Key Internalization Determinants of Value Chain Activities in the Salmon Farming Industry

- A Bakkafrost Case Study

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Abstract

The purpose of this thesis was to identify the reasons behind internalization of the global value chain activities in the salmon farming industry. Despite the tendency of internalizing value chain activities in leading salmon farming MNC is evident, there were significant gaps in the existing literature of internalization which mention the instrumental factors decision makers have to consider when implementing internalization strategies. The literature discusses transaction cost, economies of scale, and resources as a reason behind internalization. However, the contexts of the industry, institutions, geographic location, and global events such as Covid-19 pandemic are neglected in the existing literature of internalization. To determine the reasons for internalizing value chain activities, the analysis was conducted using the lens of critical realism and consequently using methods such as Case Study and data triangulation. These methods enabled the researchers to use expert qualitative interviews from the head of marketing from the case company Bakkafrost and from an influential member of the Faroese parliament. Furthermore, secondary data, and participant observation were included in the thesis, to further validate and cross-examine the evidence. In accordance with existing literature and obtained data, it was found that internalization activities can be influenced by the context of the industry, institutions related to the industry, geographical location of the MNC, transaction costs, and resource dependency. Furthermore, the implications of the Covid-19 pandemic have in light of the case study evidence proved to speed up internalization efforts of international salmon farming companies, especially in organizations from geographically isolated locations. The findings shed light on the key determinants of internalization of value chain activities. Additionally, the thesis highlighted the significant implications of institutional actors within the market. It further reflected on quality assurance by gaining control over most of the value chain aspects from the companies operating in the salmon farming industry.

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1.0 Introduction

The apparent growing global demand for protein-rich food sources, coupled with the depletion of wild fish stocks and the exponentially increasing world population, has led to an apparent increased reliance on aquaculture as a means of sustainable source of protein. Among various aquaculture species, farmed salmon has emerged as a significant source of protein for human consumption (Bakkafrost, 2022 ; Mowi, 2022). Aquaculture, including salmon farming, has made significant advancements in sustainability practices. The adoption of responsible farming methods, such as efficient feed conversion ratios, waste management systems, and disease control measures, has improved the environmental performance of salmon farming operations. Compared to traditional protein sources like beef, salmon farming requires significantly less land, water, and feed inputs, making it a resource-efficient protein production method (Bailey, 2014 ; Global Salmon Initiative, 2023).

Recently, the international demand for salmon has been steadily increasing. According to MOWI which is the largest farmed salmon producer in the world, the demand for salmon increased 4% from 2020 to 2021 in Europe alone. Additionally, demand increased 11% in Asia and the US comparing the third quarter of 2020 and 2021 (Dawson, 2021). Furthermore, the FAO of the UN are currently predicting that the world population will reach 9.8 billion by 2050 and consequently the demand for food will increase by 50%. Additionally, FAO calculates that the demand for animal-based foods will increase by 70% (Global Salmon Initiative, 2023). The Global Salmon Initiative, which is a Non-Profit which seeks to "feed the world in a healthier, more sustainable way through advancements in responsible salmon farming" writes on their official website that:

"*We recognize that an increased production of farmed salmon is required to ensure future demands for protein are met, however this must be matched by significant reductions in environmental impact and improvements in resource efficiency*" (Global Salmon Initiative, 2023).

In the context of increased international demand for farmed salmon, organizations within the industry are consequently seeking to improve efficiency in a constantly evolving market. In an effort to be as resourceful as possible, many salmon farmers have turned to internalization of value

chain activities as a method to cope with changing market dynamics (Holm, 2014; European Commission, 2015 ; Mateos & Rivera, 2020).

International markets are subject to constant fluctuations in demand, consumer preferences, regulations, and trade barriers (Zimmermann, 1995). By internalizing key activities, firms can be more responsive to market changes, adjust production volumes, modify product specifications, and meet specific customer requirements. This flexibility allows salmon farming firms to quickly adapt to shifts in international markets, capitalize on emerging opportunities, and mitigate potential disruptions in the supply chain (Gallardo et al., 2015; Kruse et al., 2021 ; Bakkafrost, 2022).

Internalization is a concept that holds broad applicability across multiple disciplines, including international business. Generally, it refers to the process through which organizations decide to internalize specific activities or functions within their own boundaries rather than relying on external markets or third-party entities (Hennart, 1988). This process involves integrating various stages of production or value chain activities into the organizational structure of the firm. Within the context of the Ownership, Location, and Internalization (OLI) framework, internalization assumes a crucial role in comprehending the determinants of foreign direct investment (FDI) by multinational enterprises (MNEs) (Dunning, 1988 ; Rugman & Verbeke, 2003). However, this research will not focus on internalization within the OLI framework, but rather explore organizational functions within the structure of the firm.

Internalization in value chains has emerged as a critical topic in contemporary business research due to its potential impact on various aspects of firm performance. Scholars have highlighted the importance of internalization in achieving cost efficiencies (Williamson, 1975), optimizing resource utilization (Prahalad & Hamel, 1990), fostering innovation (Teece, 1986), managing risks (Contractor & Kundu, 1998), and lastly promoting sustainable practices (Kolk, 2010). According to organizations and scholars, bringing activities in-house, firms can leverage core competencies, develop new technologies, control their intellectual property, manage supply chain risks, and ensure compliance with ethical and sustainability standards (Bakkafrost, 2022; Jacobsen, 2023). Therefore, internalization in value chains is a crucial strategic decision for firms seeking to enhance their competitiveness, efficiency, and sustainability.

Based on literature evidence; the COVID-19 pandemic has seemingly disrupted the previous stance on global supply chains and prompted companies to reassess their dependency on external suppliers. Consequently, leading to an increased interest in internalizing value chain activities (Bouncken, 2021; Farooq, 2021; Shahriar, 2021). The pandemic has seemingly spurred many companies to accelerate their internalization efforts, particularly in industries where supply chain disruptions have been severe, as a consequence of Covid-19 restrictions (PwC, 2021). Along with the supply chain, the Covid-19 also impacted the global trade as a whole. All significant universal institutions and organizations made quick investigations and estimates of the implications of the COVID-19 widespread on distinctive macroeconomic criterions (Kersan-Škabić, 2022).

In addition to the above, intermediate products showed a tremendous growth in trade from 1990s to 2000s, but it started to stagnate since 2010s which accounted for around 45% of total merchandise trade in 2017 resulting in a major indicator of the relevancy of foreign produced inputs in both production and assembly processes (World Bank, 2020); (WTO, 2020). Seemingly, the Covid-19 pandemic magnified the tendencies of diminishing growth of intermediate products. These circumstances led to a concern about the risks associated with global production (Baldwin & Freeman, 2020). Hence, in order for organizations to become more resilient to current market fluctuations, the concept of reshoring and rethinking the global value chain has come to light (Javorcik, 2020).

As mentioned, among the most significant organizational impacts of the pandemic can be observed in international trade and supply chains. Because of the different Covid-19 restrictions; countries around the world implemented lockdowns and travel restrictions to curb the spread of the global virus. Consequently, the movement of goods and services of people were very restricted and limited. These lockdowns had consequently increased effects on isolated countries with limitations on freight options. Furthermore, these implications became even more severe at organizations which highlighted the importance of speedy deliveries and fresh products (Jacobsen, 2023). Accordingly, these implications seemingly caused disruptions in global supply chains, thus resulting in organizations facing shortages of necessary raw materials along with finished products. According to scholars, the pandemic highlighted and exposed the risks of overreliance on a limited

number of suppliers or the reliance on geographic regions (Bouncken, 2021; Farooq, 2021; Shahriar, 2021). Seemingly, international organizations were consequently left with two strategic options. Either they would have to diversify their supply chains by sourcing material and products from multiple suppliers and regions – thus reducing their dependency on one supplier or geographic region. Another strategy that a lot of companies have seemingly pursued, is to internalize more of their value chain activities.

Internalization efforts have been particularly evident in companies such as Apple, which were also before the pandemic, widely known for their vertically integrated value chain and business model. The company designs and develops its hardware, software, and services in-house. Following the pandemic, they also made their computer iPhone, iPad, Watch and Mac chips in-house, a service which was previously delivered by Intel. These efforts have, according to various news outlets, assisted Apple in keeping the iPhone and Watch prices steady along with speeding up the processing powers of the products (Rivero, 2022). By internalizing its value chain, Apple has been able to control the user experience, ensure quality control, and differentiate its products from competitors (Wu, 2017). It can be observed that other companies have followed along with this trend following the Covid-19 pandemic, companies such as Coca-Cola have internalized its bottling and distribution operations, which according to themselves enable them to maintain tight control over product quality and distribution channels (Coca-Cola, 2021).

But what about companies that are tightly linked to one particular product? An organization which gears all of their resources towards increasing the competitiveness of one particular product - and furthermore a product which is highly dependent on the natural environmental resource sources of the organization. Such organizations can be observed in the fastest growing food-production sector: the aquaculture industry. The aquaculture industry refers to
"*the farming of aquatic organisms such as fish, crustaceans, molluscs and plants*" (Østerblom et al., 2015). The last few decades have seen a dramatic increase in aquaculture production, to keep up with the growing consumer demand for seafood. Since 1970, aquaculture production has grown more than 8.4% annually worldwide (FAO, 2016). This is substantially more than any other food production system. Today, aquaculture accounts for more than 50% of human seafood

consumption and it is estimated that by 2030, 62% of human seafood consumption will be derived from the controlled process of cultivating aquatic organisms (Global Seafood Alliance, 2023).

Aquaculture organizations are often subject to constant ecological pressure, political pressure as well as being observed highly by increasingly environmentally conscious consumers. The use of antibiotics in animal farming poses a serious concern for human health and for the environment. However, some segments of the industry have improved its practices and now offer sources of animal protein with limited use of antibiotics (Boyd et al., 2022 ; Bakkafrost, 2022 ; Mowi, 2022). Similarly, feed remains one of the bottlenecks for further expansion of the aquaculture. The feed systems are showing a large dependency on marine protein, most commonly derived from small pelagic fish. According to literature, "*using wild-caught fish as feed increases costs and pressure on marine ecosystems. It also raises ethical concerns, as such resources represent a primary protein source for many people in the developing countries*" (Østerblom et al., 2015). Seemingly, there are growing concerns among consumers and policy makers in regard to the aquaculture industry. Nevertheless, it seems that the common consensus is that aquaculture is necessary and essential in regard to combating food shortages in an exponentially increasing consumer population (Global Seafood Alliance, 2023).

Mowi, one of the largest salmon farming companies in the world, has internalized several aspects of its value chain, including fish feed production, fish farming, processing, and distribution. By owning its own hatcheries, feed mills, and processing plants, Mowi has been able to maintain strict quality control over its products and differentiate itself from competitors (Mowi, 2021). Similarly, other companies within the salmon farming industry follow the same internalization strategy. Cermaq, another major salmon farming company, has also internalized many aspects of its value chain, including fish farming, processing, and distribution. By controlling much of its supply chain, Cermaq has been able to optimize its operations, reduce costs, and improve product quality (Cermaq, 2021). Scottish Sea Farms, a leading producer of Scottish salmon, has internalized its hatchery operations and fish farming. By controlling the entire production process, Scottish Sea Farms has been able to ensure the health and welfare of its fish, as well as maintain high standards of sustainability and traceability (Scottish Sea Farms, 2021). Within the salmon farming industry, it seems as internalization within fish farming and processing is an industry standard among the

large MNE's in the industry. These examples demonstrate how internalization can provide strategic advantages for salmon farming companies, such as greater control over quality, differentiation from competitors, and cost efficiencies. However, internalization seemingly also entails significant fixed costs and risks, which firms must carefully evaluate against the benefits when considering the internalization strategy. According to the literature based on internalization theory, it emphasizes the notion of efficiency which relates to the costs and governance of the firms (Benito et al., 2019). However, a firm may not make decisions to internalize based on economic efficiency only. There can be other determinants which influence organizations to internalize their value chain. The existing literature rarely focuses on the reasons why firms internalize their value chain apart from the efficiency aspect of it. Exploring the determinants of internalization in a specific industry will shed light on the existing knowledge of internalization. It can further demonstrate the relatedness of the industries in which the firms operate their business with internalizing their value chain activities.

The focus of this thesis is on the salmon farming industry in the Faroe Islands. Being a remote country in the north Atlantic ocean with a population of just under fifty three thousands, the Faroe Islands has an ideal geography for aquaculture business (Bjørndal & Mrdalo, 2023). Hence, this is no surprise that around one third of their GDP consists of the fishing and fish farming industry. Also, the Faroe Islands is the fifth largest salmon producer in the world which makes them a major player in this industry. The aquaculture industry in the Faroe Islands primarily started in the 1980s and is mainly dependent on the Atlantic salmon *(Salmo salar*) (Ibid). Currently, there are three companies in the Faores which have salmon farms. They have a total of 10 hatcheries, sea cages in 32 fjord-sites, and a total of 3 processing factories (Bakkafrost, 2022 ; Mowi, 2022; Hiddenfjord, 2022). The harvest of salmon in the Faroe Islands was 14,484 tons in 1996 but by 2016, it has increased to 68,271 tons which comprises of 47% of the total Faroese exports and then further increased to 96,822.5 tons in 2021 (Statistics Faroe Islands, 2022). In 2022, approximately 5.000 people (10% of all employees) were employed in the fishing and fish farming industry in the Faroe Islands (Statistics Faroe Islands, 2022).

Countries like the Faroes are environmentally vulnerable due to their geographical locations. Its isolated geographic location in the North of the Atlantic Ocean, enables salmon farming

organizations to capitalize on the natural environment that the location provides (Bjørndal & Mrdalo, 2023). The Islands are located in the middle of the Atlantic gulfstream - consequently, providing optimal and steady sea water temperatures. However, overuse of their resources or over dependencies on one particular resource can put a country like the Faroe Islands in a risk of ecological vulnerability (Plieninger et al., 2018). Therefore, overdependence on aquaculture may not be an ideal scenario for the Faroese economy in the long run. However, companies like P/F Bakkafrost (Bakkafrost) are doing vertical integration since before Covid-19 pandemic not only as a part of their core business policies but also as a part of their sustainability policies to ensure overall environmental and economical safety in the Faroe Islands (Bakkafrost, 2022). As this paper is studying the reason behind internalization of traditional salmon farming companies, Bakkafrost is an ideal case study as it is one of the most vertically integrated companies within the industry (Jacobsen, 2023). It is also a question whether these environmental factors are among the only reasons behind salmon farming companies internalizing their businesses. It is assumed based on previously explored literature and international business theories, that institutions like governments and other regulatory bodies can also be influential factors in internalization decision making processes (Kratz & Block, 2008).

Using qualitative interviews from internal decision makers within Bakkafrost, as well as interviews with the head of a large political party in the Faroe Islands - this research aims to create a holistic view behind the reasoning of internalization decision making processes of the faroese salmon farming company. The qualitative data will be paired with similar studies from other countries to gain understanding of the industry specific mechanisms. In addition, the study will explore the historical perspective of the salmon farming industry to gain insights into industry dynamics and tendencies regarding value chain optimization processes. This will be conducted using secondary quantitative and qualitative data. Additionally, all of the above data will be further paired with participant observations. Furthermore, the interview answers will be used to answer theoretical questions regarding resource dependence theory, institutional theory, and transaction costs specific to the case study company. This will enable the researchers to gain an overall understanding of the organizational mechanisms involved with internalization processes of an international organization headquartered in an isolated geographic location.

Therefore, the following research question:

"*Why are traditional salmon farming companies internalizing their global value chain activities?*"

have been identified to analyze the industry specific determinants behind internalization of salmon farming companies from isolated geographical locations. By "traditional", it is understood that the aquaculture business is a business that provides products that were relevant decades ago, and are expected to be relevant in the future. Additionally, the thesis aims to find if there is a correlation between the industrial mechanism, institutions, resources, transaction costs and Covid-19 pandemic and internalization decisions within this particular industry. Therefore, with the help of the case company and participant observations, the researchers can obtain useful information about the strategic decisions regarding their value chain activities prior, during and after the Covid-19 pandemic. This will eventually help the researchers to find the influential determinants for the internalization or vertical integration decision from salmon farming companies. Apart from salmon farming companies seeking competitive advantages through internalization efforts, it is assumed based on participant observations and literature that there are other determinants previously unexplored in the salmon farming industry. This thesis will analyze and discuss the implications of these external determinants based on internal organizational decision-making processes.

2.0 Literature Review & Theoretical Background

This section will emphasize on the existing literature on internalization, de-globalization, transaction cost theory, resource dependency theory, and institutional theory. The concepts will be discussed, and the literature gaps will be highlighted in accordance with the subjects within this thesis.

2.1 Internalization

Internalization is a concept that has been studied in the corporate or multinational context and refers to the process by which multinationals can expand their operations abroad and establish a presence in foreign markets (Dunning, 1981; Johanson & Vahlne, 1977). The concept also allows multinational companies to internalize their activities in foreign markets in order to become more competent in controlling existing resources, reducing transaction costs and gaining significant competitive advantages in the market. It means that we can choose to transform (Buckley & Casson, 2009).

According to Buckley & Casson (2009), companies can choose to internalize their foreign operations through both equity and non-equity models such as joint ventures, strategic alliances, mergers and acquisitions, and wholly-owned subsidiaries. Mode selection can be influenced by several factors, including the level of control and ownership required by the firm, the degree of risk associated with foreign markets, and the availability of local resources and skills (ibid.). This study aims to provide a general understanding of the internalization process of salmon farming enterprises. As a result, the above literature has been expanded to include detailed descriptions of how capital and non-capital are internalized in the salmon farming industry.

One of the main reasons for in-house business processes is to leverage the unique advantages of products and services in new markets. Entering new markets may allow firms to make the most of the demand for their existing products and services and gain a significant competitive advantage over local rivals. For example, South Korean multinational Samsung has internalized operations in several countries to expand its presence in the global smartphone market. Samsung's internal strategy has made it a dominant player in the global smartphone market, with a market share of 22.3% in Q1 2021 (Statista, 2021).

Another important driver of internalization is access to new resources and skills. For example, companies may choose in-house operations to acquire new technology, know-how, and a skilled workforce. This allows companies to be more competitive and expand their product portfolio. Moreover, internalization helps firms overcome domestic resource constraints by accessing new sources of funding and expertise (Dunning, 1993). For example, Chinese companies are actively internalizing their operations to acquire advanced technology and skilled labor from developed countries such as the United States and Europe (UNCTAD, 2019). Despite the enormous contribution of the concept of internalization in the field of international economics, there are still some gaps in this research area. One caveat is that further research is needed on how different factors, such as institutional and cultural differences, influence the process of internalization (Deng et al., 2020). Few studies link the process of organization and internalization. According to Douglas North (1990), institutions are "*artificial constraints that shape interactions*". Institutions are important in determining factors of economic or financial performance and have reflective effects on transaction costs and output (North, 1990). Agencies such as governments and regulators can therefore play a key role in the internalization process of a multinational company or an entire industry.

Another limitation of the concept of internalization is the lack of comprehensive research on the impact of internalization on corporate performance and sustainability in foreign markets (Acedo et al., 2006). At a time when environmental sustainability has become a major global issue for doing business, multinationals are internalizing their operations because of the sustainability factor in both domestic and foreign markets. may decide to do so. However, IB scholars have not conducted significant research into the link between sustainability and the process of internalization. In recent years, however, scholars have become more critical of the concept of internalization, citing the potential negative effects of multinational corporations (MNCs) growing in foreign markets, such as environmental degradation, social inequality, and cultural imperialism (Banerjee, 2008). This critical perspective has led to the emergence of alternative theories such as postcolonial theory and critical management studies that challenge the dominant assumptions and values underlying internalization theory (Thomas & Davies, 2005).

Internalization of business also offers firms the opportunity to minimize risks associated with external market conditions. For instance, firms may choose to internalize their operations to avoid

trade barriers, political instability, and currency fluctuations in foreign markets. By establishing subsidiaries or acquiring existing businesses, firms can reduce their exposure to external market conditions and maintain control over their operations. For example, Coca-Cola, the world's largest soft drink maker, has in-housed operations in more than 200 countries to reduce risks associated with external market conditions (Coca-Cola, 2021).

However, the decision to in-house business processes is not without its challenges. The complex regulatory environment in foreign markets can be challenging to deal with. Local laws and regulations can vary significantly from country to country. Businesses must have to deal with this complex nature of variable laws in different countries. A company's reputation and financial performance can be affected in a negative way if it does not meet with or comply with these regulations. For example, Google, the world's largest search engine, was fined €4.3 billion by the European Union in 2018 for violating antitrust laws (European Commission, 2018). Another challenge of internalization is dealing with cultural differences. Businesses have to adapt to the cultural norms and values of the host country, which can be very different from their home country. Failure to do so can lead to misunderstandings, cultural clashes and lost business opportunities. For example, Wal-Mart, the world's largest retailer, had difficulty adapting to the cultural norms of the German market, which ultimately led her to exit Germany in 2006 (Reuters, 2006).

Academics have done very insightful research into internalization processes, explaining why companies typically internalize their value chain activities, but there are still gaps in this area of research that need to be filled. There are several. The connection between the internalization process and the organization ultimately provides key insights that help companies improve their internalization decision-making process. Moreover, the relationship between sustainability and internalization can be further explored to contribute to the existing literature in this area of research.

2.2 De-Globalization

Deglobalization is the process of reducing economic, political and social interconnections between nations, with the aim of reducing external dependence and protecting domestic industries (Eichengreen, 2021). Deglobalization has become a buzzword in recent years as countries seek to

secure their supply chains and reduce the risk of disruption. From a corporate perspective, deglobalization includes a shift to domestic sourcing and production and a focus on regional trade and investment (Yuan, 2021).

The COVID-19 pandemic has disrupted transportation, manufacturing and workforces around the world, exposing vulnerabilities in global supply chains. In response, many companies are reviewing their supply chains and considering moving to more local manufacturing and sourcing. Nearly 70% of executives expect to make their supply chains more resilient by localizing their production and sourcing, according to a McKinsey survey (Gupta et al., 2020).

The trend towards deglobalization is not only a response to the pandemic, but also geopolitical tensions and trade conflicts. For instance, the trade conflict between the US and China has caused several MNCs to diversify their global value chains in order to reduce their dependence on imports from China (Baldwin, 2019). Similarly, Brexit has raised concerns about the future of trade and investment between the UK and her EU, leading many companies to seek new partnerships and supply chain agreements (OECD, 2021).

Deglobalization brings benefits in terms of supply chain resilience and risk management, but it also poses challenges for businesses. Domestic production may be more expensive than foreign production, and regional trade may be subject to protectionist measures and regulatory barriers. Additionally, the transition to deglobalization will have radical effects on the global economy which may potentially lead to a slower growth and less economic integration compared to today's world (Eichengreen, 2021).

Despite these challenges, many companies see deglobalization as a strategic imperative. For example, Apple has announced plans to move some of its manufacturing from China to India as part of its broader diversification strategy (Lunden, 2021). Similarly, BMW has announced plans to increase local production of electric vehicles in Germany as part of its move to a regional supply chain (Fowler, 2021).

Overall, deglobalization is a complex and multifaceted trend that is transforming the global economy and corporate supply chains. The transition to deglobalization brings benefits in terms of supply chain resilience and risk management, but also challenges in terms of costs and regulatory

barriers. Companies need to carefully weigh the costs and benefits of deglobalization and develop strategies to deal with the changing world landscape. (Gupta et al., 2020); (Yuan, 2021)

2.3 Institutional Theory

Institutional theory offers important insights into how regulation shapes the vital choices of MNCs, counting the internalization of the global value chain. According to the scholars of institutionalism, organizations are affected by administrative, regulating, and cognitive pressures manifesting from the organization environment (DiMaggio & Powell, 1983). These aforementioned pressures can essentially impact the decision-making handle of MNCs when deciding whether to internalize certain exercises inside their global value chain.

Regulatory pressures such as pressure from the governments, policy makers etc. as a component of regulation hypothesis, play a vital part in affecting the internalization choices of MNCs. Regulatory institutions build up rules and benchmarks that MNCs must comply with in different nations or locales of operation (Scott, 2013). The complexity and differing qualities of administrative systems over diverse wards can make challenges for MNCs looking to outsource exercises. Internalizing certain aspects within the organizational global value chain permits MNCs to preserve superior control over compliance with assorted directions, guaranteeing adherence to lawful and industry-specific measures (Buckley & Ghauri, 2004).

Normative pressures can be another significant dimension of institutional theory. It can influence the internalization decision-making process of MNCs. Norms usually reflect the mutual expectations, values, and the behaviors within a society or an industry (Scott, 2013). MNCs often internalize activities as a response to societal expectations and industry norms related to responsible and sustainable business practices, social responsibility, and sustainability. Hence, according to Buckley & Ghauri (2004), internalization provides allowance to the MNCs to align their operations with prevailing norms, enhance their reputation, and gain legitimacy in the eyes of stakeholders.

In addition, cognitive pressure can also affect the decision-making process of multinational companies. This can affect perceptions and descriptions of the institutional environment within a particular industry or location. Cognitive institutions such as shared beliefs and mental frameworks shape managers' understanding and appreciation of internalization opportunities (Scott, 2013). Managers' perception shaping of global value chains can be influenced by dominant discourses, industry narratives, or shared mental models that emphasize the benefits of internalization. This cognitive framework influences decision-making processes and can lead to the internalization of activities within global value chains (Hennart, 2014).

The existing literature extensively explores the role of institutional theory in shaping the internalization decisions of MNEs within global value chains, but cultural and contextual factors influence these decisions. There are clear gaps in our understanding of how we interact with institutional pressures. Cultural and contextual factors include aspects such as national culture, social norms, political institutions, and industry-specific characteristics that can significantly shape the institutional environment faced by multinationals (Fang et al., 2016).

Cultural differences between countries and regions have been found to influence the adoption of particular business practices, ethical standards, and forms of government (Hofstede, 1980). These cultural differences can lead to different institutional stresses faced by multinationals operating in different contexts. For example, the importance of social responsibility and sustainability can differ across cultures, resulting in different expectations and norms regarding the internalization of specific activities within global value chains (Doh & Guay, 2006).

Situational factors such as political institutions and industry-specific characteristics can also influence institutional pressures. The political environment, such as government regulations, trade policies, and political stability, can put various pressures on multinationals to internalize their activities within global value chains (Wang & Chen, 2022). Moreover, industry-specific characteristics, such as technological complexity and the need for strict intellectual property controls, may interact with institutional pressures that influence MNEs' decisions to internalize (Contractor et al. al., 2003).

Understanding the interplay between cultural and contextual factors and institutional constraints is critical for a comprehensive understanding of internalization decision-making processes in global value chains. By filling in gaps in this literature, future research will explore how multinationals navigate different cultural and contextual environments, and how these factors influence strategic decisions about internalization. It may provide insight into key managerial aspects within the global salmon farming industry.

2.4 Resource Dependency Theory

Resource dependency theory (RDT) is a widely used framework for analyzing the relationship between organizations and their external environment. According to this theory, organizations are dependent on external resources for their survival and growth Consequently, they must therefore constantly negotiate and manage their relationships with external entities to ensure they have access to the resources they need (Pfeffer & Salancik, 1978).

There are four main strategies that organizations can use to manage their resource dependencies: diversification, vertical integration, collaboration, and coercion. These strategies help organizations to reduce their dependence on any one resource and to ensure they have access to the resources they need to achieve their goals (Pfeffer & Salancik, 1978); (Cropper & Ebers, 2003).

The four main strategies for managing resource dependencies, can be categorized as the following:

- Diversification: involves seeking out new sources of supply or developing new products that require different inputs.
- Vertical integration: engages acquiring suppliers or investing in production capabilities to bring activities in-house.
- Collaboration: includes forming strategic partnerships with other organizations to share resources and knowledge.

- Coercion: contains using market power or legal and regulatory pressure to control suppliers (Pfeffer & Salancik, 1978);(Cropper & Ebers, 2003).

Mutually the resource-based view (RBV) and resource dependency theory contribute to the understanding of how resources are managed and give insight into the implications for strategic management, they nevertheless have crucial dissimilarities. Contrary to the resource-based view which focuses on internal resources as a source for competitive advantage (Barney, 1991), RDT focusses on external resources that are essential to an organization's subsistence and growth. It focuses on identifying external resource dependencies and consequently develop strategies to manage the dependencies effectively.

Some scholars argue that RDT overemphasizes the power of external entities, and neglects internal factors, such as the role of firm-specific capabilities (Meyer & Rowan, 1977). This criticism suggests that RDT oversimplifies the complexity of organizational behavior by focusing too narrowly on external factors. It may underestimate the ability of organizations to influence their external environment (Meyer & Rowan, 1977). Another critique is that RTD assumes that organizations are passive recipients of their external sources. It can be argued that this assumption ignores that organizations may actively seek out resources to reduce its dependency. (Kraatz & Block, 2008).

A third critique is that RDT may oversimplify the complex relationships between organizations and their external environment. Critics argue that RDT does not account for the nuances and complexities of the social, cultural, and institutional contexts in which organizations operate (Aldrich & Ruef, 2006). Nevertheless, RDT is perceived to be a useful framework for understanding resource dependencies in organizations. The theory should be used with refined methods of accounting the agency of the organizations and the complexities of the external organizational environment and its implications.

Overall, RDT highlights the importance of managing relationships with external entities for organizational success. Establishments that can effectively manage their resource dependencies are better positioned to thrive in their external environment (Pfeffer & Salancik, 1978);(Cropper

& Ebers, 2003). Consequently, by recognizing the importance of organizational resource dependencies, managers and strategists can formulate strategies ensuring that the business has access to the essential resources to not only survive but to thrive.

2.5 Transaction Cost Theory

Transaction cost theory (TCT) is a well-known economic theory that provides insight into firm boundaries and how firms coordinate economic activity. According to the TCT, firms exist because they can minimize transaction costs by internalizing certain economic activities (Williamson, 1998). Transaction costs are the costs of coordinating economic activity across markets, such as finding suppliers, negotiating contracts, and monitoring performance. By internalizing economic activity, firms can avoid these transaction costs and achieve greater efficiencies (Coase, 1937).

A firm's in-house decision is a key concept in TCT and relates to deciding whether to produce goods and services in-house or outsource them to other firms in the market. The decision to internalize has a significant impact on the company's limits and overall efficiency. According to TCT, a firm internalizes an activity if the cost of coordination through the market is greater than the cost of internal coordination (Williamson, 1979). Nonetheless, the internalization decision making process is not always easy and it can often depend on several factors. One such factor is asset idiosyncrasies. It refers to how well an asset fits a particular use or relationship (Williamson, 1985). Assets that are highly specific to a particular transaction or relationship will be more difficult to reassign to other purposes or relationships.

A company's in-house decision has been extensively studied in the literature, and several factors have been identified that influence this decision. One of the most important factors is asset specificity. This means how well an asset is suited for a particular use. If the assets are highly specialized assets such as specialized equipment or intellectual property, trading in the market can be difficult and require significant investment in trading-specific assets. In such cases, firms can internalize the production of those assets in order to avoid the high transaction costs associated with trading assets on the market (Williamson, 1985).

Another factor that influences the in-house decision is the uncertainty of future demand. When future demand is uncertain, firms may in-house production to ensure greater flexibility and

responsiveness to changing market conditions (Klein et al., 1978). Additionally, firms may bring production in-house if they have valuable skills and knowledge that are difficult to replicate in the market (Das & Teng, 2000). Internalization helps companies protect those skills and knowledge from potential competitors, allowing them to leverage a greater share of the value created by those assets.

Companies' decisions to go in-house are also influenced by technological progress and changes in market structure. For example, the development of new communication technologies and the growth of e-commerce have made it easier and less costly to coordinate commercial activities across markets, reducing transaction costs associated with outsourcing. In response, companies may become more inclined to outsource non-core activities and focus on core competencies (Birkinshaw et al., 2002). Similarly, changes in market structure, such as franchising and expanding strategic alliances, can open up new opportunities for firms to coordinate their economic activities, influencing firms' internalization decisions (Brickley et al., 2002); (Das & Teng, 2000).

Overall, transaction cost theory provides a valuable framework for understanding why firms exist and how they coordinate economic activity. Internalization decisions are an important aspect of this theory, and understanding the factors that influence internalization decisions can provide important insights into the limitations of firms and their overall effectiveness. (Williamson, 1998).

3.0 Methodology

3.1 Ontology and Epistemology

Critical realism is a philosophical framework aimed at understanding social reality by reconciling an individual's subjective experience with the objective conditions that shape his or her life (Bhaskar, 1975). This theory was developed by British sociologist Roy Bhasker in the 1970s. Bhaskar argued that the traditional positivist and interpretive approach to social science is inadequate for understanding the complex, dynamic, and multilayered nature of social reality.

Critical realism maintains that social phenomena exist independently of our perceptions and that our knowledge of them is limited and fallible (Danermark et al., 2002). It seeks to uncover the underlying structures and mechanisms that generate social phenomena and to explain how they operate in practice. This involves adopting a realist ontology, which holds that there are objective social structures that are not directly observable, but which can be inferred from their effects. It also involves adopting critical epistemology, which acknowledges that our knowledge of social reality is always partial and situated, and subject to revision in light of new evidence. (Ibid)

Critical realism has an impact on various fields of study including sociology, economics, political science, and psychology. It has been used to analyze issues such as power relations, social inequalities, and the role of institutions in shaping social outcomes. It has also been used to criticize prevalent paradigms in the social sciences such as Rational Choice Theory and Postmodernism. In the view of critical realists, it oversimplifies or denies the complexity of social reality. (Rutgers, 2010)

One of the key contributions of critical realism is its emphasis on the importance of causal explanation. Unlike many postmodern approaches, which reject the possibility of objective causal relations, critical realism argues that causal mechanisms are real and can be studied empirically. This involves identifying the underlying structures that generate social phenomena and tracing their effects over time and across different contexts. (Mingers & Willmott, 2013)

Another important contribution of critical realism is its commitment to social justice. Bhaskar (1989) argued that critical realism is inherently emancipatory, in that it seeks to uncover the hidden structures and mechanisms that generate social inequality and to challenge them. This includes

recognizing the role of power relations in shaping social outcomes and the importance of collective action in fostering social change.

Critical realism has also been applied in various other fields, including ontology and epistemology. In ontology, researchers realize the certainty of the nature and existence of objects they are researching and they can deal with the conflicting ideas about the object (Moon & Blackman, 2017).

In epistemology, critical realism has been used to critique traditional approaches to knowledge that prioritize objectivity and neutrality. Critical realist epistemologists argue that knowledge is always situated and partial, and that our understanding of reality is shaped by our social and historical context. They also argue that knowledge is always preliminary and can be revised in the light of new knowledge. This epistemological approach has been used to challenge common paradigms in science and advocate a more comprehensive and pluralistic approach to knowledge production. (Moon & Blackman, 2017;

In both ontology and epistemology, critical realism provides a framework for understanding complex and dynamic phenomena by revealing the underlying structure and the mechanisms that generate it. It recognizes the importance of both subjective experience and objective conditions in shaping our understanding of reality, and emphasizes the importance of causal explanations and critical analysis in the social sciences and other fields. (Katz, 2002)

Critical realism is a versatile and powerful framework that has been applied in a wide range of fields, including sociology, economics, political science, psychology, entomology, and epistemology. It provides a nuanced and rigorous approach to understanding complex and dynamic social phenomena, and it emphasizes the importance of both subjective experience and objective conditions in shaping our understanding of reality (Klakkeg, 2016). Its insights and methods have the potential to continue to influence research and scholarship in a variety of fields in the years to come.

In this paper, the researchers are analyzing the internalization process of traditional salmon farming companies and the reasons behind their decision to do internalization. As mentioned, critical realism provides the scope of understanding reality which is shaped by social and historical

context. Since the research will be conducted using the historical context of the salmon farming industry in isolated geographical locations like the Faroe Islands, critical realism will provide the researchers a scope to have a hindsight of both historical and geographical context.

In addition, with the epistemology mentioned above, critical realism will also allow the researchers to conduct both qualitative and quantitative analysis. Hence, the thesis will take the abductive approach of research and as it supports causal mechanism and empirical study. Critical realism is a method that is suitable for studies that try to solve problem formulation using both primary and secondary data. Furthermore, the use of qualitative data like expert interviews and also theories like resource dependency theory will make the researchers bring both subjectivity and objectivity in place. Critical realism acknowledges both of them which eventually makes it the proper method for this thesis.

3.2 Case Study

Case studies are an important research method in social sciences, and Robert K. Yin is a prominent figure in the field of case study research. Yin's approach to case study research emphasizes the importance of a holistic and in-depth understanding of the case, which he defines as "*an empirical inquiry that investigates a contemporary phenomenon within its real-life context*" (Yin, 2014). He suggests that case studies are particularly useful when the boundaries between the phenomenon of interest and its context are unclear, or when the phenomenon is complex and multifaceted (Yin, 2018).

One case study that exemplifies Yin's approach is the study by Brounstein and Marek (2019) on the implementation of a mindfulness-based stress reduction (MBSR) program in a healthcare organization. The authors used Yin's five-stage approach to case study research, which involves 1) identifying the research questions, 2) selecting the case(s), 3) collecting data, 4) analyzing data, and 5) reporting findings.

The research questions in this case study focused on the challenges and facilitators of implementing the MBSR program in the healthcare organization, as well as its impact on staff well-being and patient care. The case was selected based on its relevance to the research questions and the availability of data. (Brounstein & Marek, 2019)

Data collection involved multiple sources, including interviews with staff members and program facilitators, observation of program sessions, and review of program materials and documents. Data analysis involved iterative cycles of coding and theme development, with attention to both within-case and cross-case analysis (Ibid). The findings of the study showed that the implementation of the MBSR program was facilitated by strong leadership support, staff engagement, and program adaptation to the organizational context. However, challenges included staff resistance, time constraints, and limited resources. The program was found to have positive effects on staff well-being, including reduced stress and increased resilience, as well as improvements in patient care. (Ibid)

Overall, this case study illustrates Yin's approach to case study research, emphasizing the importance of a holistic and in-depth understanding of the case, the use of multiple sources of data, and iterative data analysis. It also demonstrates the utility of case studies in exploring complex phenomena within their real-life context.

This thesis is identifying the reason(s) behind the internalization or vertical integration decisions from salmon farming companies in isolated geographical locations. The thesis is using a single case study of a salmon farming company named Bakkafrost. Bakkafrost is a salmon farming company from the Faroe Islands, it is a very relevant case company to choose because of reasons which be elaborated later. Additionally, Bakkafrost is one of the most vertically integrated companies within the industry which again justifies the reasoning to choose it. The researchers in this thesis will also follow Yin's five-stage approach to case study research. The data will be collected from multiple sources like interviews from Bakkafrost, interviews from politicians or decision makers in the Faroe Islands, secondary data about the industry etc. The paper will emphasize the importance of a holistic and in-depth understanding of the reasonings behind internalization within the mentioned industry.

3.3 Data

3.3.1 Semi Structured Qualitative Interviews

This research used the primary data from expert interviews conducted in a one-on-one setting and subsequently, the interview was conducted using a semi-structured approach. The interview questions were specifically designed to explore the experts' knowledge, experiences and opinions regarding topics included in this thesis (Cresswell, 2018; Fontana, 2018).

Qualitative interview research is a valuable method that social science researchers use to obtain detailed information about participants' perspectives, attitudes, experiences, and behaviors. The qualitative expert interview allowed the researchers to collect rich and detailed data, which provided insights into individuals' industry specific knowledge, especially in relation to complex topics which required detailed industrial and institutional background knowledge to fully interpret.

Qualitative interviews are typically conducted in a one-on-one setting, and the interviewer used a semi-structured approach that enabled the researchers to further explore new topics that emerged during the conversation. Among the main strengths of qualitative interview research is its ability to generate rich and detailed data that can deepen researchers' understanding of participants' experiences and perspectives (Denzin & Lincoln, 2018). By allowing participants to express themselves in their own words and in-depth, researchers can capture a wealth of information that may not be accessible through other research methods.

By using this approach, it enabled the researchers to fully understand the underlying market mechanisms of the expert elaborations during the data collection process. Consequently, it allowed for the exploration of further subcategories of topics that emerged during the interview. Furthermore, qualitative interviews are also flexible and adaptable, allowing researchers to tailor their approach based on participants' responses, making it an effective tool for investigating complex organizational decisions based on perceived market dynamics (Smith & Osborn, 2015). Consequently, this approach enabled the researchers to gain a holistic view of the market dynamics of the salmon farming industry. This flexibility enabled the researchers to ask for further clarifications or elaborations when topics were not fully understood by the interviewer.

Furthermore, it allowed for fluent conversation and allowed deeper understanding of mechanisms that the researchers were previously unaware of.

One of the potential challenges when conducting semi-structured qualitative interviews is identifying experts with the required expertise and additionally to find experts and organizations with a willingness to participate in the study. As mentioned by Fontana and Frey (2018), the researchers must be diligent in selecting experts to ensure the validity of the research. During the selection process the Head of Marketing of the Bakkafrost Group, Mr. Jacobsen was determined to be a reliable expert source. The researchers had this opinion because of the subject's educational background and because of his extensive eight years' experience with being one of the decision makers within the case study company.

The validity of the institutional expert's interview was determined by the experts nine years of political experience as well as the individual being Head of one of the biggest political parties in the Faroe Islands. Furthermore, Mr. Johannessen is currently a member of the Faroese Finance Committee. Subsequently, it was determined that he would have extensive market knowledge and institutional influence regarding one of the biggest industries in the Faroe Islands.

In summary, qualitative expert interview research is a powerful method that social science researchers use to obtain detailed insights into participants' experiences, knowledge, perspectives, attitudes, and behaviors. While it poses some challenges, such as ensuring data validity and reliability, its strengths and flexibility make it a valuable tool for investigating the complexities of the internalization processes of the case study company.

3.3.2 Participant Observations

In addition to conducting expert interviews, this thesis also includes participant observations as another primary source. Participant observation is a widely used research method in the fields of social sciences. It involves the researcher actively engaging and immersing themselves in the social setting of the study, while simultaneously observing and documenting the behaviors, interactions, and perspectives of the participants (Bernard, 2017).

The researchers believed this to be important to embed themselves in the social settings of the case study company. Consequently, this would allow the researchers to gain critical market knowledge as well as understanding underlying organizational norms and perspectives. According to Denzin (2017) the participant observation method provides a unique opportunity for researchers to gather in-depth and firsthand knowledge of the social context and cultural practices of the case study (Denzin, 2017). By being present in the field and participating in the activities of the group, the researchers were able to gain a comprehensive understanding of instrumental subject matter and uncover underlying aspects that would otherwise not be easily captured through other research methods (Spradley, 2016). These interpretations proved to be especially crucial in understanding institutional impacts on the case study company and subsequently on the overall Faroese market.

The participant observations were conducted during an internship program in the time frame from 1. September 2022 - 1. December 2023. During this timeframe, the participant was working in the marketing department of Bakkafrost. In the period of internship, the researcher acted as both observer and participant. Thus, enabling the thesis researchers to collect primary data through methods such as:

- Field notes,
- Interviews
- Informal Conversations
- Participant Projects

The participant approach facilitated the exploration of complexities within the organization, allowing for the discovery of hidden patterns, social norms, and contextual dynamics within the case study group (Adler & Adler, 1994). Nevertheless, maintaining objectivity and minimizing bias was crucial in order to provide accurate and unbiased interpretations of the observed market mechanisms (Spradley, 2016). Therefore, the participant observations were subsequently cross validated by other external sources to ensure accuracy and minimize subjectivism. Additionally, the participant observations were further validated by cross-examining the data from the expert interviews.

Participant observations allowed for a holistic understanding of the case study, market mechanisms, and decision-making processes. This method allowed for a nuanced exploration of the motivations, benefits, and barriers associated with internalization. Thus, shedding light on the underlying mechanisms that are compelling the case study company Bakkafrost, to take control over their value chain activities.

3.3.3 Secondary Data

In addition to interviews and participant observation, other forms of secondary data was collected, such as:

- Industry Reports
- Government Publications,
- Research publications
- Financial Data
- Annual Statements
- Sustainability Reports
- Geographic specific industry news

Subsequently, secondary interviews and publications from EU directives were pinpointed in the analysis and further examined. This was done to further cross-examine and validate the findings from primary data collection methods. Additionally, as the interview with the head of a political party in the Faroe Islands only contributed to a singular parliamentarian opinion, the statements had to be further examined by exploring secondary sources which were either disregarding the viewpoints or supporting them. These incentives of data triangulation of diverse data sources enhanced the credibility of the analysis (Cohen et al., 2011). This data was used to further validate and cross-examine the primary sources. Elaborations on the data method will be provided below.

3.3.4 Data Triangulation

The analysis of the data involved data triangulation. This is as an approach which helped the researchers analyze using multiple sources, methods, and theories to cross-examine data from

different perspectives which increases the validity and reliability of the findings (Denzin, 1970). This approach can also be called: cross-examination. In the context of this thesis, data triangulation was applied to strengthen the validity of the analysis by combining multiple theories and utilizing various data collection techniques, such as interviews and participant observation mentioned above. The thesis also used secondary data to do the analysis.

By employing multiple theories such as transaction cost theory, resource dependency theory, and institutional theory, the researchers were better able to analyze the internalization decisions of traditional salmon farming companies from different theoretical lenses. This approach ultimately allowed for a comprehensive understanding of the underlying mechanisms of internalization. Furthermore, theory triangulation helped identify converging insights across theories (Flick, 2014). As the determinants for internalization within the industry were often interconnected, the research frequently identified similarities within the analysis of the theories.

Utilizing a combination of interviews and participant observation as data collection methods, enabled the researchers to gather rich and diverse data. Interviews with employees of Bakkafrost and a member of parliament provide firsthand insights and expert opinions, while participant observation allows you to observe and document actual practices and behaviors within the industry (Creswell, 2016). This allowed the researcher to check the consistency of the data collected. In addition to further validating the findings, the method allowed for a more holistic perspective of the different implications of internalization in the salmon farming industry in the Faroe Islands.

The research question in this thesis tried to explore the determinants that influence the internalization decision making process in the salmon farming companies, specifically within the case study company Bakkafrost. To identify these determinants, both qualitative and quantitative data were employed. For instance, interviews from the case company and the politician combined with participant observation can be considered as qualitative data used in this thesis. This qualitative data was supplemented with the quantitative data that were used such as secondary sources, financial reports etc. This way of supplementing both qualitative and quantitative data provided the researchers a comprehensive understanding of the internalization decisions (Johnson et al., 2007).

The data triangulation approach helped the researchers to write the thesis using harmonizing strengths of three different theories, various data collection methods, and diversified frame of reference. This approach also strengthened the validity of the analysis which eventually contributed to an extensive or thorough understanding of the factors influencing the internalization of the global value chain in the salmon farming industry.

4.0 Case Description - Bakkafrost Value Chain

This section offers a brief description of the case study company. This will provide the reader with general understandings regarding salmon farming value chains. Additionally, this section will elaborate Bakkafrost's previous investments in addition to elaborate their existing strategic goals.

The Bakkafrost group has historically grown through mergers and acquisitions, especially in the early years of the company. In 2010 the organization was listed on the Oslo Børs (Oslo Stock Exchange) (Bakkafrost, 2022). Regarding investments of their value chain, in 2011 Bakkafrost acquired P/F Havsbrún, "*an internationally renowned producer of fishmeal, fish oil and feed*". Consequently, Bakkafrost could control the salmon feeding aspects of their supply chain. In 2020, Bakkafrost acquired 100% of the shares of "The Scottish Salmon Company" (Bakkafrost, 2022). Because of the highly integrated value chain, Bakkafrost caters to two different market segments: the HORECA and the retail segment (Bakkafrost, 2022 ; Olsen, 2022). According to the group financial report of 2022 their strategy is to sell 40% of harvested volumes to the retail segment. The group can do this, because of their integrated processing plant. Consequently, the remaining 60% of the harvested volumes are sold to the HORECA (hotel, restaurant, and catering) segment. According to the 2022 financial report, Bakkafrost had a yearly profit of 1.8 billion DKK (Bakkafrost, 2022).

By observing figure 1 below, it can be established that Bakkafrost have a majority of their ventures in the Faroe Islands. Additionally, they have a lot of value chain aspects in Scotland. Furthermore, the organization has processing and sales departments in Denmark and in the US. Lastly, Bakkafrost has a sales office in France (Bakkafrost, 2022 ; Olsen, 2022).

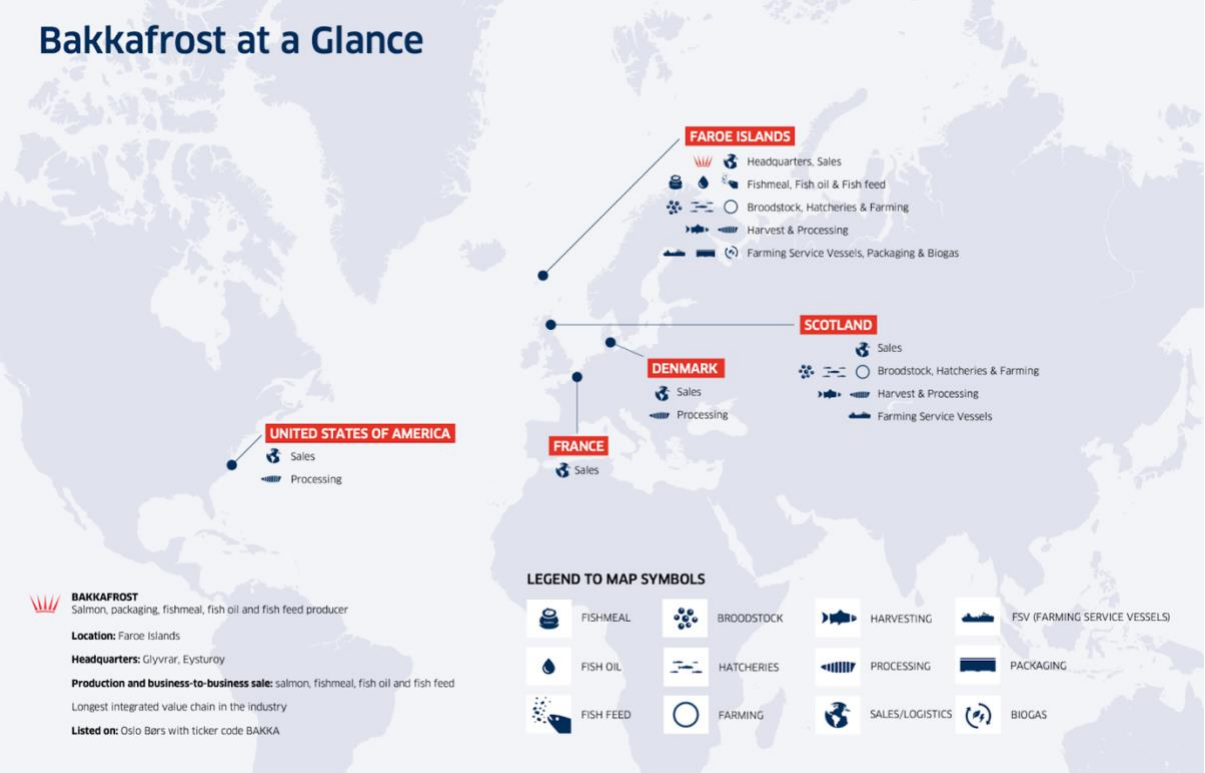

Figure 1: Bakkafrost at a Glance. Provided by Bakkafrost

The Faroese Atlantic salmon farming company Bakkafrost writes on their official website that they are "*the most vertically integrated salmon farming company in the world which gives full control and responsibility over all aspects of production*" (Bakkafrost, 2022). According to the Bakkafrost 2021 financial report "*The control of the entire value chain enables Bakkafrost to make long-term delivery contracts and long-term customer relationships without being dependent on any third party to ensure the quality and predictability of the deliveries. It further enables better utilization of the facilities throughout the value chain and prevents sub-optimization between cost centers. Bakkafrost continues to improve, adjust, and extend the value chain on an ongoing basis. In 2018, broodstock and biogas were added to the value chain. And in 2019, Bakkafrost acquired The Scottish Salmon Company, which is a good fit and a considerable addition, to the following parts of our value chain; Broodstock, Hatcheries, Farming, FSV, Harvesting, Processing and Sales*" (Bakkafrost , 2021). Below is an illustration (figure 2) of every aspect of salmon farming. Consequently, the illustration also provides a viewpoint on the Bakkafrost value chain:

Figure 2: Bakkafrost Value Chain. Provided by Bakkafrost

Observing the illustration from the left side to the right, every process of salmon farming from salmon feed to sending the salmon to the international market. Below is a brief description of every aspect within the value chain.

- *Fishmeal, fish oil and fish feed* is produced by Havsbrún, which is a company established in 1966. Bakkafrost acquired the company in 2011 and has since been in control over all aspects of feeding their own salmon. According to Bakkafrost, makes them capable of "*immediate distribution of the right feed for the salmon need"*.
- *Broodstock* are the parent fish that produce the eggs and sperm for the reproduction and development of the next generation of salmon. The company has the rights to the unique salmon strain in the Faroe Islands. According to secondhand sources, Bakkafrost has partnered with the Faroese government to take over the Faroese broodstock program. Ultimately, they consequently have the responsibility of preserving the Faroese strain of the North Atlantic salmon. (Hatchery Fish Management, n.d.)
- The *hatcheries* are where the fish eggs turn into larger salmon of approximately 500g. When the salmon reaches the size of 500g it is ready to be brought into the ocean for further growth.
- All of the wastes from these hatcheries are used to make heat and electricity. Bakkafrost uses their *biogas* plant to produce energy for the grid system in the Faroe Islands.
- *Farming* is happening out in the Faroese fjords. This is where the salmon grows from 500g to approximately 6kg.
- *FSV* are all of the Farming Service Vessels used for maintaining the standards and wellbeing of the fish. Among these is the 109 meter long well boat which can transport up to 1.000 tones of live salmon.

- *Harvesting* is when live salmon enters a factory. In this factory the salmon is harvested. These products are generally sold to the HORECA segment which account for approximately 60% of total sales.
- *Processing* is the procedure of cutting the salmon into portions and then freezing them. These portions are generally sold to the retail segment. Approximately 40% of total sales goes to the retail segment.
- Bakkafrost makes their own *packaging* for the HORECA segment.
- The organization has various sales and logistics offices around the world. Additionally, Bakkafrost have recently acquired 70% of an airline company. This plane will transport approximately 30 tonnes to the US market daily(Jacobsen, 2023);(Olsen, 2022);(Bakkafrost, 2022);(Mowi, 2022).

Consequently, it can be determined that Bakkafrost are internalizing a majority of their value chain activities. According to this secondhand data, it can be determined that Bakkafrost are integrating both horizontally and vertically. Trends, which similarly can be seen by observing the other international competitors.

4.1 Investments

In 2014 Bakkafrost published a four-year investment plan titled "Preparing for the future" carrying out major investments included in their value chain. According to the official website of the organization these investments have since been expanded and accelerated. The investment plan stretches from 2014 to 2020. These past investments included merging several factories into one factory with one location. An investment which according to the literature on their website will "*improve efficiency and create new possibilities for new products*". (Bakkafrost, 2022) (Bakkafrost, 2021) Additionally, the investment plan includes some optimization efforts in regard to the size of the smolt and in regard to transportation of the live salmon from farming site to the factory. In addition to these investment efforts, Bakkafrost is also investing in biogas energy plants (Jacobsen, 2023). According to articles on energy-supply.dk, Bakkafrost owns an energy company named "FØRKA" which uses the waste from their factories to generate energy. Consequently, it seems that these efforts will reduce CO2 emissions by 11.000 tons yearly. According to Bakkafrost, FØRKA is responsible for delivering electricity to 1% of the Faroese households (Jacobsen, 2023). Furthermore, FØRKA which is owned by Bakkafrost will supply 40.000 –

45.000 tons of fertilizer for agricultural interests (Energy Supply, 2021). This will result in diminishing international transportation costs for the local government and for the agricultural players. Consequently, it stagnates further increases in CO2 emissions.

In 2021 Bakkafrost announced a 6.2 billion DKK investment plan from 2022 – 2026. These investments did not include mergers or acquisitions. It simply involved optimizing previous acquisitions. The primary objective for the mentioned investment plan is to replicate successful Faroese operations in Scotland.

Bakkafrost have also made investments into further subsidiaries: namely a company named FarCargo (Olsen, 2022);(Bakkafrost, 2022);(Jacobsen, 2023). The Bakkafrost subsidiary main operations consists of transporting Bakkafrost salmon shipments from the Faroe Islands to the US. Bakkafrost are thus aiming to strengthen their competitiveness in international trade, Regin Jacobsen, group CEO explains that "*the aim is to deliver fresh high-quality salmon both in the USA, Israel and other remote markets a mere day after the fish swims in Faroese fjords. We believe this will significantly strengthen our competitiveness. Customers, both in Israel and the American sushi market, demand fresh products and with this much shorter route, we will provide our customers with the freshest product on the market*". Based on this investment, Bakkafrost has put yet another step into their already long value chain and consequently improved their control of their value offerings. Bakkafrost CEO, Regin Jacobsen is chairman of the board at FarCargo. On the Bakkafrost website it is elaborated that "*FarCargo will offer both Faroese and international businesses to buy cargo space on board the plane*" (Bakkafrost, 2022). Consequently, the company will not only be flying with Bakkafrost Salmon. This investment looks to be portrayed as a sustainability investment.

5.0 Analysis

As the thesis is exploring the determinants of internalization within the salmon farming industry, the researchers are using a data triangulation approach to identify the primary reasons of internalization. In this case, the analysis will be conducted based on the contextual overview of the industry both globally and in the Faroes Islands as an indicator of isolated geographical locations. The secondary data will be combined with expert interviews that were taken from the case company (Bakkafrost) and also from a member of parliament in the Faroe Islands. As one of the researchers is a participant observer, the analysis will also include the participant observation to provide strong first hand evidence to the secondary data and the interviews. Consequently, the analysis will provide a comprehensive understanding of the topic as well as having a robust analysis supported by different perspectives and sources. As a result, the most influential determinants of internalization in the salmon farming industry will be observed and discussed further.

5.1 Contextual Overview of the Salmon Farming Industry

This section aims to give the reader a general understanding of the key organizations within the industry. Furthermore, it will provide examples of internalization efforts made by international industry players as well as provide an overview of the general value chain of salmon farming companies.

5.1.1 Salmon Farming Industry

Salmon farming is the practice of rearing salmon in captivity for commercial purposes. The industry emerged in the late 1960s when Norwegian aquaculture pioneer Thor Mowat first introduced the practice of farming Atlantic salmon on a large scale (Poblete et al., 2019). As mentioned in the introduction of the thesis, the industry has grown rapidly since then and is today considered a significant contributor to the global seafood supply chain. Salmon farming first emerged as an industry in Norway in the late 1960s, and it rapidly spread across the world. Today, salmon farming is practiced in countries such as Chile, Canada, Scotland, and Australia, with Norway, Chile, and Scotland being the leading producers (Ibid). The practice of salmon farming has evolved significantly over recent years as a result of technological advancements, consequently

allowing for more efficient and sustainable farming practices. According to the data collected from Global Salmon Initiative (2023) the following illustration shows the top 10 salmon exporting countries in 2021.

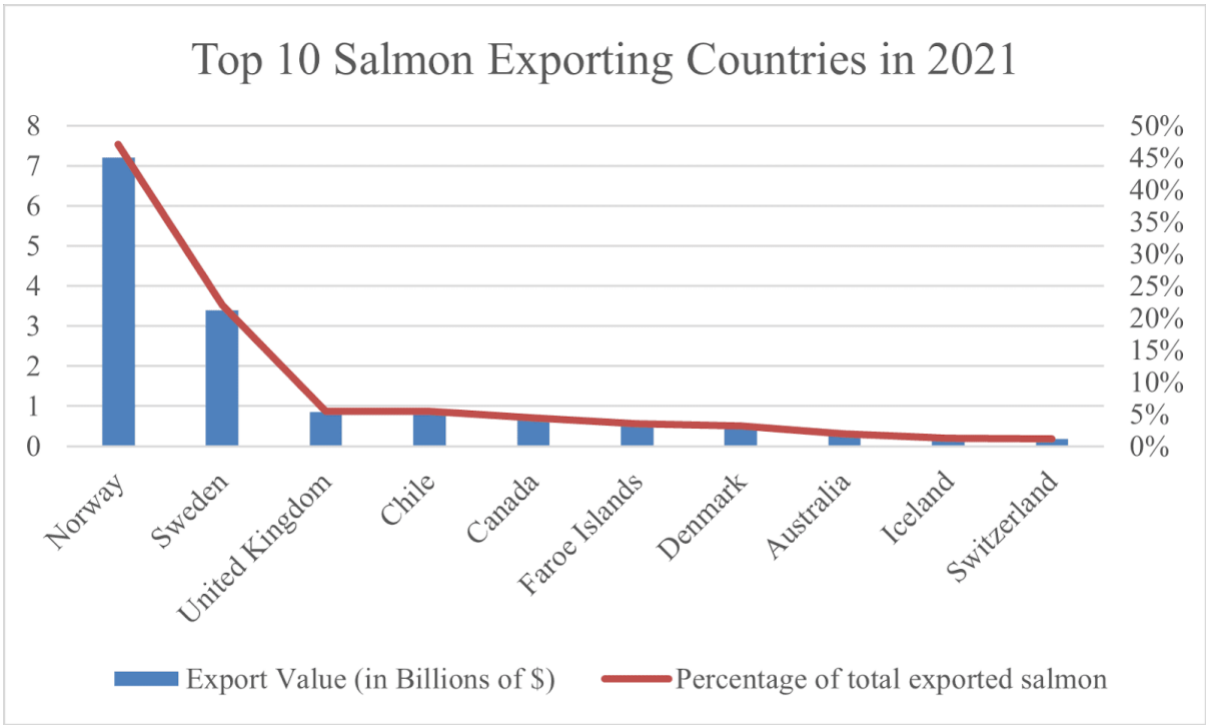

Figure 3: Top 10 salmon exporting countries in 2021 (own made)

In the figure (3) above, it can be observed that the Faroe Islands is one of the highest exporting countries of salmon exporting $537.7 million worth of salmon globally. Consequently, accounting for 3.5% of global farmed salmon supply. The value mentioned here is a standardized global value of salmon exports in USD. As the case company in this thesis is from the Faroe Islands, it can be an ideal benchmark to explore the reasons behind their internalization decision making process.

The global salmon farming industry has seen significant growth over the past few decades, with production increasing from 1.3 million tons in 2000 to 3.4 million tons in 2018 (FAO, 2020). The industry generates significant economic benefits, with global sales reaching $19.2 billion in 2018 (Statista, 2021). Norway is the largest producer of farmed salmon, accounting for around 41% of global production, followed by Chile (33%) and Scotland (8%) (FAO, 2020). As observed, Chile is the second largest producer of salmon, however their local market is so significant that they do not contribute substantially to the global export value. In addition to increasing international export

values the industry also provides significant employment opportunities, with estimates suggesting that the global sector employs over 250,000 people (OECD, 2022).

The salmon farming industry is currently expected to continue to grow in the coming years, driven by increasing global demand for seafood, particularly in emerging markets. In addition, advances in technology and farming practices are expected to make salmon farming more efficient and sustainable, further driving growth in the industry. As mentioned in the introduction, the demand for farmed salmon is expected to increase 70% by 2050. However, the industry also faces challenges, including environmental concerns, disease outbreaks, and regulatory challenges. These environmental concerns will be clarified and elaborated later.

The global salmon farming industry has faced significant challenges in recent years. In 2019, a harmful algal bloom in Chile led to the death of millions of farmed salmon, causing significant disruption in the global supply chain as Chile produces around one third of the total farmed salmon globally (Reuters, 2019). In addition, the industry has faced criticism from environmental groups, who argue that salmon farming practices can have negative impacts on the environment, including the spread of disease and parasites, as well as pollution from fish waste. In an industry report from Greenpeace which analyzes the effects on aquaculture on the environment they state that "*the impacts of intensive salmon culture are seen in a marked reduction in biodiversity around the cages*" (Greenpeace, 2019). These challenges have led to increased scrutiny of the industry, with regulators and stakeholders calling for increased sustainability and transparency in salmon farming practices. As the industry as a whole was scrutinized, it is obvious that companies within this industry are more concerned about sustainability practices. This practice of sustainability also plays a vital role to make firms decide to internalize their businesses. As the head of the marketing from the case company (referring Bakkafrost) was interviewed and was asked about the reasons behind investing in biogas plant, he replied that it was needed for them to invest in the biogas plant named FØRKA because of the sustainability issues so that they were not using fossil fuels in their factories. According to him, even if it is not economically viable, it is still needed to have this bioplant as the industry is sensitive to the sustainability issues (Jacobsen, 2023).

5.1.2 Internalization in Salmon Farming Industry

The salmon farming industry is a highly globalized and competitive market, with firms operating across international borders to access new markets and resources (Jones, 2020). Internalization has played a crucial role in the growth and development of the salmon farming industry, allowing firms to expand their operations and gain access to new customers and resources (Jones, 2020).

One example of internalization in the salmon farming industry is the acquisition of companies by larger multinational firms. For instance, in 2019, Mowi, acquired Northern Harvest Sea Farms, a Canadian company that produces both Atlantic and Arctic char. This acquisition allowed Mowi to expand its operations in Canada and gain access to new markets and resources, including new farming sites and processing facilities (Mowi, 2022). Mr Jacobsen, the interviewee from Bakkafrost also mentioned that they are acquiring other companies to gain access to the new markets. He further mentioned that they have their own feeding production which makes it easier to operate their business (Jacobsen, 2023). The industry is very resource dependent which makes the leading companies do both vertical and horizontal integration to access new markets or operate globally in an efficient way. The biggest salmon farming company in the world MOWI also has its own feed production. However, in the context that MOWI is a very large company they cannot supply feed to all of their salmon. Consequently, MOWI identifies their dependency on a number of external contractors for key industry supplies such as feed and well boats. Mowi identifies that "*there is a limited number of key suppliers of these items in our industry, and failure to maintain good business relationships with these suppliers may have a significant adverse effect on us*". According to Mowi, the only way to mitigate these risks is to have "*own feed production*" (MOWI, 2022). Essentially, internalizing the feed aspect of the value chain.

Hiddenfjord is a relatively small salmon farming company and is also located in the Faroe Islands. Similarly, to Bakkafrost, they offer high quality salmon to the US and Asia market. Nonetheless, they do not deliver their products via airfreight. Observing the 2021 Hiddenfjord sustainability report it can be read that "*on 10/10/2020, we (Hiddenfjord) became the first salmon company in the world to entirely cease transporting salmon by air. This was a big decision that bore great financial risk. A consequence of our decision to stop flying was a discontinuation of sales of fresh salmon to the Asian market, causing a significant loss of market opportunities. We also stopped transporting salmon to the USA by air, and instead started supplying the market via sea transport.*

Switching to sea transport without compromising quality required an extensive amount of research and testing" (Hiddenfjord, 2022). According to this statement, it can be concluded that the majority of the salmon industry players are using airfreight. However, Hiddenfjord markets these efforts as an environmental sustainability agenda. These efforts can also be observed as a reaction by the general public of the environmental concerns regarding the industry (Olsen, 2022) .

Hiddenfjord is investing in renewable energy sources. According to the sustainability report they are consequently in the process of implementing energy sources; "*we will set up solar panels in selected areas in Miðvágur. We have recently hired a power engineer who will work on the production of green energy and implement new projects aiming at further reducing* CO_2 *emissions*" (Hiddenfjord, 2022).

Internalization has also enabled salmon farming firms to leverage their expertise and technology across different markets. For example, Cermaq, a Norwegian salmon farming company, has expanded its operations to Canada, Chile, and Scotland, among other countries. By leveraging its expertise and technology across different markets, Cermaq has been able to improve its operational efficiency and reduce costs (SeafoodSource, 2019).

By cross-examining multiple secondhand sources from salmon farming companies, it can be determined that internalizing value chain activities is an important aspect within the salmon farming industry. However, the majority of salmon farming companies do not come close to the internalization of value chain activities as Bakkafrost. Below is an illustration of the general value chain of international salmon farmers based on the above analysis.

Figure 4: Generalization of Salmon farming companies value chain

(Based on analysis)

It can be seen (figure 4) that a majority does not have the process of fish feed, biogas and packaging. Furthermore, in contrast to Bakkafrost, no other company has internalized transportation. Additionally, it can be mentioned that a majority of the smaller salmon farming companies do not have processing facilities. However, a majority of the large salmon suppliers do have these. Hence it is included in the illustration.

Internalization in the salmon farming industry, however, is not without challenges. Firms must navigate complex regulatory environments and cultural differences, as well as adapt to changing market conditions. For example, in 2018, the European Union implemented new regulations on salmon farming that aimed to reduce the environmental impact of salmon farming operations. These regulations have increased the costs of salmon farming and have forced firms to adapt their operations to comply with the new regulations (SalmonBusiness, 2018).

The rapid expansion of the salmon farming industry has raised significant environmental concerns due to potential impacts on ecosystems, water quality, and wild fish populations. By examining key environmental issues associated with salmon farming. One prominent concern in salmon farming relates to the escape of farmed salmon, which can result in genetic interactions and interbreeding with wild populations. These interactions can lead to genetic dilution, reduced fitness of wild stocks, and the introduction of non-native genetic traits into local populations (Ministry of Fisheries, Faroe Islands, 2022 ; Aquaculture Stewardship Council, 2022; Greenpeace, 2018)

It is apparent that salmon farming can cause multiple environmental hazards especially regarding water and fish quality. These issues were mentioned in the preceding chapter. Maintaining high water quality in the Faroe Islands requires ongoing monitoring, regulation, and sustainable management practices. Efforts to prevent pollution, minimize waste disposal, and promote environmentally responsible practices in industries like fishing and aquaculture are essential (Bakkafrost, 2022). Collaboration between government agencies, local communities, and stakeholders is crucial for preserving the integrity of the Faroe Islands' waters and safeguarding their ecological and economic value (Johannesen, 2023). With a country which is so dependent on the fishing and aquaculture industry it is even more important for regulators and organizations to collaborate in order to make the best practices. And because of the economic reliance of the fishing industry, the Faroe Islands are forced to implement strong initiatives to protect their natural

environmental resources. In the expert interview with the head of the political party "Fólkaflokkurin" in the Faroe Islands, he concluded this by saying that: *Additionally, the company* (referring to Bakkafrost) *means that most of the restrictions of lice count of the salmon, have been too strict as well. Ofcource those restrictions, fees and taxes have been implemented by different parties of government. However, when it comes to our primary industries, both fishing and farming, we always consider the wellbeing of the sectors to a certain extent of course. Because we are aware of what consequences it can have on the Faroese economy*" (Johannsen, 2023).

In conclusion, based on the internalization of the salmon farming industry. The industry can be characterized by a high degree of globalization and competition, with firms engaging in internalization strategies to expand their operations, resulting in access to new markets and resources. Internalization, such as through acquisitions, leveraging expertise and technology across different markets, has played a crucial role in the growth and development of the industry. However, internalization also presents challenges, including navigating regulatory environments, as well as adapting to changing market conditions. The industry has, based on the above, responded to environmental concerns and public pressure by implementing sustainable practices, such as reducing airfreight and investing in renewable energy sources. Despite the challenges, the salmon farming industry continues to evolve and adapt to ensure its long-term viability and sustainability. Hence, the MNCs within the industry are integrating vertically and horizontally to optimize the challenges of being in this industry.

5.2 Geographical Location & Internalization in the Salmon Farming Industry

This section aims to give insights into internalization efforts of salmon farming companies in the context of its geographical location. Since the Faroe Islands is an isolated geographic country, it is estimated that the location gives an indication of why Bakkafrost historically have tried to develop a fully integrated value chain.

Salmon farming is a growing industry in the Faroe Islands. The Faroese government has promoted aquaculture to diversify the island's economy, reduce dependence on fishing, and create employment opportunities in rural areas (Faroe Islands Salmon Farmers Association, 2021). In recent years, salmon farming has become the Faroe Islands' second-largest export industry after

fish processing, with an estimated value of DKK 6,800 million in 2021 (Faroe Islands Statistics, 2021). The total exports of commodities in the Faroe Islands have gradually been increasing in the past decade. It can be observed in (figure 5) that from 1993 to 2021, the export value has increased approximately more than six times the value that was in 1993 according to Faroe Islands Statistics (2021) .

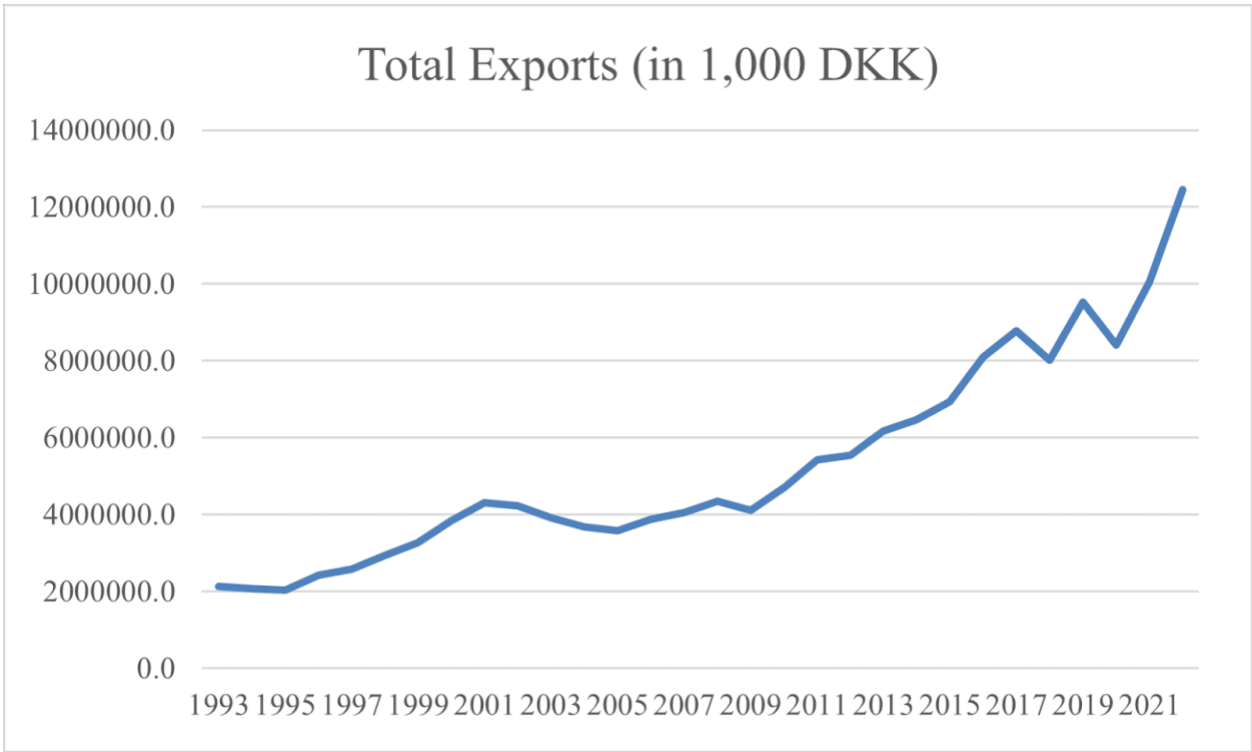

Figure 5: Total exports of the Faroe Islands from 1993 to 2021 (own creation)

This growth is largely dependent on the fishing industry of the Faroe Islands as the fishing industry alone exports around 92% of the total exports in this country as of 2022 (Statistics Faroe Islands, 2022). Salmon is the most valuable export among all the fishes that are exported from the Faroe Islands. The pie chart below (figure 6) provides evidence of how important salmon farming is for the Faroese economy. Almost half the value of the fishing products are salmon or trout which is estimated to be around the value of 5,552.6 million DKK in 2022 (Ibid).

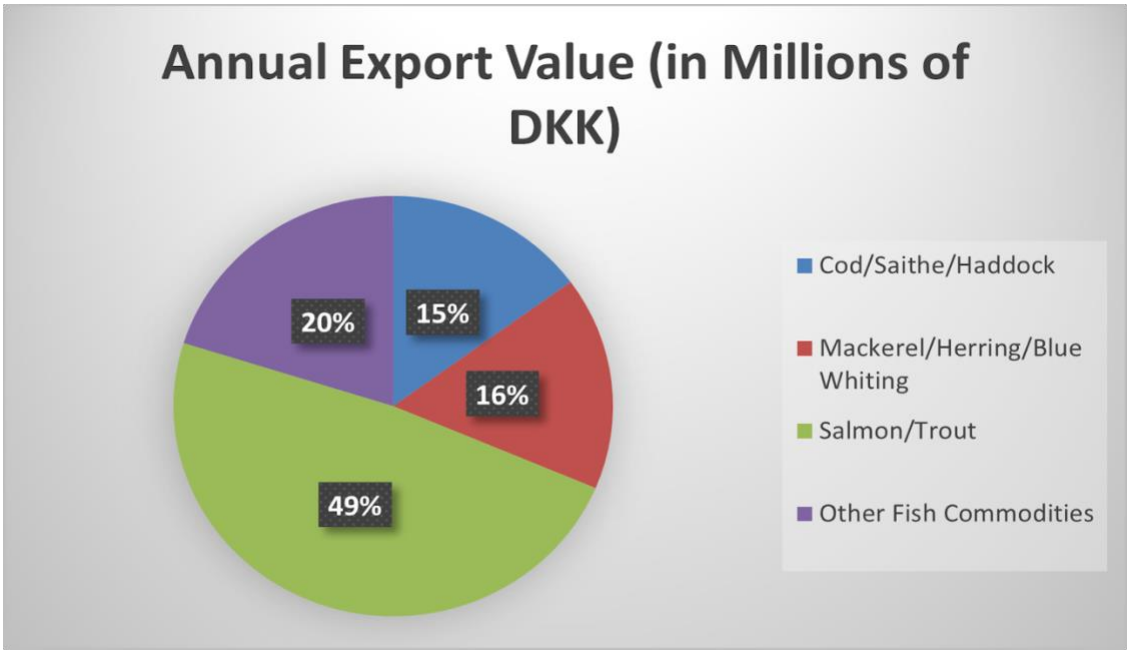

Figure 6: Annual export value of fish products in the Faroe Islands in 2022 (own creation)

Figure 7 below illustrates the comparison of the values (in DKK) of salmon exports to the total exports in the past two decades to analyze the dependency of salmon exports according to the data provided in the Faroe Islands Statistics (2022). Despite the salmon industries importance for the Faroese economy, the overdependence on the industry can be observed getting lower compared to what it was in the 90s and early 2000s.

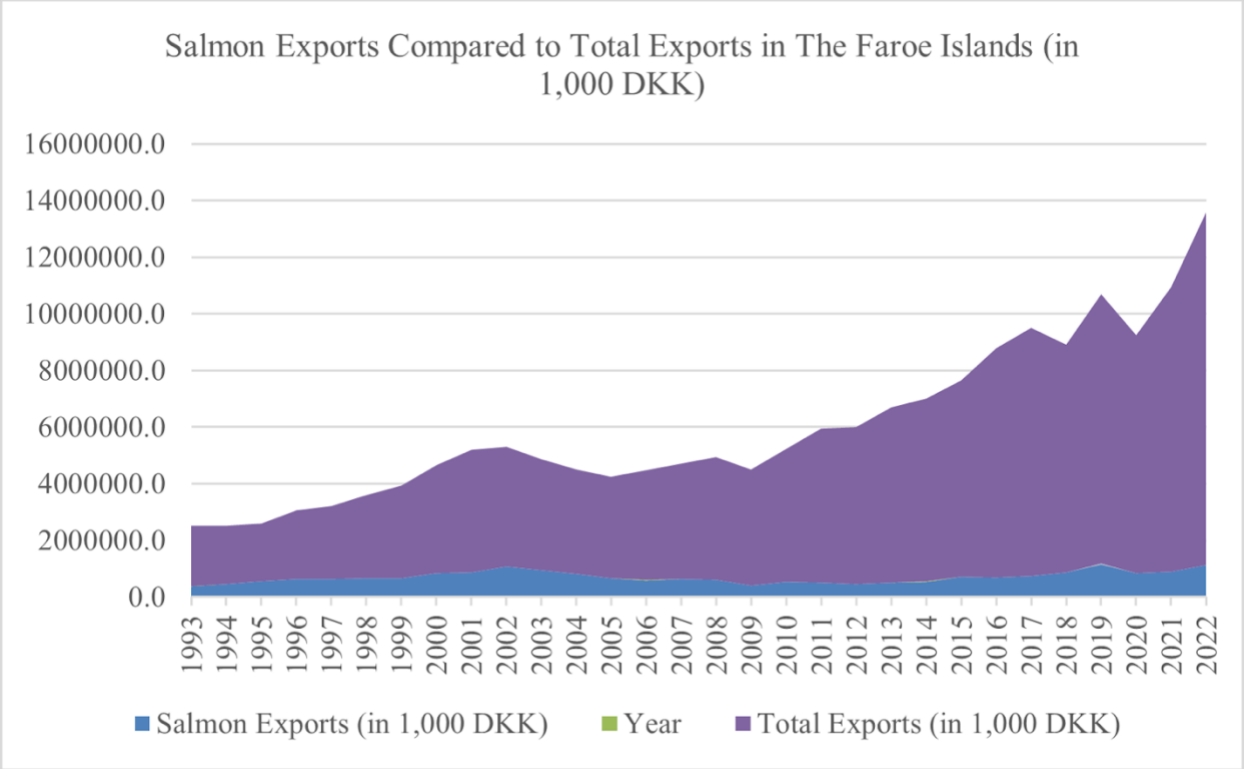

Figure 7: Salmon exports compared to total exports in the Faroe Islands (own creation)

The Faroe Islands' location and oceanic conditions are ideal for salmon farming, with cold, clean waters and strong currents that help to maintain the health of the fish (Faroe Islands Farmer Association, 2021). As mentioned previously, the salmon farming industry in the Faroe Islands, specifically Bakkafrost, has a strong focus on sustainable practices, with a long-term commitment to minimizing the environmental impact of operations, reducing the use of antibiotics, and ensuring high standards of fish welfare (Bakkafrost, 2022).

The Faroe Islands' salmon farming industry is dominated by a few large companies, such as Bakkafrost and MOWI, which account for the majority of production. The industry employs around 1,500 people, with many jobs located in remote coastal areas where few other employment opportunities exist (Faroe Islands Salmon Farmers Association, 2022).

Another issue facing the industry is concerns about the environmental impact of salmon farming, particularly the discharge of effluent and the potential impact on wild fish populations. The Faroese government has implemented regulations to limit the number of fish that can be farmed in a given area and to ensure that effluent is adequately treated before being discharged into the sea (Faroe

Islands Salmon Farmers Association, 2022; Johanessen, 2023; Jacobsen, 2023). Furthermore, this could also be a response to environmental concerns raised by e.g., Greenpeace.

Despite these challenges, the salmon farming industry in the Faroe Islands has continued to grow, with production increasing by 9% in 2020 compared to the previous year (Faroe Islands Salmon Farmers Association, 2021). The industry's success has been attributed to its focus on high-quality, sustainable practices, which have helped to create a reputation for Faroese salmon as a premium product in global markets. Therefore, companies like Bakkafrost can sell their salmon at a relatively higher price than its competition (Olsen, 2022).

According to the data above, it can be divulged that the geographical location of salmon farming operations can have a significant impact on the internalization of value chain activities. According to industry veterans, the location of a salmon farm can influence factors such as water temperature, nutrient availability, and water quality, all of which seemingly are instrumental in health of the fish. Additionally, the location of a salmon farm can affect transportation costs, market access, and regulatory frameworks, all of which can influence the internalization of value chain activities. As Mr Jacobsen said, *"...It's quite a small area to have the whole value chain so it's very effective for us to have within half an hour or one hour drive or with a boat can have the whole production. All parts of the value chain are within this small area. You can't see that anywhere else in the world* (Jacobsen, 2023)*."* This statement provides an indicator that a geographically isolated location like the Faroe Islands can be a prodigious determinant factor to decide to internalize some aspects of the value chain as a salmon farming company.

One key factor that is influenced by the geographical location of a salmon farm is feed production. The production of feed, which is typically made from fish meal and oil, can be affected by the availability of fish stocks and the cost of transportation (Jacobsen, 2023). In some locations, such as Norway and Chile, fish meal and oil are produced locally, which can reduce transportation costs and increase the internalization of feed production (Poblete et al., 2019). In other locations, such as the United States and Japan, fish meal and oil are imported from other countries, which can increase transportation costs and reduce the internalization of feed production (Ibid). Operating business in a remote country like the Faroe Islands, it is more feasible to internalize the feeding

aspect of the value chain. Hence, companies like Mowi and Bakkafrost have their own feeding production, as mentioned before.

Water temperature is another factor that can be influenced by the geographical location of a salmon farm. Salmon are cold-water fish, and their growth and health are influenced by the temperature of the water in which they are raised. In locations with cooler water temperatures, such as Norway, Scotland, and Canada, salmon can grow more slowly, but may have a higher fat content and better flavor. In locations with warmer water temperatures, such as Chile, salmon can grow more quickly, but may have a lower fat content and less desirable flavor. (Jonsson & Jonsson, 2009)

The geographical location of a salmon farm can also affect transportation costs and market access. Salmon farming operations that are located close to processing facilities and markets may have lower transportation costs and easier access to customers, which can increase the internalization of processing and marketing activities. For example, salmon farming operations in Norway and Scotland are located close to processing facilities and have easy access to markets in Europe and North America. Salmon farming operations in Chile, on the other hand, may face higher transportation costs and more complex logistics to reach markets in other regions of the world (FAO, 2020). However, Mr Jacobsen also provided some insights which indicates that some of the value chain activities are difficult to internalize. According to him, Bakkafrost outsources some key ingredients of feed such as soy (Jacobsen, 2023). This is because some of the natural resources are scarce in the Faroe Islands. Hence, geographical location can be a barrier to internalize as well.

Regulatory frameworks are another factor that can be influenced by the geographical location of a salmon farm. Different countries have different regulations governing the production, processing, and sale of salmon products, and these regulations can affect the internalization of value chain activities. For example, the regulatory framework in Norway places strict limits on the use of antibiotics in salmon farming, which can increase the internalization of production and processing activities by promoting responsible and sustainable practices (Olaussen, 2018). For the case company of this thesis, it is also troublesome to operate business in different geographics. For instance, Mr. Jacobsen said, *"There are issues we run into from time to time. Also, internally in the country legislation and the Faroes have changed the limits which has affected the whole industry. They have copied the Norwegian legislation. There is some influence from the regulations*

on the size and the overall price that we can get (Jacobsen, 2023)*."* This statement is a major indicator that different geographical locations have different regulatory frameworks which can impel the internalization decision of a farm in this industry.

In conclusion, the geographical location of a salmon farming operation can have a significant impact on the internalization of value chain activities. Factors such as feed production, water temperature, transportation costs, market access, and regulatory frameworks can all be influenced by the location of a salmon farm. By understanding and taking into account the various factors that are influenced by geographical location, salmon farmers can optimize their operations and internalize value chain activities more effectively. Furthermore, it can be understood from the above evidence that MNCs in this industry can decide to internalize not only because of the country of origin they are from but also due to other geographical locations they are operating their business in. Therefore, internalization decisions are affected by the geographical location where the MNC operates both locally and globally in the salmon farming industry.

5.3 Institutional Impact on Internalization

As with any industry, the value chain in salmon farming is complex and involves a range of different activities, from hatchery and feed production, to farming and processing. Most of these aspects have been clarified in the "*4.0 Case Description – Bakkafrost Value Chain*" section. Nonetheless, the efficient and effective internalization of these activities is critical to the success of the industry, and this is where institutions play a crucial role.

Institutions refer to the formal and informal rules, norms, and conventions that shape the behavior of individuals and organizations within a given social, economic, or political system (Scott, 2013). In the context of the salmon farming industry, institutions can be seen as the regulatory frameworks, industry standards, and social norms that govern the behavior of stakeholders involved in the various stages of the value chain. Based on previously mentioned literature, institutions can either facilitate or hinder the internalization of value chain activities, depending on their specific nature and design.

One key institution that has seemingly played a significant role in the internalization of value chain activities in the salmon farming industry is certification schemes (Olaussen, 2018). Certification

schemes are third-party programs that assess and verify the sustainability and quality of salmon farming practices and provide a stamp of approval that can be used to differentiate products in the marketplace (Bakkafrost, 2022). Certification schemes, such as the Aquaculture Stewardship Council (ASC) and the Global G.A.P., have been instrumental in promoting best practices in salmon farming, and have helped to internalize a range of value chain activities, from feed production to processing (Rector et al., 2023). Bakkafrost holds numerous certificates, including G.A.P, ASC, ISO, FDA etc. all of which are ensuring that Bakkafrost withholds the standards set by the certificates (Bakkafrost, 2022). A.S.C is considered the strictest certificate to hold and according to Bakkafrost the certificate ensures "*over 400 individual points of requirement regarding fish welfare, lice, smolt production, feed production, and the environment*" (ibid).

Another important institution that seemingly has influenced the internalization of value chain activities in the salmon farming industry is the legal and regulatory framework. Governments around the world have established rules and regulations that govern the production, processing, and sale of salmon products, and these regulations have helped to internalize value chain activities by setting minimum standards for quality, safety, and sustainability. For example, the Norwegian government has established strict regulations governing the use of antibiotics in salmon farming, which has helped to ensure that the industry is producing safe and healthy products (Olaussen, 2018 ; FAO, 2022).

The high density of fish in salmon farms poses a significant risk of disease outbreaks and parasite infestations. These pathogens and parasites can spread to wild fish populations, potentially causing ecological and economic impacts (Greenpeace 2019; FAO, 2020). The use of chemical treatments and antibiotics for disease control raises concerns regarding water quality and the development of antibiotic resistance (Jonsson & Jonsson, 2009). In accordance, the European Commission has imposed several initiatives to reduce the probability of spreadable diseases. Directive 2006/88/EC establishes requirements for surveillance, control, and eradication of certain diseases. Consequently, ensuring the health and welfare of farmed salmon. Additionally, Regulation (EU) No. 2016/429 establishes rules for the prevention and control of transmissible animal diseases (European Commission, 2015). This regulation is consequently protecting the EU from the introduction and spread of diseases from aquaculture. Additionally, Faroese politician Mr. Johannessen argues that the Faroese government is implementing strict procedures to ensure the

best possible protection of the geographic natural resources. He notes that Bakkafrost "*are saying that most of the restrictions of lice count of the salmon, have been too strict*" (Johannesen, 2023). Seen from an organizational perspective, one could see why Bakkafrost would observe further restrictions as "too strict". Having strict restrictions would most likely result in the company having to restructure their strategies in accordance with the restrictions. However, abiding under strict legislation Bakkafrost have implemented procedures to reduce the lice count. This has been done by obtaining service-vessels and treating the salmon manually by only using natural resources and no antibiotics (Olsen, 2022). These initiatives have, according to Bakkafrost, required extensive research and investments (Bakkafrost, 2022). Nevertheless, according to politician Mr. Johannesen, this has benefitted the potential environmental pressure of salmon farming (Johannesen, 2023).

Simultaneously, the Government of the Faroe Islands has submitted a proposal to the parliament with the intention of imposing a tax hike of up to 10 percent on the earnings of farmed salmon producers (Cherry, 2023). This proposed amendment seeks to modify the existing tax system introduced in 2014. In accordance with the interview with the parliament member and the head of a political party, Mr. Johannessen explained that: "*I think most of the parliament as it currently stands, thinks that the salmon farming companies should be charged significantly more than what they are already paying in taxes and other fee*s" (Johannesen, 2023). Mr. Johanneseen's political party "Fólkaflokkurin", is currently in the parliamentary minority. It is therefore expected that the Faroese government will move forward with the proposal of increasing taxes and fees on the Faroese salmon industry. According to local media reports, the proposal entails three main modifications to the current revenue tax framework (Cherry, 2023). Firstly, it suggests expanding the number of tax rates applicable from three to five. Secondly, it aims to raise the salmon price thresholds that determine the applicability of each tax rate. Lastly, the proposal seeks to establish a link between the salmon price threshold and the average production cost within the Faroese salmon industry, with an annual assessment of this connection. Consequently, it is expected that these modifications to the tax framework will cost the salmon farming companies four times the amount of previous tax and fees costs (Ibid). In a brief statement by Group CEO, Regin Jacobsen says that these actions by the government will have major negative implications on future investments by the Bakkafrost Group, additionally, he adds that the production of Value-Added Products (which are products that are currently being sold to e.g. LIDL) cannot go on as it does

now (Líknargøtu, 2023). Furthermore, the Head of Marketing at Bakkafrost establishes that "*we see now both in Norway and in the Faroe Islands that they are looking at new tax legislations. That will also have an impact on how much we can invest and how much we can build on our value chain. Everything has an effect. Some are positive and some are negative but it's not everything that we can decide for ourselves*" (Jacobsen, 2023). Based on the secondary data from the CEO and first-hand data from the interview with the Head of Marketing of Bakkafrost it can be established that certain proposals from the government pose certain constraints on strategic aspects of the value chain. The increase in taxes seemingly introduces certain uncertainties. Consequently, the organization establishes that certain investment and further building on the value chain will not be possible.

Salmon farming can contribute to nutrient enrichment in surrounding waters due to excessive feed and waste accumulation. This can lead to eutrophication, algal blooms, and oxygen depletion, posing risks to marine organisms, food webs, and benthic habitats (Jonsson & Jonsson, 2009). Regulation (EC) No. 834/2007 by the European Commission, outlines requirements for organic production methods, feed and the use of veterinary drugs (European Commission, 2015). Ultimately, this EU regulation is ensuring the integrity and transparency of salmon farming practices. However, politician Mr. Johannessen argues that these laws could be looked at even further. When conversing about the current environmental pressure the salmon farming puts on the Faroese fjords surrounding the local villages. Mr. Johannsen elaborates that "*one of the efforts which is interesting are the efforts of farming salmon out in the open sea or on land and not in the fjords. If we can do certain regulations that puts less pressure on the fjords that would be a good next step to take. I think it is good as it currently is, but I think that we could do some improvements in these areas regarding the fjords*" (Johannesen, 2023). Consequently, Mr. Johannessen is saying that the farming practices are an environmental concern regarding polluting the fjords. However, by observing the financial report of Bakkafrost, it can be concluded that the organization is working on removing the farming sites from the fjords and moving them out into the open ocean (Bakkafrost, 2022).

Social norms and industry standards are also important institutions that have influenced the internalization of value chain activities in the salmon farming industry. According to Stanford (2018), "*social norms refer to the informal rules that govern behavior in groups and societies*",

while industry standards are the agreed-upon benchmarks and practices that are recognized and followed by industry stakeholders (Bicchieri et al., 2018; Scott, 2013). Consequently, it has been determined in earlier segments of the analysis that the industry standard seems to be internalization of the value chain because of the traceability and control it provides. However, when observing the general social norms of the Faroese people and organizations; it seems that the Faroe Islands have goals to become self-sufficient. It is seemingly engraved in the Faroese natives, that you should seek self-sufficiency. Being a remote country with a long history of whaling and fishing. The Faroese people have always been self-sufficient regarding protein consumption. However, given the isolated geographic location, Faroese organizations and consumers have always relied heavily on international trade (Olsen, 2023). In the interview with parliament member Mr. Johannsen explains that "*It probably started with the Corona pandemic and the war magnified viewpoints on independence or self-sufficiency. Corona made it difficult to travel between countries, and thereby transporting goods. The countries which delivered goods that the Faroe Islands were dependent on, were probably on lockdown. Ultimately resulting in delays and/or cancellations. So, that definitely has had an impact. But particularly the war has had an impact. For example, deliveries of meal or corn made these goods very expensive*" (Johannsen, 2023). According to this statement, the Faroese people really became aware of the external resource dependency as a result of the implications caused by the Covid-19 pandemic. Subsequently, the resource dependence awareness magnified because of the Russia v. Ukraine war. Both social norms and industry standards in regard to self-sufficiency have helped to internalize value chain activities in the salmon farming industry by promoting best practices and encouraging responsible behavior among stakeholders.

In conclusion, certification schemes like the ASC promote best practices and sustainability. Legal and regulatory frameworks establish standards for quality, safety, and sustainability. Social norms and industry standards, particularly the Faroese value of self-sufficiency, seemingly influence the internalization process. However, challenges such as the proposed tax increases on Faroese salmon farmers highlight the need for continuous research and analysis to inform policy decisions and enhance understanding of value chain management in the literature.

5.4 Transaction Costs and Strategic Decision-making

Transaction cost theory is a concept that has been applied to a wide range of industries, including the salmon farming industry. Transaction costs refer to the costs associated with carrying out transactions, including the costs of negotiating, monitoring, and enforcing contracts (Williamson, 1998). In the salmon farming industry, transaction costs can be incurred in various stages of the value chain, including feed production, fish farming, processing, and marketing. The concept of transaction cost theory can be used to understand the influence of transaction costs on the internalization of value chain activities in the salmon farming industry.

As mentioned previously about the organizational value chain of Bakkafrost, they have their own fish meal production facilities. The fishmeal production facility is capable of producing 450 tonnes of fishmeal. According to calculated estimates, if Bakkafrost had not internalized their fishmeal production, they would have had to purchase it with a price of around 12,280 DKK per ton. Figure 5 shows the market price of fishmeal per ton in the past five years. Additionally, the transportation cost from Denmark is around 15,500 DKK for 30 tons of payload which implies that Bakkafrost had to pay roughly 516 DKK per ton to transport fishmeal in the Faroe Islands (Olsen, 2022). Furthermore, they had to pay 0.45% of the value of the transporting product which means that they had to pay 0.45% of 12,280 DKK to transport one ton of fishmeal. Hence, the total cost of outsourcing one ton of fishmeal would be approximately 12,851 DKK. This further implies that to outsource as much as their fishmeal production capacity, the cost per day would be approximately 5.78 million DKK for 450 tons. This further increases the cost of outsourcing fishmeal products. Internalizing the fishmeal production helped Bakkafrost to avoid the transaction costs attached with it. Similarly, Bakkafrost internalized their fish feed and fish oil facilities where they can produce 700 tonnes of fish feed and 300 tonnes of fish oil respectively (Bakkafrost, 2022). To further emphasize on Bakkafrost being financially better off by internalizing their value chain activities, Mr Jacobsen's words can be considered. When asked whether these vertical integration decisions are helping them financially, he said, *"Some parts of the production cycle or from start to end, until it's on the plate, makes sense to have internally. We are experts on some things and we are not experts on some other things. It makes more sense that others do it and also the economy of scales makes it difficult to have everything internally"* (Jacobsen, 2023).

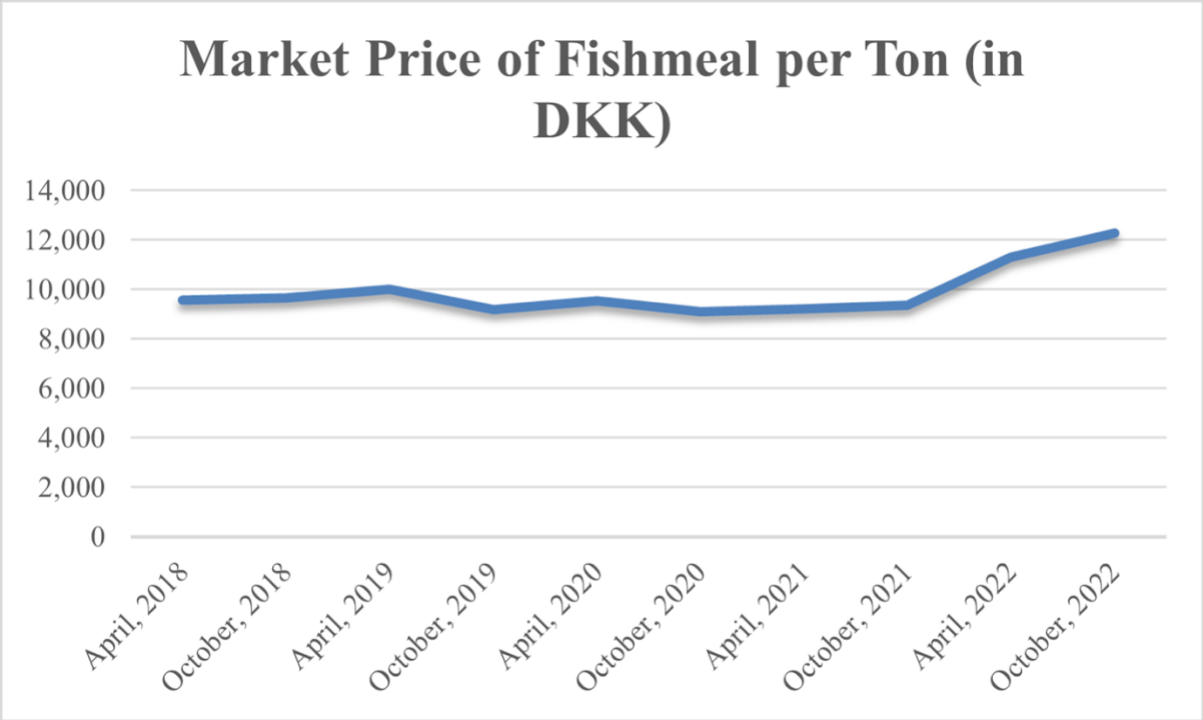

Figure 8: Market Price of Fishmeal from 2018 to 2022 (own creation)

Observing figure 8 above illustrating the historical market price for fishmeal per ton according to the data provided in the Faroe Islands statistics (2023). One key area where transaction costs are incurred in the salmon farming industry is in the production of fish feed. Fish feed production involves a range of transactions, including the purchase of raw materials, the processing of those materials into feed, and the sale of the feed to fish farmers. These transactions can be subject to transaction costs such as information costs, search costs, and bargaining costs. As a result, salmon farmers may choose to internalize the production of fish feed to reduce these transaction costs. By producing their own feed, salmon farmers can reduce their dependence on external suppliers, reduce transaction costs, and maintain control over the quality of the feed.

Another area where transaction costs can be incurred in the salmon farming industry is in fish farming operations. Fish farming involves a range of transactions, including the purchase of smolts, the feeding of the fish, and the sale of the mature fish (Bakkafrost, 2022 ; Mowi, 2022). These transactions can be subject to transaction costs such as monitoring costs, enforcement costs, and opportunistic behavior by buyers and sellers. Salmon farmers may choose to internalize fish farming operations by owning and operating their own farms to reduce these transaction costs. By

internalizing fish farming operations, salmon farmers can reduce their dependence on external suppliers and buyers, reduce transaction costs, and finally maintain control over the quality of their product. Hence, Bakkafrost has 19 farming sites in operation across 17 fjords in the Faroe Islands. Moreover, they have 44 farming sites in operation across the West Coast of Scotland and the Hebridean Islands (Bakkafrost, 2022).

Processing and marketing of salmon products also involve transaction costs, including transportation costs, transaction costs associated with negotiation and monitoring of contracts, and regulatory compliance costs. Salmon farmers may choose to internalize processing and marketing activities by owning and operating their own processing facilities and marketing channels. This allows salmon farmers to reduce their dependence on external suppliers and buyers, reduce transaction costs, and maintain control over the quality of their product. Bakkafrost has 40,000 tonnes annual secondary processing capacity only in the Faroe Islands. Besides, they have two processing facilities in Scotland which makes them even less dependent on external buyers and suppliers (Bakkafrost, 2022; Jacobsen, 2023).

In conclusion, transaction cost theory can be used to understand the influence of transaction costs on the internalization of value chain activities in the salmon farming industry. Transaction costs are incurred in various stages of the value chain, including feed production, fish farming, processing, and marketing. Salmon farmers may choose to internalize value chain activities to reduce these transaction costs and maintain control over the quality of their product. One key reason for MNCs such as Bakkafrost internalizing these aspects of the value chain is that the MNCs in this industry want to mitigate risks associated with dependency on external suppliers. This self reliance on the overall value chain provides them control in every step of the value chain and helps them to avoid transaction cost.

5.5 Resource Dependency & Internalization

Based on the above analysis, it can be determined that the salmon farming industry is highly resource-dependent and resource-intensive, with key resources including access to water resources, capital, and strategic planning. Resource dependency theory provides a framework for understanding how firms in the industry make decisions about internalizing value chain activities

to ensure access to these resources and maintain control over the value chain. In this section, the research will examine the influence of resources and resource dependency theory on the internalization of value chain activities in the salmon farming industry, using the concepts of diversification, vertical integration, collaboration, and coercion.

Diversification is one strategy used by firms in the salmon farming industry to mitigate resource dependency and reduce risk. Only 3% of Bakkafrost feed production is not being used internally. Additionally, Bakkafrost has two completely different value segments. The HORECA segment which accounts for 60% of sales and the retail segment which accounts for 40% of sales (Jacobsen, 2023). By observing the financial statements of Bakkafrost, it can be concluded that during the Covid-19 pandemic, 60% of production went to the retail segment. Mitigating risks in this way proved to be instrumental in the success of the company during the Covid-19 crisis (Bakkafrost, 2020). By diversifying their activities across multiple value chain stages, Bakkafrost were seemingly able to reduce their reliance on any single resource or supplier. For example, a salmon farming company may choose to diversify by investing in a hatchery to produce smolts and a processing facility to prepare products for market. This diversification reduces the company's dependence on external suppliers for these activities and allows them to maintain control over the entire value chain.

According to literature, vertical integration is another strategy used by firms in the salmon farming industry to internalize value chain activities and reduce resource dependency (Birkinshaw, 2002). Vertical integration involves bringing activities that were previously performed by external suppliers in-house. For example, a salmon farming company may choose to vertically integrate by building their own processing facility to prepare products for market instead of relying on external processors. This allows the company to control the quality of the products and reduce their dependence on external processors. According to Mr. Jacobsen "*It's very important because we can secure the supply so that we're not that dependent on our suppliers in key areas in the supply chain and also it is enabling us to control every aspect of the production cycle so we are very much into producing high quality and it's very important for us that each part of the value chain, each step of the production cycle is high quality and it is very important to achieve that. So, we're building on. We have the longest already integrated value chain in the industry but we are still building on it so that we can achieve even better, more secure deliveries and supply*" (Jacobsen,

2023). According to Mr. Jacobsen, it is very important for the company to not rely on external parties in critical aspects of the production cycle. This allows for quality and control for important aspects.

Collaboration is a third strategy used by firms in the salmon farming industry to mitigate resource dependency and reduce risk. Collaboration involves forming partnerships or alliances with other firms to share resources and expertise. For example, a salmon farming company may collaborate with a feed producer to ensure a reliable supply of high-quality feed. This collaboration reduces the company's dependence on any single supplier and allows them to share the costs and risks of the value chain activities. In the interview with a Bakkafrost representative, he elaborates that Bakkafrost does have hundreds of collaborators and they have had long term relationships. Consequently, it can be assumed that Bakkafrost has trust in their suppliers and collaborators (Jacobsen, 2023).

Coercion is a final strategy used by firms in the salmon farming industry to ensure access to critical resources. Coercion involves using power and influence to control or manipulate suppliers or partners. For example, a salmon farming company may use its market power to force suppliers to provide the necessary resources or may use its influence to persuade regulators to enact favorable policies. In the interview conducted with Faroese politician Mr. Johannsen explains that: "*when it comes to our primary industries, both fishing and farming, we always consider the wellbeing of the sectors. To a certain extent of course, because we are aware of what consequences it can have on the Faroese economy*" (Johannesen, 2023). Furthermore, in the context of the Faroese dependency on the fishing and aquaculture industry it can be assumed that Bakkafrost have some power in regards to decisions made by the parliament. It can be assumed that Bakkafrost needs and wants may not be completely neglected. However, as observed before - the political system is currently in the process of implementing more taxes and fees. These are according to previous chapters not necessarily benefitting Bakkafrost. Furthermore, these examples can be replicated when it comes to Bakkafrost's power over smaller suppliers. According to literature "*Buying power gives bigger businesses the upper-hand when it comes to negotiating with suppliers, allowing them to lock in long-term contracts at more cost-effective prices*" (Zimmerman, 2021).

In the context of the Faroe Islands, Bakkafrost is by far the biggest organization with a big resource advantage over smaller suppliers. Determining if Bakkafrost has not used some sort of coercion regarding political parties and smaller suppliers cannot exceedingly be determined. However, given that Bakkafrost is by far the biggest organization and is therefore a significant contributor to the Faroese economy and welfare, it cannot be disproven that they have used some form of coercion strategies. Nevertheless, coercion is a risky strategy that can damage relationships with suppliers or partners, but it can be effective in ensuring access to critical resources.

In conclusion, the salmon farming industry is highly resource-dependent, and Bakkafrost within the salmon farming industry uses a range of strategies to mitigate resource dependency and maintain control over the value chain. Resource dependency theory provides a useful framework for understanding these strategies, including diversification, vertical integration, collaboration, and coercion. Bakkafrost have diversified product offering, thus enabling them to navigate uncertaintanties. They have acquired multiple firms within the country and used FDI to gain international market access and knowledge. In addition, they have several collaborators, however none are influential in delivering the final product. Lastly, it can not be determined that Bakkafrost uses coercion strategies. Nevertheless, given the relative size and influence Bakkafrost has on the Faroese economy it can not be disproven.

5.6 Implications on Internalization as a Result of Covid-19

The COVID-19 pandemic has had a significant impact on the global economy, including the salmon farming industry. As observed in the introduction, because of implications of travel restrictions and lockdowns, the industry has faced disruptions in supply chains, reduced demand for its products, and increased costs of production. These challenges have led organizations to re-evaluate their value chain activities and internalize certain stages of the value chain to mitigate risks and ensure continuity of operations.

There was a significant plunge in the Bakkafrost revenue generated during Covid-19. For instance, Bakkafrost had a net earnings of 801 million DKK in 2019 before Covid had plunged their revenue in 2020 which came down to approximately 463 million DKK (Bakkafrost, 2020). Below is the graph showing the movement of net earnings of Bakkafrost from 2017 to 2022. The graph below

(figure 9) clearly shows a plunge in 2020 but it also shows an increasing growth in net earnings in the following years. According to Mr. Jacobsen (2023), the pandemic did not affect their business too much despite facing some challenges. The cause behind Bakkafrost being able to cope with the pandemic is the two different segments of their business. These two segments are the retail segment where they provide finished products to international retailers like Lidl and the HORECA segment where they provide fresh products to e.g. restaurants. During Covid-19, the restaurants, hotels and caterers were shut down, but they were able to still maintain the profitability by continuing their business in the retail segment.

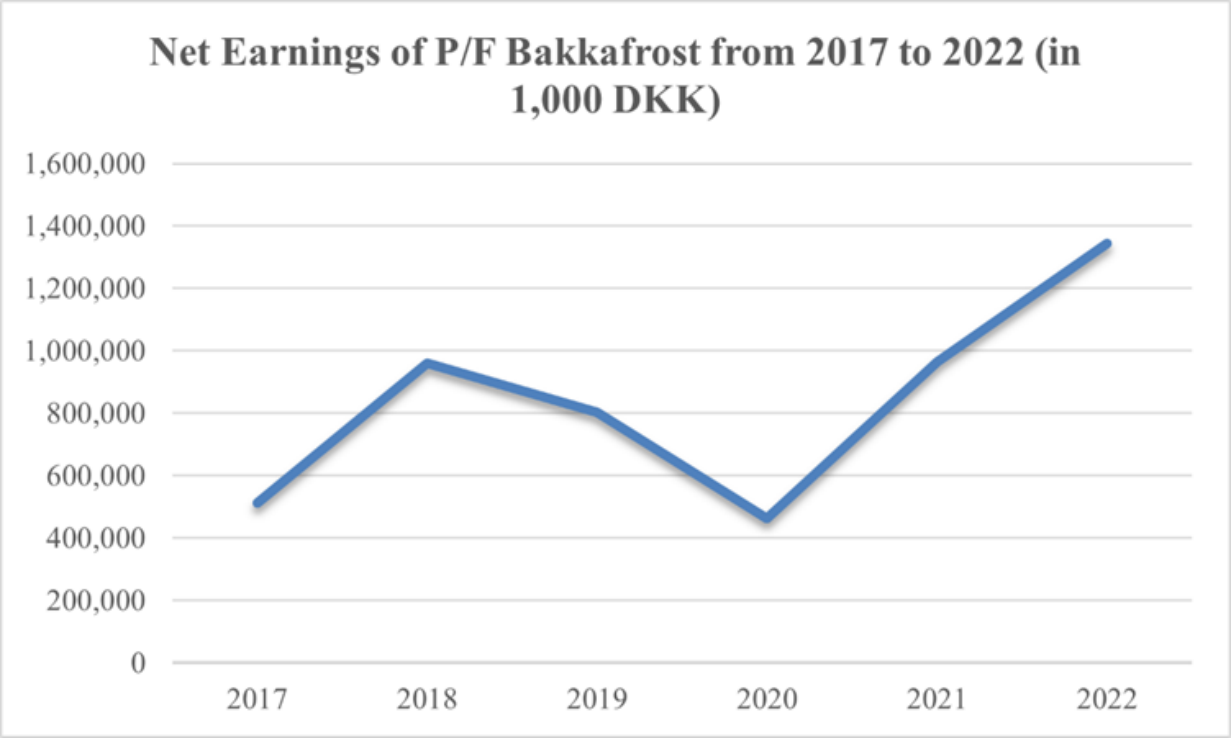

Figure 9: Net Earnings of P/F Bakkafrost from 2017 to 2022 (own creation)

The salmon farming industry has faced several challenges because of the pandemic. One key challenge has been disruptions in the supply chain, including the availability of critical inputs such as feed and seedstock. These disruptions have led some firms to internalize value chain activities, such as investing in their own feed production facilities, to ensure a reliable supply of inputs. In the case of Bakkafrost, they already had their own feed production facilities before Covid-19. However, Bakkafrost was facing issues with freight out. According to Mr Jacobsen (2023), the flights were disrupted during the pandemic. Also, the prices of air freight drastically increased. In

this scenario, Bakkafrost decided to have their own airlines named FarCargo which eventually enabled them to internalize their freight aspect of the value chain. Internalizing value chain activities in this way reduces their reliance on external suppliers and mitigates the risks associated with disruptions in the supply chain.

It can be argued that the investments in an airline company might differentiate from other acquisitions made previously. Additionally, evidence by exploring second-hand sources indicate that other international salmon farming companies are not making these types of investments (Hiddenfjord, 2022; MOWI, 2022). However, Bakkafrost does, in this case, appear to carry out these efforts more substantially than other international players. Subsequently, it might be an indication of other post covid-19 trends seen in the international market. Namely, that international companies operating in international markets are most often dependent on external organizations. It seems, based on the literature, that companies are poignant towards partaking full control of their value contribution and are consequently, internalizing a majority of their value chain activities (Finardi & Guimarães, 2020).

Another challenge faced by the industry has been reduced demand for its products, as a result of closures of restaurants and other food service establishments. This has led to a shift in the market for salmon products, with an increased focus on retail sales. According to the interviewee, *"During COVID, all the Horeca segment restaurants were gone and there were no customers there. It was quite lucky for us that we had two different segments. We saw that the retail part went up and of course, the prices in retail went up as well and then the Horeca segment went down. But we had a lot of colleagues in the industry that didn't have that opportunity"*. As previously mentioned, having two different segments provided Bakkafrost a competitive edge. MNCs such as Mowi also have their own feed production facilities and retail segment for ready made products. But a lot of smaller firms in the industry are only making the facilities after suffering in the pandemic (Finardi & Guimarães, 2020).

The COVID-19 pandemic has also led to increased costs of production in the salmon farming industry. Measures such as social distancing, increased sanitation, and remote work have added costs to operations. Firms have responded to these increased costs by internalizing value chain activities, such as investing in automation and technology to reduce labor costs. By internalizing

these activities, firms can reduce their reliance on labor and mitigate the risks associated with disruptions in the labor market. In the case of Mowi, Covid-19 made them internalize their own Covid testing facilities in their own lab using their own technicians in Chille (Mowi, 2020). They had the facility of testing 1,000 samples per day. This eventually helped them to ensure safety for their employees. To quote Fernando Villarroel, the managing director of Mowi at Chille, *""The health and safety of our people is the most important thing for our company, and it is essential that the team can travel safely to their jobs in comfort, with all the social distance and security measures in place."* (Mowi, 2020)

The COVID-19 pandemic has highlighted the importance of resilience and flexibility in the value chain, not just in the salmon farming industry but in other industries as well. Firms that have successfully internalized value chain activities have been better equipped to respond to disruptions and maintain their operations during the pandemic. In the salmon farming industry, firms that have invested in diversification, vertical integration, collaboration, and coercion have been able to mitigate the risks associated with disruptions in the supply chain, reduced demand for their products, and increased costs of production.

Moving forward, it is likely that the salmon farming industry will continue to internalize value chain activities to ensure resilience and flexibility in the face of future disruptions. However, firms must also be mindful of the potential risks associated with internalizing value chain activities, such as increased costs, reduced innovation, and a lack of specialization. It is essential that firms carefully consider the costs and benefits of internalizing value chain activities and develop strategies that optimize their operations and mitigate risks.

In conclusion, the COVID-19 pandemic has had a significant impact on the salmon farming industry, leading firms to internalize certain stages of the value chain to mitigate risks and ensure continuity of operations. Internalizing value chain activities has allowed firms to reduce their reliance on external suppliers, better control the quality of their products, and respond to changing market conditions. The pandemic has highlighted the importance of resilience and flexibility in the value chain, and firms in the industry will likely continue to internalize activities to ensure continuity of operations in the face of future disruptions.

5.7 Analytical Framework of Key Determinants of Internalization

There is limited mention of institutions in resource dependency theory and transaction cost theory. This is a limitation of both theories. Hence, bringing institutional theory in the context of internalization helped the researchers to understand the key drivers of internalization. By observing using qualitative and quantitative data, the thesis seeked to determine key determinants for traditional salmon farming companies to internalize. Most of the internalization efforts are value and efficiency seeking. However, the underlying determinants which further motivate and push salmon farmers to internalize, have not previously been explored in this specific context.

By combining aforementioned theories, the internalization of value chain activities in the salmon farming industry can be analyzed from multiple angles. Resource dependency theory helped identify the resource dependencies faced by the case study company and the motivations behind internalizing value chain activities. Transaction cost theory provided insights into the efficiency considerations and cost-saving potential of internalization. Institutional theory consequently shed light on the institutional pressures and norms that influence the internalization process and shape industry practices. It is important to mention that multiple aspects within the internalization decision making process are interconnected and that the analysis had to include geographical context to the institutional context. As a result of interconnectedness of these determinants it is important to read the analysis thoroughly.

Based on previous literature and the analysis above, it is evident that the reasons behind the internalization decision from the salmon farming companies operating globally are the industry itself, institutions connected with the industry, geographical location of the company, transaction cost, resource dependency, and Covid-19 pandemic.

MNCs in the aforementioned industry may choose to internalize certain aspects of their value chain based on one or combination of multiple reasons that were mentioned in the analysis. In the analysis, three theories were used to find the reasons that influence internalization decision. Institutional theory provided insight into the role of institutions such as governments of different countries where the MNCs operate their business, regulatory bodies who emphasize sustainable business practices etc. Institutional theory helped the researchers locate significant determinants such as institutions, geographical location, and to some extent the industry itself.

Transaction cost theory suggested in the analysis that the MNCs in this industry internalize their value chain if it meets the demand of economies of scale for the company. For instance, Bakkafrost internalized their EPS box packaging which is used for their premium products. However, they did not internalize the overall packaging aspect of their value chain due to economies of scale. In the packaging sector, the transaction cost is lower if they were to internalize this part of the value chain.

Resource dependency theory was used in this analysis to find the connection of resources with internalization of value chain activities. It was found that salmon farming is a resource dependent business to operate in. MNCs try to mitigate the dependence on resources that are needed to run their business in this industry. Hence, the organizations diversify their business portfolio, vertically integrate to gain more control on their value chain, collaborate with other companies operating in certain aspects of their value chain, and make coercion strategies. For example, Bakkafrost has a diverse segmentation of their business named Horeca segment and retail segment which eventually helped them to continue profitability during the Covid-19 pandemic.

By integrating institutional theory, transaction cost theory and resource dependency, the thesis provides a more comprehensive and nuanced understanding of the mechanisms driving internalization in the salmon farming industry and their implications. Consequently, the thesis provides researchers, policy makers and institutions with general understandings of external market mechanisms driving strategic decision-making processes of traditional salmon farming companies. Figure 10 below illustrates the framework created by the researchers according to the findings of this thesis.

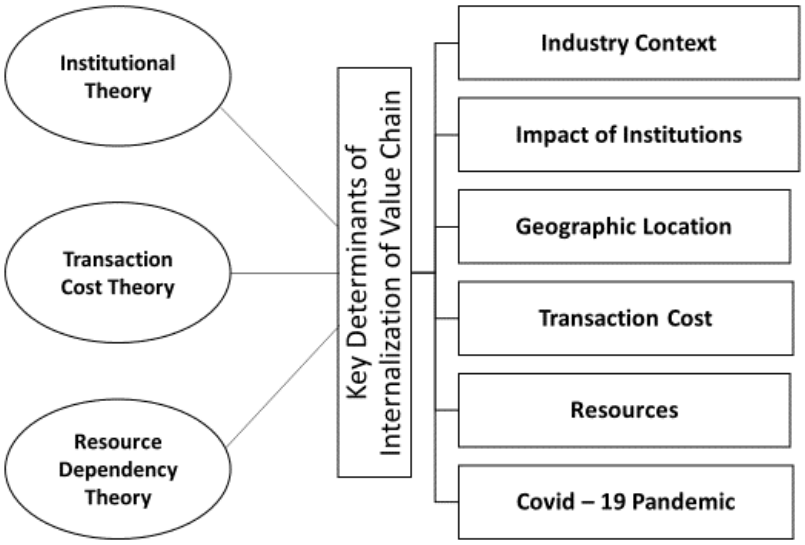

Figure 10: Analytical Framework of the Findings (own creation)

6.0 Discussion

The findings of this thesis indicate that traditional salmon farming companies are internalizing their global value chain due to a combination of factors. The insights gained from the case company and secondary data from other companies aided to shed light on various factors affecting their internalization decision making process. The industry context, characterized by increasing competition, growth, and evolving market dynamics, has driven multinational companies like Bakkafrost to enhance their competitive edge and secure their market position. Institutions, such as regulations and standards, play a significant role, as companies decide to internalize to comply with legal and environmental requirements and mitigate risks associated with volatile institutional environments. Transaction cost considerations compel MNCs in this industry to internalize activities and consequently reduce coordination difficulties, asset specificity, and information asymmetry. Geographical location, on the other hand, plays a significant role in the decision to internalize, as companies in remote or challenging environments seek better control over the production process and reduce transportation costs. For instance, Bakkafrost is reducing transportation cost by gaining more control in their own production facilities as they are operating in an isolated geographical location. The COVID-19 pandemic has put a spotlight on the need for supply chain resilience, prompting internalization to minimize dependency on external suppliers and ensure consistent production. It was evident as Bakkafrost has made their own airlines called FarCargo after facing the consequences of canceled flights and higher air freight costs during the pandemic. Lastly, resource dependency drives companies to internalize to secure critical resources and minimize the risk of scarcity. Overall, these findings highlight the multifaceted nature of internalization decisions in the traditional salmon farming industry.

There are various literatures which argue about the decision making process of internalization. Some of the findings of this thesis align with existing literature in the field, providing support for previous research on the internalization of the global value chain. For instance, Williamson (1985) and Coase (1937) provide theoretical foundations in transaction cost economics, highlighting the role of transaction costs in driving firms to internalize activities. The findings of this thesis align with these theories, as companies internalize to reduce coordination difficulties, asset specificity, and information asymmetry, which are key sources of transaction costs. Additionally, resource dependency theory indicates that MNCs can be influenced to make decisions of vertical integration

as a way to manage resources (Pfeffer & Salancik, 1978; Cropper & Ebers, 2003). Furthermore, Institutional theory provides support for some of the key drivers that were identified in the thesis. For instance, the role of institutions in driving the internalization of the global value chain in traditional salmon farming companies supports the institutional theory. Institutional theorists or researchers argue that companies are influenced by regulatory and normative pressures, which can shape their strategic decisions (DiMaggio & Powell, 1983). In the case of the salmon farming industry, institutions play a significant role as MNCs decide to internalize their global value chain to comply with regulatory requirements from governments and certification schemes and minimize risks associated with the continuously changing institutional environment.

Regulatory pressures play a crucial role in driving internalization decisions. Salmon farming companies are subject to multiple regulations and policies related to environmental sustainability, fish health, and food safety. Internalizing the value chain allows these companies to ensure compliance with regulatory requirements by exerting greater control over production processes and quality standards. This finding is consistent with the argument put forth by Scott (2013) that companies internalize to gain legitimacy and conform to institutional norms. Normative pressures also influence internalization decisions in the salmon farming industry. As industry standards evolve and consumer expectations change, companies may internalize to align themselves with prevailing norms. For example, certification schemes such as the Aquaculture Stewardship Council (ASC) or the GlobalG.A.P. require companies to demonstrate responsible farming practices throughout the value chain. Internalizing allows companies to have direct control over production activities, ensuring adherence to these norms and enhancing their reputation as socially responsible actors (Verbeke, 2003). Overall, these findings provide empirical evidence that supports and extends existing literature on the internalization of the global value chain in the salmon farming industry.

In contrast to the prevailing literature, the findings of the drivers that influence internalization suggest a potential conflict regarding the role of geographical location in driving the internalization of the global value chain. While some studies argue that companies leverage location advantages and access to resources in specific regions to outsource rather than internalize (Buckley & Ghauri, 2004; Dicken, 2015), the findings of this thesis show that geographical location can also drive

traditional salmon farming companies to internalize their value chain. Companies operating in remote or challenging environments, such as coastal regions with limited infrastructure or isolated islands, may face significant logistical challenges that make outsourcing less viable. As a result, companies like Bakkafrost may choose to internalize activities to gain better control over the production process, reduce transportation costs, and ensure timely delivery of products. This discrepancy suggests that the decision to internalize the global value chain in the salmon farming industry may depend on unique contextual factors specific to the industry and its geographical constraints.

Even though other MNCs from different industries are also internalizing some aspects of their value chain, MNCs from the salmon farming industry usually focus on gaining more control over their value chain compared to other industry players. The salmon farming industry possesses unique characteristics that set it apart from other industries. These distinctive features influence the strategic decisions and internalization processes within the industry. For instance, salmon farming is closely tied to the natural environment, as it involves rearing salmon in marine or freshwater environments. In the Faroe Islands for example, it is ideal to have salmon farms, due to ocean currents and constant year long sea temperatures along with the islands close proximity to water. However, there are challenges regarding the environment as well. The industry faces specific challenges related to environmental sustainability, including the management of water quality, prevention of disease outbreaks, and minimizing the impact on wild fish populations (Soto et al., 2020). These environmental concerns significantly influence the decision-making processes of salmon farming companies and may lead to specific internalization strategies tailored to address these concerns.

Additionally, the geographic location of salmon farms plays a crucial role in the industry's dynamics. The MNCs are typically established in coastal regions with access to suitable water bodies like Norway, Chile etc. However, these locations can be remote and face geographical constraints such as limited infrastructure and difficult transportation routes such as the Faroe Islands (Sogn-Grundvåg et al., 2016). These factors can impact the feasibility and cost-effectiveness of outsourcing certain activities, leading salmon farming companies to internalize to gain better control over their operations and mitigate logistical challenges. Also, the industry is

subject to several regulatory guidelines as previously mentioned in the analysis. These regulations vary across countries, regions, and compliance requirements often influence the strategic choices of the MNCs within the industry (Sieghart et al., 2019). According to Mr. Jacobsen from Bakkafrost, companies may suffer from these different regulations across the globe. He said, *"We have had some issues when we acquired the Scottish 'Capital Seven' company. They got feed from the Norwegian company, and we wanted to change the feed there. So, we could produce internally. There were some real regulations on that. We are not allowed to export more than a certain quantity to Scotland. That has been an issue and it's still an issue that we are working on. There are issues we run into from time to time. Also, internally in the country legislation and the Faroes have changed the limits which has affected the whole industry. They have copied the Norwegian legislation. There is some influence from the regulations on the size and the overall price that we can get. So of course, we are influenced by politicians or legislation, and it affects us"* (Jacobsen, 2023). This statement provides a hindsight about the effects of regulations in this industry.

Additionally, the salmon farming industry benefited from its ability to export products to various international markets. In the expert interview with the head of Marketing of the Bakkafrost Group, Mr. Jacobsen mentioned that "*I think we came very good out of it because we* (Bakkafrost) *have customers in different markets such as North America, Europe, and Asia. COVID started in Asia and then it shifted to Europe and then it shifted to US and then it opened up a bit in Asia again which was important for us as well*" (Jacobsen, 2023). While some industries faced challenges due to border closures and transportation disruptions, the salmon farming industry, with its established global distribution networks, was able to continue exporting products to meet international demand. The diversified market opportunities seemingly enables internationally established salmon farming companies to take advantage of their diversified geographical sales allocation. Consequently enabling the companies to change their supply in accordance with the different stages of the pandemic. Additionally, according to second hand sources, Norwegian salmon farming companies were similarly able to maintain their export operations during the pandemic (Mowi, 2020). Norwegian salmon farming companies benefited from its well-established global distribution networks, enabling it to meet international demand (Soto et al., 2021). Similarly, Chilean salmon farmers were subsequently able to continue exporting their products during the pandemic, thanks to their strong international presence and diversified export

markets (Garces & Lundberg, 2020). Also, MNCs such as Mowi even internalized the covid testing laboratories with their own Corona testing facilities. Consequently, enabling the organization to maintain operations, even in locations which did not have free and readily available testing facilities (Mowi, 2020). Similarly the global coffee industry seemingly has well-established supply chains and distribution networks. Consequently allowing coffee producers to export their products worldwide. Similar to the salmon farming industry, the coffee industry has seen disruptions in transportation and logistics. Nevertheless, based on secondary sources; coffee companies with diversified international markets were capable of continuing to meet international demand (International Coffee Organization, 2020). Furthermore, industries which have similar characteristics were the technology companies which have leveraged their business model to sustain international operation during the Covid-19 pandemic (Patel, 2020).

According to existing literature and data from the case company, it is evident that the COVID-19 pandemic seemingly had a limited impact on the Faroese salmon farming industry. Although the pandemic caused significant disruptions in various sectors worldwide, the salmon farming industry demonstrated resilience and adaptability to navigate the challenges (Love et al., 2023). These assessments correlate to the findings of the analysis of the case study company, Bakkafrost.

Observing existing research regarding the topic on Covid-19 implications on the industry it can be determined that one of the key reasons for the minimal impact is the nature of the salmon farming process. As mentioned in the analysis, salmon farming involves a relatively isolated and controlled environment, which reduces the risk of viral transmission compared to other agricultural practices. Additionally, the industry had prior to the pandemic implemented strict biosecurity measures to prevent the spread of diseases among fish populations, which likely helped in minimizing the risk of COVID-19 transmission (Love et al., 2023). These measures can also be reflected in the institutional section of the analysis. However, some salmon farming companies struggled significantly during the pandemic ultimately reducing its EBIT threefold and posed declines in production volumes. Among those are the salmon farming company Greg Seafood which elaborates that "*Grieg Seafood Newfoundland has received approximately NOK 3.9 million in Covid-19 funding through an innovation assistance program and a regional relief program in Newfoundland*" (Grieg Seafood, 2021). Additionally, the CEO mentioned in a comment regarding

the organizational strategies concerning value chain optimization that "*We dissolved our previous external sales arm, Ocean Quality, and established our own, fully integrated sales and market organization, which will become fully operational in all markets during April 202*1"(Grieg Seafood, 2021). Additionally, in accordance with the above analysis Grieg Seafood also struggled with logistics and associated increased costs (Mutter, 2021). Consequently, this is another comment on the organizational implications the Covid-19 pandemic entailed. Seemingly, the implications of the pandemic, made salmon farmers aware of their vulnerability to market changes. Enabling the salmon farmer to re-access their value chains during and after the Covid-19 pandemic. Implications such as logistics and increased transportation costs resulted in Bakkafrost acquiring an airline company. Similarly, companies such as Grieg Seafood, saw issues with synergies within their value chain and consequently dissolved its external sales arm (Ibid). By having their own sales department the company would be better able to improve synergies with the farming department and ultimately create further value for the salmon.

In the context of Covid-19 implications; the already integrated value chain of Bakkafrost enables them to quickly adapt to the changing market conditions and consumer demand during the pandemic. With the relative closure of their primary segment (HORECA) and a shift in consumer preferences towards home cooking, there was subsequently a surge in retail demand for salmon products. This can be observed by observing the financial figures illustrating that the primary segment of Bakkafrost during the pandemic was the retail segment. Bakkaforst were able to redirect their products to meet this increased retail demand because of the pre-existing processing facility, thereby mitigating the potential negative impact on their business.

The ongoing conflict between Russia and Ukraine is also affecting the industry as an external threat. While giving his expert perception about the current state of the industry and specifically Bakkafrost after the Covid-19 pandemic, Mr Jacobsen also stated some important facts about the consequences of the Russia-Ukraine conflict in this industry. He mentioned, *"After COVID, when Russia went into Ukraine, it was even more difficult to have supplies of soy because Ukraine and Russia are the biggest suppliers of soy. So, that might have led to some challenges there but during COVID and during the war there have also been some issues with the packaging supply, the lead time from the suppliers that have come on quite significantly and the prices were rising as well.*

They have come somewhat down again and then of course also that meant that the overall cost of production and the overall cost of the product went up which was put on to our customers and then finally on to the consumers. So, we have seen that prices have risen especially after the war started in Ukraine. So, that has had a significant change in the market" (Jacobsen, 2023). The market price for soybeans in September, 2021 was 3,530 DKK which eventually went up to 5,180 DKK in June, 2022 (Index Mundi, 2023). Hence, it is evident that the conflict between Russia and Ukraine has a significant impact in this industry.

By exploring the industry itself and the tendency of internalizing especially from the giants of the industry, it was observed that the industry has some significant sustainability challenges to deal with. The concept of 'Blue Economy' can be one of the most relevant examples in this case. The ocean is the main regulator of the environment and all economic activities related to the ocean should be conducted in a sustainable way "*to improve economic growth while preserving the health of the ocean"* (European Commission, 2023). According to a press release by the European Commission (2021), all blue economy sectors such as fisheries, aquaculture, coastal tourism, maritime transport etc. are subject to reduce their impact on environment and climate change. The EU also planned to protect 30% of the EU's sea area which can have a reverse effect on biodiversity loss and can also help to increase fish stock in the aforementioned region. The rise of this concept of blue economy influences MNCs in the salmon farming industry to focus on their R&D sector. Market leaders in this sector such as Mowi have already internalized and invested heavily on their R&D which in return can provide them further competitive advantage (Mowi, 2022). The EU also emphasized on cutting-edge technologies in the blue economy sector such as innovative fishing gear design, ship recycling to name a few in order to switch to a circular economy in this sector (European Commission, 2021). Hence, it is important to do further research regarding the relationship between internalization choices of the firms operating in the aquaculture industry and shifting towards a circular economy.

Concluding, it seems based on evidence provided and the discussion above that the geographical location has emerged as a unique factor, with companies operating in remote or challenging environments opting to internalize to gain better control over production processes and reduce transportation costs. The COVID-19 pandemic has further emphasized internalization of

Bakkafrost to minimize dependency on external suppliers and ensure consistent production deliveries of products which correlate with the overall organizational quality standards. Resource dependency has seemingly also motivated companies such as Bakkafrost to internalize to secure critical resources and mitigate the risk of scarcity. These findings align with existing literature on internalization, such as transaction cost economics, resource dependency theory, and institutional theory. However, the role of geographical location as a driver of internalization in the salmon farming industry conflicts with some prevailing literature. Thus, indicating that industry-specific contextual factors may influence internalization decisions. The unique characteristics of the salmon farming industry, including the relation to the natural environment, the issues related to environmental sustainability, and geographic constraints, are seemingly contributing to the industry's intense internalization strategies. Overall, this thesis gives a holistic understanding of the internalization decision making processes made by traditional salmon farming companies and provides a foundation for future studies within the field. The findings also highlight the resilience of the salmon farming industry during the COVID-19 pandemic, thanks to its integrated value chain and ability to adapt to changing market conditions.

7.0 Limitations

The thesis is subject to several limitations, which may impact the reliability of the findings. This section highlights several key limitations associated with the methodology used in this study. It addresses issues related to sample size and representativeness, time and resource constraints, potential bias and subjectivity, the limited scope of data collection and generalizability of the findings.

The research was conducted within a specific and limited timeframe of four months and with limited resources. Within this time-frame the researchers were relatively restricted in how they would allocate their resources properly. Thus, some data may have been overlooked. This may have restricted the depth of data collection and analysis. Potentially overlooking certain aspects that could have provided a more comprehensive understanding of why traditional salmon farming companies are internalizing their value chain activities. A more extensive and prolonged study could yield additional insights and further enhance the robustness of the findings. Furthermore, the restriction of a 80 page limit, further restricted researchers to consequently focus on primary aspects found through the literature review and analysis section. Other determinants with lesser implications would have to be excluded in the thesis because of the limited time-frame and restriction on pages.

The data collection process focused primarily on expert interviews, participant observation and secondary sources. While these methods provide valuable insights, they may not capture the full range of factors influencing the internalization of value chain activities in the salmon farming industry. Additionally, the interview with the head of the political party (Fólkaflokkurin), provided the researcher with valuable primary sources. The interview was conducted in Faroese, thus the researchers had to translate from Faroese to English. Potentially, this can result in some answers not fully being interpreted by interviewers and subsequently potentially benefiting answers being lost in translation. In relation to the interview with the head of a political party, if the research included an additional interview with opposing politicians, the analysis could be more nuanced. Nonetheless, the researchers had to rely on secondary sources to get opposing viewpoints of the political party. It is important to note however, that the interviewee was a member of the finance commité, and would consequently contribute to valuable economic insight.

The use of participant observations and interviews introduces the potential for bias and subjectivity in the data collection process. The researcher's involvement in the observation and interview sessions may have influenced the participants' responses and behaviors, thus leading to a potential bias in the data. In addition, as the Head of Marketing of Bakkafrost was interviewed it can be believed that the interviewee might have restrictions on answers to protect the organization. Consequently, resulting in further subjectivity of data. Efforts, such as data triangulation were made to minimize bias, but it is important to acknowledge that personal interpretations and perspectives may have influenced the analysis and findings.

Some aspects of the analysis imposed extensive limitations. The researchers were promised access to organization specific costs in relation to air-freight and the production of boxes. However, these data from the company were not provided. Hence, the researchers had to calculate using data from contacting the industry players within the Faroe Islands. Therefore, the analysis of transaction costs only provides a general perspective of costs within the organization.

The findings of this thesis are specific to the context of traditional salmon farming companies and may not be directly applicable to other industries or different types of aquaculture farming operations. The internalization decisions and determinants identified in this thesis may be influenced by industry-specific dynamics, regulations, and market conditions, limiting the generalizability of the findings to other sectors or geographic regions.

Future research should consider expanding the sample size by interviewing more individuals, thus incorporating diverse perspectives. Additionally future research should be utilizing additional data sources, and extend the research duration to further enhance the validity and generalizability of the findings.

8.0 Conclusion

By the method of data triangulation and through the lens of critical realism, the thesis has provided some evidence into the subject of internalization decision making processes of the salmon farming industry. Through data gathered from qualitative expert interview with an organizational representative, as well as an expert interview with one of the decision makers in the Faroese parliament, the researchers managed to explore the market by first obtaining a holistic view of industry norms and industry specific determinants for internalization.
The research question:

"Why are traditional salmon farming companies internalizing their global value chain activities?"

provided the researchers a pathway to explore and identify the determinants that influence the internalization decisions within the industry. After a thorough analysis conducted through using aforementioned method, it is clear that along with transaction costs and resources available to the MNCs, the industry itself, the geographical location of the firm, the institutions that are related to the industry, and the Covid-19 pandemic are among the key determinants of internalization decisions from the MNCs in this industry.

The introduction introduced some of the motivations for organizations to internalize their value chain activities - among those are quality assurance and control. Furthermore, other benefits include achieving economies of scale, thus reduced transaction costs and creating organizational synergies within value chain activities. These traits can be characterized as standard wishes upon goals across various sectors. Nonetheless, the thesis aimed to determine the underlying mechanisms which would also compel salmon farming companies to further internalize their value chain activities. Thus, external market forces and dynamics which are subsequently motivating companies like Bakkafrost to not rely on external parties.

Generally, the aquaculture salmon farming industry can be characterized by a high degree of globalization and competition. This, along with the rapid development of the sector has played a crucial role in the growth and development of the industry. However, internalization also presents

challenges, including navigating regulatory environments internationally and domestically, as well as adapting to constantly changing market conditions. The industry has responded to environmental concerns and public pressure by implementing sustainable practices, such as reducing airfreight and investing in renewable energy sources. Nevertheless, the case study company has, because of it's isolated location, decided to further implement and are investing heavily air-freight into their existing value chain. Despite the challenges, the salmon farming industry continues to evolve and adapt to ensure its long-term viability and sustainability. Hence, the MNCs within the industry are integrating vertically and horizontally to optimize the challenges of being in this industry.

Additionally, the analysis and discussion showed that the geographical location of a salmon farming operation can have a significant impact on the internalization of value chain activities. Factors such as feed production, water temperature, transportation costs, market access, and regulatory frameworks can all be influenced by the location of a salmon farm. By understanding and taking into account the various factors that are influenced by geographical location, salmon farmers can optimize their operations and internalize value chain activities more effectively. Furthermore, it can be understood that MNCs in this industry can decide to internalize not only because of the country of origin they are from but also due to other geographical locations they are operating their business in. Therefore, internalization decisions are affected by the geographical location where the MNC operates both locally and globally in the salmon farming industry.

Institutions seemingly influence MNCs to make strategic choices in both local and global markets. As a part of institutions, regulatory bodies controlling the aquaculture industry provide certifications to the firms which adhere to the sustainability regulations and practices. For instance, Aquaculture Stewardship Council (ASC) certificates are provided to the salmon farming companies which are maintaining the best sustainability practices in this sector. The case company Bakkafrost has also acquired ASC certificates which shows their sustainability practices in the business. These certificates are known within the sector to add a significant amount of credibility to the organization. Moreover, they have acquired GlobalGap certificates which promote their legal compliance, food safety, animal welfare, and worker's health safety practices in the business. As the literature mentions the regulatory bodies as a part of the institutions, institutional theory

suggests that MNCs like Bakkafrost can make strategic decisions driven by the regulations. Deciding to internalize the value chain aspects is also a crucial strategic decision a firm can make. Institutions can be a determinant for a firm to make this choice. For instance, Bakkafrost evidently made their investment on Forka, the biogas plant for sustainability reasons. Mr. Jacobsen from Bakkafrost explained the reasoning behind investing in Forka as a part of internalizing the power and heating, *"The investment in the biogas, Forka is the only biogas planned from a sustainability perspective and not from an economic perspective. So, we are happy if we're not making any money off it but it's very good that we don't leave a lot of waste behind us that needs to be disposed of"*. Furthermore, the nature and culture of the Faroese population of willingness to be self-sufficient also affect the businesses to gain control over their own value chain by internalizing. This also provides the impact of cultural institutions in the internalization decision making process. The government as an institution can also influence these firms to internalize. In this context, the proposed tax increase on salmon farmers is one of the examples regarding the issue. Therefore, it is important to research thoroughly regarding institutions and their influence on the internalization decision which can adjoin a novel insight in the existing literature of internalization.

Through the analysis, transaction cost provided an understanding of the influence on internalization of salmon farming companies. Evidence showed that internalization efforts have been made in the strategic parts of the value chain to reduce transaction costs and achieve economies of scale. Examples such as Bakkafrost feed production, packaging system and air-freight company have all been internalized to decrease transaction costs, reduce resource dependency and subsequently create synergies within the organizational value chain.

The salmon farming industry is a highly resource-dependent industry to operate business. The analysis illustrated how Bakkafrost operates their business by mitigating resource dependency. Through the analysis, it was observed that MNCs in this industry try to avoid resource dependency by gaining control over their value chain. To gain control over their value chain, Bakkafrost have diversified product offering which reduces the risk of external uncertainties. They also made horizontal acquisition and multiple collaborations to have access to further resources. Even though it could not be determined if Bakkafrost used coercion strategies, minimizing resource dependency and thus managing full control over the value chain mechanism seems to be a general industrial determinant of internalization.

The case study company is headquartered in the geographic isolated area in the middle of the ocean. Thus, this thesis provided valuable insight into the linkages of geographic location and internalization efforts. Evidence showed that companies operating in remote or challenging environments, such as coastal regions with limited infrastructure or isolated islands, may face significant logistical challenges that make outsourcing less viable. Contrary to previously explored literature, this evidence showed that salmon farming companies are often located in regions with significant advantages and access to natural location specific resources. As a result, salmon farming companies are generally more lenient to internalizing, to further exploit these resources rather than outsourcing. Subsequently, this gives the companies better control over production processes, reduces international and domestic transport, thus ensuring a timely delivery of products.

The Covid-19 pandemic has highlighted the importance of resilience and flexibility in the value chain of salmon farming companies, and firms in the industry will likely continue to internalize activities to ensure continuity of operations in the face of future disruptions. Evidence of the analysis showed that salmon farming companies were internalizing their value chain prior to the pandemic, however, evidence also showed that the pandemic was a katalyst for future investments into the value chain. A statement from Bakkafrost's head of marketing said that "*air freight rates went crazy during COVID and it was difficult to secure enough space for our transportation, especially to the US and to China. That is why it was decided to establish an airline freight company and buy a plane*". This further elaborates and extends the implications of Covid-19 and the geographical location of the salmon farming company.

By integrating institutional theory, transaction cost theory and resource dependency, the thesis provides a more comprehensive and nuanced understanding of the mechanisms driving internalization in the salmon farming industry and their implications. Consequently, the thesis provides researchers, policy makers and institutions with general understandings of external market mechanisms driving strategic decision making processes of traditional salmon farming companies. The analysis of institutions highlighted the proposed tax increases on Faroese salmon farmers and showed the need for continuous research to inform policy decisions and enhance understanding of value chain management in the literature. While some studies argue that

companies leverage location advantages and access to resources in specific regions to outsource rather than internalize, the findings of this thesis show that geographical location can also drive traditional salmon farming companies to internalize their value chain as close proximity will reduce transaction costs. Lastly the Covid-19 pandemic caused salmon farming companies to further diversify their portfolio as well as some of them starting to further expand their value chain in the form of purchasing fully owned transportation solutions. In the long run, these efforts would consequently decrease their resource dependency in addition to reducing transportation uncertainties during situations of crises. This can contribute to the existing literature on value chain research by providing a more holistic perspective and offering valuable insights for both theory and practice.

In the context of the research question: salmon farming companies are internalizing because of multiple industry specific mechanisms. The aquaculture industry is highly volatile, thus organizations need to be equipped with managing constantly fluctuating market conditions. Consequently, having a vertical and horizontally integrated value chain can minimize uncertainties in regards to lack of control in key organizational aspects. However, the industry is further affected by increasing consumer demands, resulting in constant regulatory pressure from institutions. Additionally, delivering fresh products to mainly the US, Europe and China entails a structured and timely source of delivery systems. Consequently, having most of the value chain activities within close proximity ensures traceability and timely control over value chain processes and delivery of the final product. Besides, vertical integration provides economic benefit especially to the major MNCs within the industry as a result of economies of scale and reduction of transaction costs such as outsourcing cost of fish feed, fish plants, premium packaging etc. Geographical location of the business also relates to the decision of internalization in this industry as outsourcing certain aspects of the value chain can hinder profitability to the companies operating in an isolated or remote location, such as the Faroe Islands. Moreover, the MNCs in this industry internalize to minimize resource dependency as the industry is natural resource oriented. Thus, benefits can be gained by both vertical and horizontal integration, collaboration, and diversification. Lastly, the Covid-19 pandemic magnified salmon farming companies' reliance on external partners and subsequently sped up the internalization process of salmon farming companies operating in remote geographic locations.

This thesis has contributed to a holistic understanding of internalization determinants of aquaculture salmon farming companies. Current literatures lack considerations on geographical location or the role of institutions as determinants of internalization processes in traditional industries. The "Literature Review" section highlighted the importance of institutions being critical for determining factors of economic or financial performance, having reflective effects on the transaction costs and production". This thesis has enhanced the need for in depth understanding of the role of institutions, industry, geographical location and global events such as the Covid-19 pandemic in internalization decision making processes. Consequently, the linkages among determinants and their implications can be explored further in future research to add value in the existing literature on internalization.

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