling was thought to be “important for our consumers, but so is also the price, so if the price is too high, they will not choose the labeled one.” Sustainability labels, whilst required by the retailers, were not thought to be a necessity for the consumers, so long as they could be assured of the sustainability of the retailers’ offer. This infers a strong degree of trust in the retailer and may provide some means of bringing retailer-led differentiation to the market.

In terms of demand for quality products this was recognized to be somewhat disparate. It was noted that some customers would consistently pick the most expensive salmon, especially if they knew about fish and thus could determine freshness and other sought-after attributes. However, one retailer also noted, “it is sometimes difficult for the customers to see the difference between cheap salmon products and the high-quality salmon.” If quality differentials are not perceived, then they tend to use price as the critical cue; or on other occasions may use the name of the supplier or the brand to make the purchase decision. It was also reported that sales of premium priced quality products tend to have more stable sales volumes whereas cheaper low-cost products were more volatile in their price elasticity. When questioned about responding to customers’ demands there appeared to be only limited understanding of the need to be proactive in understanding changing wants: “... we have no information.” This prompts the need to acquire more rigorous market intelligence.

Discussion

The interviews with industrial buyers along the farmed salmon value chain from Norway to Germany via Poland provide a useful insight into both the divergence and convergence of views on the scope for differentiation. Whilst all three stages recognized the mechanisms and presence of differentiation, opinions differed both within and between countries, as to their relative importance and potential. Differentiation of salmon do occur in the salmon value chain, as a large variety of salmon products may be found in the retail shelves. But this differentiation happens after Norwegian producers have exported the salmon out of Norway. Thus, the differentiation extent happening in this example in Poland is limited as there is no way of changing the production regime, feed ingredients or other welfare indicators, after the salmon has been produced.

Both the Norwegian and the Polish respondents emphasized origin as an important way of differentiating salmon. Interestingly, the representatives for the two German retailers also find origin important but opined that Norwegian salmon lacks storytelling relating to its origin. They pointed out that “Norwegian salmon is just salmon, and not a story in itself.” On the other hand, Scotland has, according to them, made a much bigger effort in the storytelling of their origin, emphasizing pure scenery, authenticity and thus have succeeded in gaining a good reputation and higher prices for their products.

Certification schemes such as the ASC are further mentioned by all the value chain actors; however, they remain uncertain about the importance of these schemes for the end-consumers. This correlates well with the study of Gulbrandsen (2021) which showed that ASC salmon certification appears to be used on a business-to-business level to reassure retailers that salmon producers adhere to standards for responsible farming but has low consumer awareness. On the other hand, having control of the total production process, not necessarily by having ASC, was emphasized by the Norwegian producers as a way of differentiating their product. However, the Polish processors argued that they lacked reliable information from the Norwegian producers claiming to have, for instance, better control over the whole production process for improving quality of the salmon. They point to the fact that they cannot use the Norwegian companies’ claims about environmentally friendly and quality-enhancing production practices, without reliable documentation. Also, the Polish buyers question what being in the north of Norway, compared to the south, does to improve the quality of the salmon – as claimed by some salmon producers. If they wanted to claim some improved quality related to site location, they need to produce some objective results proving this.

When it comes to welfare of the fish during production, the German retailers say that this is just taken for granted, and not really a viable means

of differentiation. In general, the Polish processors considered themselves lacking information from the Norwegian producers. They would like to have more information about traceability, lice treatment, feed ingredients, antibiotics (or lack of), and explanations for the often-experienced variable quality of the fish from the same producer. The Polish processors also emphasized freshness as a point of differentiation, a point not mentioned by the Norwegians. The German retailers additionally pointed out special cuts, more convenient products, and no GMO as points for differentiation, points not mentioned by the other chain actors. These mismatches in perceptions of what kind of differentiation is wanted by the industrial buyers, indicates that communication in the supply chain could be improved. Intelligence generated about customer wants and needs, competitor offerings, competitors' strengths and weaknesses, and other environmental factors affecting the company, along with the ability to disseminate this information throughout the organization and respond to it, has an important impact on organizational performance (Rodrigues and Pinho, 2012).

The Polish respondents attribute the lack of information to the asymmetric power balance favoring the Norwegian producers. The demand for salmon is for the moment so high that the Norwegian producers can easily swap buyers if too many special claims or demands are being made. Thus, the buyers take what they are offered. However, this indicates that more information about the different production practices is potentially useful for buyers.

New emerging technological solutions, including closed production facilities on land, at sea and offshore, may in the future result in a different competitive situation for Norway. The currently predominant location in Norwegian fjords may be changing to land-based facilities located much closer to the market; a locational shift whereby the Norwegian salmon producers risk losing some competitive advantage and market power. The uncovered limited market orientation and lack of differentiation in satisfying buyers' preferences may prevail in the short-term but may, in the long-term, forfeit at least some of Norwegian salmon's current market leader position.

Allocating more time and resources to build and maintain close long-term relationships with a selection of buyers should assist the continuous task of generating market intelligence, so crucial for product differentiation, and promoting acquisition and retention of more loyal customers in future (Voldnes, 2015). A common perception among the respondents was the limited willingness of their customers to pay any premium for differentiated products thus entrenching a barrier to differentiation. Whilst this was noted to exist, some buyers did highlight the price premium Scottish salmon gains because of their storytelling; this indicates a willingness to pay so long as the story told accords with the values, aspirations and perceptions of the customers.

Limitations, implications, and suggestion for future studies

This study has explored one case of a somewhat neglected, but very important actor in the Norwegian salmon supply chain: the industrial buyer. Whilst the sample size precludes any claim to provide a representative result of differentiation within the entire Norwegian salmon sector, it does provide a significant and hitherto under-researched insight into a value chain typical of Norway's world-leading salmon industry. Another, dyadic study of the Norwegian king crab export to South Korea revealed a similar lack of communication and market orientation between the Norwegian sellers and Korean buyers, also explained by asymmetric power-dependence symmetry in favor of the Norwegians (Voldnes, Kvalvik, & Nøstvold, 2020). The power-dependence situation may change as the technological solutions for amongst land-based production improves, and export of raw-material may become more and more challenging because of environmental costs and considerations. Thus, to secure their long-term competitive advantage, the Norwegian sellers should take greater action to improve their market orientation. Straume (2017) reveals that the general duration of the trade relationships in the salmon export business is quite short, which make them exposed to higher risks and lower potential for higher profits. Being more market oriented can be beneficial to make more long-term business relationships. Both this study and Voldnes et al. (2020) show the importance of gathering information from different perspectives along the chain, especially including the industrial buyer, to get a more accurate picture of the problem under scrutiny.

Future studies will necessarily provide incremental insight through analysis of additional supply chains throughout other markets. Subsequent market investigations clearly may well reveal different perceptions demanding consideration, not least as cultural differences and other phenomena influence peoples' behavior and perceptions (Markus & Kitayama, 1991). Critically, and arguably of paramount importance, will be proactive identification of forthcoming changes in these perceptions as the Norwegian salmon industry evolves beyond the current stage of reliance upon record prices for an undifferentiated product.

Note

1. The health benefits of seafood have mainly been associated with a high amount of the long-chain omega-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) (Esaassen et al., 2022).

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