MASTER'S THESIS

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How does external pressure for sustainability change the role and identity of the business controller?

A case study of the Norwegian aquaculture industry.

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Abstract

Purpose – The purpose of this thesis is to explore how external sustainability pressures affects business controllers and the role they have in organizations. Since Norwegian aquaculture industry operates in an industry where sustainability is a delicate subject, coupled with the fact that media has highlighted several sustainability concerns, it proves itself very interesting to look at the relationship between sustainability pressures and the role of the business controller in this industry. We approach the research with the problem statement: *How does external pressure for sustainability change the role and identity of the business controller?* Followed by two research questions (1) *Where does the pressure for sustainability come from and which institutions?* And (2) *How does these institutional forces change the role, identity, and activities of controllers?* To which the paper answers.

Methodology – the research is based on a descriptive design. It ensures adequate insights in how sustainability pressures are experienced and distributed, as well as responded to in each organization respectively. We chose a qualitative case design with 6 participants from 5 organizations. Interviews were conducted semi-structured.

Findings – The controller role has already undergone change, and sustainability pressures fuel this change further. Sustainability pressures manifest themselves from governmental regulations, legal requirements, varying frameworks and standards, and sustainability-oriented markets. Due to innovation and technological advances, controllers have time liberated to other non-financial tasks and activities. Controllers have a wide perspective and holistic understanding, which causes the formalized description of a controller to be rather challenged. Findings indicate that the notion of business partnering is prevalent. Moreover, sustainability pressures seem to affect this relationship.

Implications – the thesis is relevant in the sense that it provides deep understanding on how sustainability pressures could change the role of a controller, and how the relationship between the controller and managerial decisions is affected. The call for sustainability is increasingly manifesting and thus it is important to have perspectives on how it affects organizations exposed to sustainability pressures.

Preface

This master thesis marks the end of the two-year master program Siviløkonom/Master of Science in Business at Handelshøgskolen Nord, Nord University. This thesis makes up for 30 credits, and the problem statement is formulated in connection to the major *Management Control*.

Working with this paper proved itself challenging and interesting. We had our ups and downs. We would like to thank our supervisor Anatoli Bourmistrov for his excellent guidance and support during this process. His engagement and follow-up have been marvelous during his supervising.

We would also like to sincerely thank all the informants for their cooperation and participation in hectic times. Without whose cooperation we would not have been able to conduct this study. Your willingness and openness helped us build a solid empirical foundation.

To our fellows at Nord University, we would like to thank you for ideas and inputs on our research. Additionally, we would like to thank family and friends for endless support both in and outside our studies. You have been there in times of need, and we appreciate you for it. Your wise counsel and kind words have, as always, served us well.

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1.0 Introduction

In chapter 1 we present the background and purpose of this study. Followingly, we introduce the problem statement and research questions. Conclusively we explain the delimitation and structure of this paper.

1.1 Background

The controller role is responsible for all accounting-related activities, and typically reports to the CFO in organizations. The role will typically include assisting with the preparation of the budgets and financial reporting, overseeing the financial health of the company (Kenton, 2021). It's traditionally of importance in financial information systems, where tasks are stretched from supervising accounting, reviewing, and stating the financial situation (Kaarbøe, 2021). The changes of management accountants, or controllers, have gained increasing academic interest the past two decades. The changes of the role suggest that the identity is under reconstruction, since they require an external legitimacy, and internalizing a new role script (Wolf, Kuttner, Feldbauer-Durstmüller, & Mitter, 2020). Recent literature suggest that the traditional script of the controller role is being challenged by a new and improved budgetary practice, referred to as *beyond budgeting*. This new method provides a proactive and broader vision of the future, enabling better strategic decisions (Bourmistrov & Kaarbøe, 2013; Østergren & Stensaker, 2011). Which mean that the controller role moves from being focused on cost control and reporting, to strategic decisions, as members of the management team, advisors, and consultants (Granlund & Lukka, 1997). Thus, it causes the controller role to become more powerful than before (Østergren & Stensaker, 2011).

In recent decades it has indeed been documented that the controller role changes (Berg, T., 2015; Wolf, Kuttner, Feldbauer-Durstmüller & Mitter, 2020; Granlund & Lukka, 1997; Østergren & Stensaker, 2011; Henttu-Aho, 2016; Karlsson, Hersinger & Kurkkio, 2019; Bourmistrov & Kaarbøe, 2013). This development is largely driven by increased globalization, new information flows, new technologies, new systems, societal changes, increased expectations, and cross-functional cooperation (Berg, T., 2015; Hentu-Aho, T., 2016; Karlsson, et al., 2019; Wolf, et al., 2020). With the disconnect between what businesses claim and what they produce, it proves itself interesting to see the role of a business controller

in this tension between empty promises and societal demand. We know that business controllers have evolved to have more of a participatory role in business decisions (Henttu-Aho, 2016), however we don't really have enough information on how sustainability pressure could, or does, alter this role. Considering the gap between promises and reality, could the role of a business controller morph into becoming a link in preventing greenwashing? And does sustainability demand require the role to partake in more or new responsibilities? Questions like these are intriguing and makes a great case for a study such as this one.

Literature on business-orientated controllers states that the traditional role of management accountants as "*number crunchers*" and "*bean counters*" has been challenged by a business-oriented role, which means that management accountants are becoming more active advisors to management and are participating more in decisions regarding the business (Henttu-Aho, 2016). The literature also indicates that the role of finance professionals has changed from "*scorekeeper*" to "*value-added*" business partner. Suggesting that the role has undergone a more complex change that combines elements from both of those groups. Budgetary control is found to be the most important task for the controller, and modifications in the budgetary practices of an industry will likely effect the controlling/decision function of a business.

As with changes in the controller role, we have also witnessed an increased demand for sustainability with time. The term "*Anthropocene*" is applied informally to encompass different geological, ecological, sociological, and anthropological changes in recent Earth history. Human activity has left, and is leaving, a pervasive and persistent signature on Earth. In the Anthropocene there is now especially a call for a new and more sustainable paradigm (Waters, et al., 2016). Recent anthropogenic sedimentary fluxes have increased, which causes concerns regarding sustainability. Research indicates that mainstream business and economics are responsible for generating ecological, social, and moral crisis (Shrivastava et al., 2019). Thus, a paradigm shift in favor of sustainable wellbeing is being called for. We see a crucial need to critically reflect on the basic assumptions of modern economic thinking and business practice, and the need to promote respect for nature and living condition for all generations. Sustainability is described as satisfying today´s needs without infecting the future generations opportunities to satisfy their needs (UN, 2021). UN´s Sustainability Development Goals (SDG) describes 17 areas in which sustainability should be of focus in the time moving forward. These guidelines and the overall focus affect organizations accordingly. Generally, organizations succeed when they satisfy people´s needs with solutions that people want, and

when a rewarding business ask policy makers for robust and clear long-term policy frameworks, in which they can operate and use to guide investments, target innovation and support business development decisions (Prebensen, 2018). A myriad of organizations has already embraced the SDGs in many ways. However, to achieve the SDGs it will require that most organizations deviate from current business practices, and in many cases, do different things. On the notion of this agenda organizations will entail increased risks because of future regulations or bad will from customers caused by "SDG un-fit" products or business practices. While for others it will drive added costs with "un-fit" energy supply systems or raw material needs. For those who are "SDG fit" in their core business, the SDGs will drive market growth. Many organizations are still struggling with getting it right and identifying the next steps towards alignment of their strategies with the SDGs and to measure and manage their impacts (Prebensen, 2018).

Sustainability is in such great demand, and organizations must align themselves with it. At least in terms of compliance, however, alignment can also be a strategic advantage for some. Countless organizations aim, or at least claim, to strive towards sustainability alignment nowadays. Businesses achieve sustainability by creating social and environmental value that will bring forth net-positive impacts to society and the environment through so called sustainable business models. These are aimed at describing, analyzing, managing, and communicating how value is created and ensured "*while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries*" (Schaltegger, Hansen, & Lüdeke-Freund, 2016, p. 6). However, despite organizations increasingly claiming that they have sustainable business models (Schaltegger, Hansen, & Lüdeke-Freund, 2016), we witness that socio-ecological problems linked to climate change, collapse of biodiversity, and inequality on a global scale are indeed worsening, not improving (Whiteman et al., 2013). As such, we experience disconnection between organizational promises from their so-called sustainability models and their actual socio-ecological impacts. Therefore, we will in this article use this disconnect as a vantagepoint for our study, and we aim at gathering insight in how this gap affects the role and identity of a business controller. Accordingly, this study will conceptually investigate the linkage between changes in the controller role and organizational efforts towards sustainability.

So, what does the sum of it all mean for the role of a business controller? Is there an increased need for competence? Is it so that a business controller mainly should formulate financial statements and recommendations on a confined aspect, or do they have a say on the organizational operation holistically? Will the business controller process new kinds of information? And is there a link between the theoretical concepts and practical evidence? Questions like these, in conjunction with those mentioned earlier, we find very interesting and contemporary relevant. Moreover, there is lacking research and articles on how these sustainability pressures alter the role of the business controller, and which sectors experience such pressures and changes the most. Hence, our intention is to contribute to this gap with insights on this thematic in the aquaculture industry. We wish to better understand the forces and effects at play, and to investigate whether the Business controller could be neoteric in this field.

1.2 Purpose and problem statement

The purpose of this research stems from the lack of studies on how increased sustainability demand worldwide affects the role of a controller. We do know that the role and identity has undergone changes with time, and that controllers play a more participatory part in businesses (Henttu-Aho, 2016), but there is little evidence on how sustainability issues interfere. To research what we just described, it will require a deeper understanding of the effect sustainability has on changes. Hence, through case studies we will study how organizations in a context where sustainability is in high demand experience it and which effects are manifested as a result.

The aim is to contribute to research in this area and create a better understanding of which factors and nuances facilitates changes for the controller role through the scope of sustainability focuses and how these interact, if any. Additionally, we hope to contribute with new insights in organizations that wishes to distribute internal sustainability responsibilities, or even share insights to those who have done so but not gained the desired effects upon implementation. We want to look closer on what the institutional pressures are like and how these gets handled. Our hope is to uncover indications of how said pressures are changing roles.

Thus, the problem statement in this research is the following:

How does external pressure for sustainability change the role and identity of the business controller?

Derived from the problem statement, we see the importance of trying to understand the following research sub-questions:

1. *Where does the pressure for sustainability come from and which institutions?*
2. *How does these institutional forces change the role, identity, and activities of controllers?*

The research questions are based on the theoretical framework of this study, which is presented in the theory chapter. The theory is used analyse and make sense of findings. For us to be able to answer the problem statement and the research questions we need to gain an overview of what the literature has to say about the theme, and then construct a conceptual framework that will be used to map out how sustainability interferes with the role of a business controller. Based on this literature and the empirical findings we seek to unveil factors that are involved in altering the role a controller has outside their financial contributions. Any relevant findings could be important in development and improvement of their role. It will also be applicable for other organizations with a more traditional approach to the business controller. Terms like *controller role, change, sustainability,* and *pressure* will be used throughout this study, and these are theoretically specified in the theory chapter.

1.3 Delimitation

Due to restricted time and resources in in the master study we made some simple limitation for this study. In the pursuit of answers to the problem statement we have enclosed this study to organizations of varying sizes within the aquaculture industry. The aquaculture industry is one of the largest in Norway, and consequently sustainability will be a big factor here. By having a selection of companies from this sector we will hopefully be able to identify similarities and differences in this area. We wish to form a spectrum of how the role of a business controller is altered, and to better understand and identify specific changes sustainability evokes. Thus, limiting the study to only research it in this context enables us to gain a deeper understanding based on a smaller selection of companies. This approach is interesting given that this industry has been under serious criticism when it comes to

sustainability issues. Moreover, it becomes a matter of interest when one start to think how organizations in this industry adapt to such criticism and where changes occur. Furthermore, there are few studies that research how the controller role has been changed due to sustainability pressures. In this study we had to select certain elements from theory that we wanted to research closer. The delimitation is done based on what is emphasized in literature, as well as recognizing that sustainability is in such demand that it forces organizations to adapt accordingly. Hence, we will not research aspects outside this delimitation. We view the delimitation as sufficient in our efforts to answer the problem statement.

1.4 Structure

Figure 1 Structure of the thesis

In chapter 1 we explained the background and motivation for this paper, the purpose of it and presented the problem statement we want to study. In chapter 2 the theoretical framework used in order to answer the research questions is presented. In chapter 3 the methodical approach is presented, as well as the empirical standpoint. This chapter explains why we chose certain designs, describes the research process, and presents an assessment of quality in the study. Chapter 4 consists of presenting the findings and the empirical analysis that follows the data collection. In chapter 5 we present a discussion where the empirical analysis is compared with the theoretical framework. Conclusively, in chapter 6 we draw a conclusion based on the precursors which is grounded in the problem statement and research questions. Lastly, we share some recommendations for further research.

2.0 Theory

The purpose of the theoretical framework is to gather an overview of relevant literature and theories applicable to the paper. The rest of our research is anchored in this theoretical frame, and function as the foundations for analysis in chapter 5. In the theoretical chapter we look closer at pressures, changes, and the controller role.

2.1 Institutionalism

Institutionalism originated from theories of prominent scholars, such as; Marx, Weber, Durkheim, etc. Weber argued that rational order has become an "iron cage" in which humanity is imprisoned. This cage was irreversible due to the power and efficiency of bureaucracy. DiMaggio and Powell builds on these previous statements, especially Weber's 'iron cage' theory. Their reasoning for revisiting the 'iron cage' model is that organizations are becoming increasingly bureaucratic and homogenous, but unlike Weber, this is also 'making organizations more similar without necessarily making them more efficient' (DiMaggio and Powell, 1983).

Institutionalism provide a shared opinion that organizations are not independent, but operate in an environment of institutional arrangements and social norms. According to DiMaggio & Powell (1983) the early institutionalism, 'issues of influence, coalitions and competing values were central, along with power and informal structures'. The old institutionalism emphasized internal dynamics within individual organizations. Organizational theory stimulated institutional theory and resulted in a paradigm shift.

In new institutionalism, originated in 1970-1980, scholars emphasise cognitive structure, and shows the connection between the institutional environment and organizational behaviour. Scholars emphasize the relevance of external institutional environment conformity for organizational longevity. Compliance with the institutional environment offers companies with benefits such as legitimacy, improved status, increased internal and external loyalty, access to resources, stability, community and societal support, acceptability, and security, according to the authors. It should be highlighted that these advantages resulting from organizational behaviour do not always imply that an organization's effectiveness will improve (DiMaggio & Powell, 1983; Meyer & Rowan, 1977).

One of the most popular viewpoints in organizational theory is neo-institutional theory. This perspective gains distinctiveness from its emphasis on culture's primacy, emphasizing how

social systems of resources have significant implications. The goal of Neo-institutionalism is to demonstrate how variance in existing practice allows for the emergence of something completely new, such as a new role.

'The iron cage revisited' defines institutions as social structures. Institutions is identified as anything from governments, legal authorities and organizations which can impact behaviour, professions, public opinions, competitors and society (DiMaggio & Powell, 1983). The work provided by DiMaggio & Powell found that organizations submit to the external pressure provided by institutions. Institutional rules and regulations act as rationalized myths. These myths are expected to be implemented into the organization in order to gain knowledge and legitimacy, and to be able to compete and survive in their current market. The adaptation to these myths creates the theory of isomorphism (Meyer & Rowan, 1977)

As a result of isomorphism in the institutional context, companies align their structures in order to obtain legitimacy rather than organizational efficiency (Meyer & Rowan, 1977). We also encounter the concept of isomorphism in DiMaggio & Powell, where they use the theory to study how organizations become more similar to each other. They put a lot of attention on the fact that institutional pressure causes isomorphism in organizational fields. In neo-institutionalism, there is also a strong emphasis on organizations adhering to the needs of the institutional environment (Meyer & Rowan, 1977; DiMaggio & Powell, 1983).

The sources of institutional pressure and isomorphism can be separated into three categories. The type of pressure is identified as normative, regulative and mimetic pressure (Meyer & Rowan, 1977; DiMaggio & Powell, 1983).

Normative pressure:

Social constraints on organizations and their members to comply to specified standards are known as normative pressure. It's a result of the norms and values of their environment and are usually ignored and taken for granted until the organization fails to comply to them. To avoid this, its normal to have experts and professionals diffuse the norms into formal standards. Normative pressure is presented as a result professionalism in organizational fields. Professionalism is interpreted by the members within the organization, where the appropriate way to act will be defined collectively (DiMaggio & Powell, 1983). You can divide normative

norms into two separate categories, social normative pressure and professional normative pressure.

Social normative pressure refers to the opinions, values and norms contained in society and the general public. According to Meyer & Rowan (1977), institutionalization is the process through which social trials, duties, or realities create a rule-like character in the social context. As a result, what the authors refer to as "rationalized myths" come into play. Even though these rules can be taken for granted, we also see situations where they are sustained by the public or enforced by law. The attitudes, political opinions, systems and procedures of an organization is greatly impacted by the opinion of the public (Meyer & Rowan, 1977).

Professional normative pressure refers to the norms and values in the surrounding professional actors of the organization, like competitors, suppliers and other organizations impacting the business. Meyer & Rowan (1977) claim that the public opinion, as well as significant constituents' viewpoints, knowledge and information provided through the educational-system, and the laws and judgments employed by the courts, influence the positions, politics, programs, and processes of organizations. For instance, when application from the educational systems is giving similar courses of information in different professions, we get a socialized vision of the world, and a bigger chance of homogenization. The isomorphism obtained by professionalization is the shared effort of the members of an profession of identifying the conditions and the methods of their job, while establishing legitimacy for their professional autonomy (Meyer & Rowan, 1977).

Mimetic pressure:

Mimetic pressure occurs because organizations tend to feel the need of copying, or mimicking, the behaviour of other more successful organizations in order to reduce their chance of failure and reduce uncertainties. When there is uncertainty, the organizations imitate other organizations that are perceived successful or similar (Meyer & Rowan, 1977).

Mimetic pressure can also be referred to as mimetic isomorphism (DiMaggio & Powell, 1983). They argue that it is uncertainty and anxiety that causes organizations to become more similar. When there is uncertainty in the adaptation and use of technology, in a changing environment where the correct behaviour is unclear, organizations adopt the practices of legitimate and successful organizations. The adaptation of these practises will create increased

legitimacy for the organization, and show the external actors that they are trying to improve. When the number of people and number of clients increases, we see an increase in the mimetic pressure (DiMaggio & Powell, 1983).

Regulative pressure:

The regulative pressure is expressed in the form of rules and laws, and it is disseminated through papers, publications, and legislation. The source's institutionalization gives it legitimacy. The 'rationalized myths' discussed in Meyer & Rowan (1977), can according to them be sustained by the strength of the law. They claim that laws play a part in a lot of the viewpoints, politics, policies, and processes of organizations. Rationalized myths can have ingrained legitimacy through public opinion and legitimacy founded on legal orders. Legislative bodies create and interpret judicial orders, while administrative agencies establish rules of behaviour. Professional licences and credentials will therefore be required to be able to practice in a certain field. The term coercive isomorphism can also be used to refer to regulative pressure, as seen in DiMaggio & Powell (1983). They argue that coercive isomorphism is occurring partly from formal and informal pressure from other organizations they are dependent on, and the cultural expectations from the society they operate in.

Regulative Isomorphism	Mimetic process	Normative pressures
Pressure from other organizations in which they are dependent on and cultural expectation from society. E.g., Governmental mandates, law, reporting requirements. Large organizations can have similar impact on their subsidiaries.	Uncertainty encourages imitation. Organizational models can be diffused through employee migration or by consulting other firms.	Pressures from profession. Legitimization inherent in the licensing and crediting of educational achievement. Inter-organizational networks spanning the organizations. Norms developed during education entering organizations. Inter-hiring between existing organization in industries encourages isomorphism. People from similar educational background will approach problems in much the same way. Socialization on the job reinforces these conformities.

Table 1: Mechanisms of institutional Isomorphic Change

Conditions of change*:*

Not only do we see the attention on institutional pressure in the literature of (DiMaggio & Powell, 1983; Meyer & Rowan, 1977), but they also mention the possibility of institutional change. More theoretical views recognized that there is also an idea of the organizations being able to choose strategic alternatives instead of blindly conforming to the direction institutional pressure is putting them. The conditions for this type of change are separated into field level characteristics and organizational level characteristics.

Field level characteristics:

It's hypothesized that the field level of institutional isomorphism is connected how depended a certain organization is on the surrounding field (DiMaggio & Powell, 1983). The dependency come from several conditions, like vital resources, uncertain technology, government agencies, etc. Institutional pressures and the ways in which organizations might respond to these pressures are influenced by a number of factors at the field level. When institutional demands might strengthen an organization's legitimacy, the organization will be driven to comply with such demands, and opposition will be difficult (Meyer & Rowan 1977). The characteristics of public agencies and employees will influence their strategic response. An increasing number of these groups, where they potentially have conflicting goals, the institutional pressure decreases, and the organization is more likely to be able to resist. When the institutional groups control the availability and allocation of critical resources necessary for the organization, the harder it will be to resist the pressure from those groups (DiMaggio & Powell, 1983). The content of the institutional demand will also play a part in the response of the organization. If the objective of the organization conflicts with that of the institutional groups and pressure, there is more room for resistance. Although, the nature of institutional pressure can sometimes determine the response by itself. This can either be through legal coercion or voluntary diffusion. Conformity happens more often when we have imposed pressure by powerful actors, and when norms and expectations are adopted voluntarily (DiMaggio & Powell, 1983). Also, increased uncertainty in the environment drives the organizations to concede to the institutional pressure, to reduce the uncertainty.

Organizational level conditions:

Meyer & Rowan (1977) affirm that companies have two options for modelling their institutional environment. The powerful actors can influence their logic and structure onto their relational network, or build their intentions and procedures into the society as

institutional rules. This shows us that increased power will enable the ability of an organization to better impact their institutional environment. DiMaggio & Powell (1983) believes that on an organizational level, reliance on other organizations and centralization of resource allocation will lead to coercive isomorphic changes. Smaller dependence and centrality of resources will therefore increase the possibility for space and resistance to the pressure. The uncertain relationships between means, ends and objectives, will drive organizations to model after successful organizations. This will therefore be the cause of mimetic isomorphic change. The amount of reliance on academic credentials during the choosing of personnel, participation of managers, and professional associations will lead to normative isomorphic change.

2.2 Sustainability in the aquaculture industry:

The global salmon initiative (GSI) is founded by leading salmon farming CEOs, who collectively try to create initiative for a healthy and sustainable source of protein to feed a growing population. The leadership initiative is focused on doing so while also minimizing their environmental footprint and improving their social and economic contribution. Farmed salmon is a healthy source of protein, as well as having a low environmental impact. They have one of the lowest greenhouse gas emissions of all animal protein sources, which results in an eco-friendly alternative to meat. Only 5% of the oceans area is currently being used for food purposes, and expanding in this area will contribute to filling the food gap, especially since land sources are experiencing climate change pressure (GSI, 2020). Raising livestock for meat, eggs and milk stands for 85% of the greenhouse gas emissions of agriculture (GSI, 2020), so the role of salmon farming comes with great benefits as a climate friendly food source. It requires less fresh water, fewer crops and less land, which results in a lower carbon footprint than non-marine proteins.

The Slow Food movement is a non-profit, member supported organization involving millions of people in over 160 countries. Its created due to the assumption that Mainstream enterprises are based on a negativistic view of human nature that leads to counter-productive and unsustainable behaviours producing negative impact for society and the natural environment. They define sustainability using three P's, People, Planet, and Plate (Tencati & Zsolnai, 2012). The way they seek to achieve this is by interconnecting three principles: Good: quality, flavour, and healthy food. Clean: production that doesn't harm the environment. Fair:

accessible prices for consumers and fair conditions and pay for producers. Comparing the salmon farming industry to the definition and principles of sustainability in the case of Slow Food. Salmon is a high-quality protein source which is also healthy, because it contains omega-3s fatty acids and is rich in minerals and vitamins (GSI, 2020).

2.3 Role theory

To be able to fully understand the changes a role is undergoing, its beneficial to study role theory. Every role in society has a set of rights, duties, expectations, norms, and behaviours that they are supposed to fulfil. People behave predictably and their behaviour is context-specific, influenced by their social position, socioeconomic status, and other factors (Chell, 1985). Chell (1985) created 'the situation-act model' which indicates that a person must act within the limits of situations, that situations are governed by rules, and how a person behaves is often prescribed by those socially acquired roles. The person adopts a situation role in order to perform effectively within the limits of the situation. There is a distinction between the job description and the actual role, because it's more concerned with the behavioural aspects of the works and the outcomes the person is expected to achieve. The role individual exists in relation to co-workers, managers and society, which will have expectations about the role, and if they live up to these expectations, they will be considered successful. This means that when external expectations change, so will the role.

2.4 The controller role

Terje Berg (2015) elaborated on the Controller role and what some of the main drivers for the change in a controller´s role is. In this article, the method of literature review was utilized to try to grasp a conceptual understanding of the phenomena of change in the role of controllers. Before any discussion and elaboration was done, he delimited and defined controllers as management accountants. He further highlights that there is hard to find one single definition in academia. However, there are international similarities in what controllers are and do. controllers; use financial numbers from accounting and sources like quality, customers and coworkers; are forward-looking by contributing to goals and prognoses; are situational – adapting to the local organization; line managers is the customer; and have competencies within business, enterprises and economy is critical. He then mentions that the forward-

looking orientation is what is being emphasized as the big change in the controller role. This study identified the following aspects as drivers for change in the management accountant – i.e., controller – role:

- New personalities, that step away from "bean-counters" (recording events and preparing reports based on results from prior period)
- Laws and regulations – and compliance thereafter
- Globalization, technology and mega trends
- IT-systems (ERP and others)
- Cross-functional cooperation – across and outside department of finance
- Societal changes

Through the literature review he links academia from several sources and show that what the controller do is to gather information that serves as a base for decision-making. Controllers (or management accountants) nowadays have the opportunity for more advisory and analytical roles, and they are more proactive, strategic, and feed-forward individuals, that mix financial and non-financial views that facilitate decision-making at management level.

This literature review clearly provides indications that the controller role if facing changes – and these changes show relative similarities across national borders. In his reflection, Berg conclusively notes that the change in the controller role seem to have been a slow evolving process. His opinion is that one of the more important drivers of change has been the IT-tools; ease of producing financial statements and accountings (Berg, 2015)

Furthermore, his reflections highlight that controllers merely have the function of staff with responsibility, not authority. And, despite all good ideas of how the role should be changes, it could be hard to see these come to fruition. The challenge for the service of controllers is to provide correct and detailed information at the right time, in presentation formats that management finds intuitive. Nonetheless, controllers have the potential to be a significant contributor in value creation for enterprises in the time moving forward (Berg, 2015).

As just mentioned, controllers have the potential to contribute at higher levels of organizations. In a way, they could transition into becoming business partners. Wolf, Weißenberger, Wehner, and Kabst, (2015) carried out a study where the aim was to investigate whether controllers were willing, or managers expected them to act more as business partners. The approach to this study was to gather a dataset from 112 German head controllers and corresponding general managers. The questions that were researched were the

following: "is the individual business partner behaviour of controllers either associated with their individual attitudes or rather connected to their subjective norms resulting from managerial expectations?" and "Is the business partner behaviour of controllers associated with increased organizational performance?" The research team found that controllers act and behave as business partners is more due to the subjective norm rather than personal attitudes. This study found that contributions from controllers have positive associations with the competitiveness of an organization. Indeed, this serves as supporting matter in the conception that controllers that operate as business partners do add value for management and decision-making in enterprises. Conclusively, Wolf et al., (2015) note that the expectation from management actually is necessary in order to involve controllers in decision-making. Contrary, the personal attitude of controllers shows little effect on behaving like a business partner. However, with that said, the bulk of the participants in the study remain positive regarding involvement in decision-making at a managerial level. Further findings highlight that controllers that behave like business partners positively contributes to awareness of costs and efficiency in allocating the resources of an enterprise. Improvements can be found in intra-organizational processes and decision-points. On one hand, managers must communicate needs and expectations about the services of controllers to positively influence the controllers´ subjective norm. On the other hand, most controllers participating in this study indicate that they are willing and have a positive attitude to partake in decision-making. However, occasionally the controllers must convince management of the benefits of involving controllers in decision-making because management can achieve better results if they do so (Wolf, Weißenberger, Wehner, and Kabst, 2015).

A few years later, Karlsson, Hersinger and Kurkkio (2019) initiated a study that looked at hybrid accountants in the age of business partner and explored institutional drivers. The approach was a case study in a mining company. At this point we see that the paradigm of controllers behaving like business partners have become more solidified. That is, the researchers introduce this article by saying that "management accountants, sometimes described as business partners, are important actors in charge of financial information and play a critical role as advisors in managerial decisions" (Karlsson, et al., 2019, p. 185). This later study indicates that business partners should have transitioned away from traditional and rational management accounting techniques, and rather have competences for rich and forward-looking information for strategic decisions. Research shows that the norms within organizational culture works favorable for management accountants that have a natural ability

for business partnering. Further in the study it is pointed towards institutional drivers being involved in the transition of management accountants towards taking on a role a business partner role. These hybrid accountants' roles are formed through an interplay among regulative, normative, and cognitive institutional drivers that influence the role of the management accountants in opposing directions. These opposing directions in institutional drivers create tension when simultaneously at play, which leads to a broader role for the hybrid accountants – that is, having traits of both traditional accounting and as a business partner. Regulative is explained as "have to", normative is explained as "ought to", and cognitive as "want to". More precisely, some of the institutional drivers facilitation and impeding the business partner ideal is found to be "top management expectations, operational management expectations concerning interaction and guidance, and modern information technology can function as normative drives that explain what the management accountants ought to do, thereby facilitating the business partner ideal…[and] cultural organizational norms and operational management expectation concerning scorekeeping can contrast with the facilitators, thereby serving and impeding function" (ibid., p. 205). Hence, the emergence of hybrid accountant role in the age of business partner. This tension that was mentioned refers to "the context where management accountants are required to balance between institutional drivers that operate in opposite directions, some of which favor the business-oriented management accountant and others that support traditional accounting work" (ibid., p. 204).

It now becomes apparent that the role of controllers (i.e., management accountants) has evolved and changed with time. And the change is taking the form of transitioning into becoming business partners, and thus they have active roles in management decision-making. Contributing to this shift is the newer developments in controlling businesses from management perspectives. Some businesses have left the traditional budget, and instead introduced Beyond Budgeting. Hence, it is interesting to look further into this due to the nature of a traditional controller role. A relevant claim in a study done by Bourmistrov and Kaarbøe (2013) is that changes in controller roles could be a symptom of introducing these new control systems for management, that bases themselves on the concept of beyond budgeting. This study highlights that a lot of organization have adapted to the beyond budgeting movement, and many more will do so with time. This movement facilitate grounds by which research can look at how and under what circumstances management practices like this work so that better and more useful theories for accounting practices can be built. These

transformations that beyond budgeting brings forth foster change in mindset and behavior – moving from what Bourmistrov and Kaarbøe (2013) characterize as "comfort zones" towards "stretch-zones". This organizational movement towards "stretch-zones" is what beyond budgeting entails. In it we find mindset changes like improving the decision-makers through degree of interaction in the business environment, improving forward-looking abilities, stretching beyond one's capacity, "intelligent guesses", and revealing ambitions and a mindset that is more proactive and challenge-seeking. For the change in behavior one can look at managerial decisions and actions supposed to be more flexible, interactive, driven by business-needs, learning-oriented and stimulate resource usage more effectively. The "stretch-zone" introduces changes in accounting techniques which then also changes controller´s mindset, behavior and communication regarding core business, external and internal environment, role of people and organizations in society, etc. Implementing beyond budgeting practices means that organizations must adjust their management control systems to be more dynamic. As such, the role of a controller becomes more like an active business partner. The increased involvement and use of controllers provides updated information, and the controller could challenge the managers on their decisions (Bourmistrov & Kaarbøe, 2013).

Leaving traditional budgeting practices behind and stepping towards the decentralized organizational system that is beyond budgeting, the controller's role evolves into being business partners. The beyond budgeting practices incorporate measurements beyond financial ones. Henttu-Aho, T. (2016) conducted a study whereby the aim was to investigate the emergence of the enabling characteristics of new budgetary practices and their implications for the role of a controller. She links the changing budgetary practices with changes in controller role. Flexibility is designed into management control systems in beyond budgeting. This encourages informal and negotiated processes. It also strengthens interrelationships between budgetary processes, which when added together enables the whole controller network to coordinate linkage between various budget-related methods and creates a holistic view of the totality of control. However, findings show that the controller´s attitude towards enabling formalization is not necessarily positive if the system is not aligned with professional mindset and competence. This study indicates that controllers do provide alternative prospects for strategy-based target setting processes. They reconcile resources of the organizations with the strategic targets and environmental contingencies. This means that controllers indeed play an important role in increasing global transparency in target-setting which is otherwise top-driven (Hentu-Aho, T., 2016). The latter mentioned is of higher

interest for us in this assignment, as we want to look closer at how pressures towards sustainability influence the role, identity, and work of a controller.

Quite recently Wolf, T., Kuttner, M., Feldbauer-Durstmüller, B., & Mitter, C. (2020) wrote a paper with the aims to contribute to a comprehensive understanding of the ongoing changes concerning management accountants by providing an identity perspective. This publication is a systematic review of literature on the changing role of management accountants' identity based on a conclusive sample of 64 articles. This review is confluent with findings in Berg, T. (2015) work, however it takes a deeper approach to the individuality of controllers. The paper clearly displays that the idea of a simple movement from one optimal identity to another is ambiguous and misleading. It displays indications of the influence of professional associations and educational institutions on change processes of management accountants by providing prevalent templates. Despite the change to business partners, the public were found to have a negative image of management accountants. The findings concerning organizational aspects emphasize the close link between perceived image, identity, and role changes. Furthermore, ambiguous results regarding the impact of the financial situation in organizations is identified, and contradictory findings regarding the change driver "IT systems" and uncertainties on how digitalization will affect identities and roles. Additionally, managers can simultaneously be a source of stability and fragility for the changing identities. Decentralization is a key element for business orientation but may lead to a nested identity, which implies that the management accountants identify more with their workgroups than with similar professional groups within the organization. One should grasp that varying interests and focal points of organizations cause multiple identities. The majority of the literature indicates that a change to business orientation is positive and that management accountants wish to be business-oriented, but their commitment to fulfil such normative demands can cause tensions. Consequently, identity conflicts reveal the need for change, but indicate concurrently that the idea of business partnering is still not straightforward. The samples show that business orientation leads to increasing new competencies without reducing the old ones. Thus, the description of a business partner become more of a narrative of an omnipotent though leader capable of combining incompatible requirements. The current, as well as the desired identity frames the interpretations of management accountants and they could support those changes, which are consistent with their desired identities. What is quite unique because of the identity perspective, is the focus on management accountants and their internal views, perceptions and internalized meanings connected to their role, rather

than debating external behavior expectations. Said perceptions are especially recognizable within their struggle of multiple identities, inner conflicts, incompatible competencies, multiple and desired identities. It was for instance found that main drivers for hybrid management accountants are among others accounting regulations, internal performance monitoring policies, financial control systems as well as individual preferences, personality, and initiative. Despite the creation of job profiles or organizational units to provide possibilities for controllers to become business partners, this aspirational identity remains fragile and leaves them with a continuing insecurity and feeling of "still not being there." They aspire an identity in line with their values and standards, but frequently recognize some misalignment between what the profession currently stands for and how it ought to be in the future. Differences between current and desired identities indicate a threat of self-esteem, when the ideals of a desired identity seem too incompatible with the real identity. Incompatibilities as such are connected to negative conclusions, but concurrently represent a stimulus for change - professionals try to increase self-esteem by pursuing more consistent and esteemed identities. It´s found that management accountants not only reflect about their current identity but also about desired and ideal identities, thereby recognizing the divergences and striving for more concordance between these identities (Wolf, T., Kuttner, M., Feldbauer-Durstmüller, B., & Mitter, C., 2020). *Figure 2* illustrates business controllers characteristics and is based on the literature summarized.
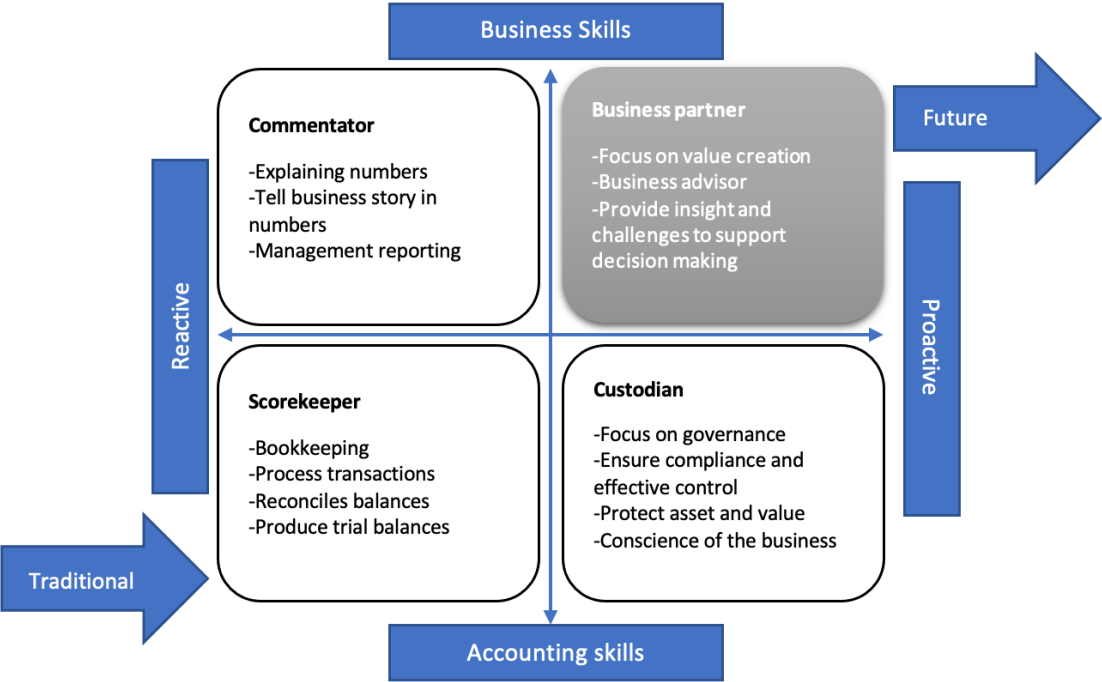

Figure 2: Summary of the literature – the changing role (Based on Ernts &Young, 2017)

2.5 Conceptual framework

Based on the foregoing theory we have developed *Figure 3* that encompasses the conceptual framework. The purpose is to contribute with a holistic depiction of how the controller is affected by pressures of sustainability and helps us form a foundation to analyze which elements are critical for the role. The elements of this model illustrates how we see the controller as an important player in achieving organizational success. This frame is used to limit the scope of relevant literature, and the elements are based on how previous researchers have identified the controller role. This will the base for our data collection and discussion. What this literature tells us is that controllers perform a given set of tasks, and takes a more participatory role in business management. We also know that there is an already present and ever-increasing pressure towards sustainability in business operations and activities. We see little research on topics that study how sustainability pressure like this could change the role and tasks of a controller. Hence, we find it interesting to study which, if any, changes have occurred or could occur due to such pressures, given the forward-looking nature of controllers these days. With businesses transitioning towards beyond budgeting, and sustainability pressures being at an all-time high, we seek to emphasize sustainability as an additional driver of change. *Figure 3* is derived from our theoretical frame. We will through our research try to gather insights more specifically on how the illustrated pressure of sustainability directly impacts the role of a controller, which will be discussed in chapter 5.
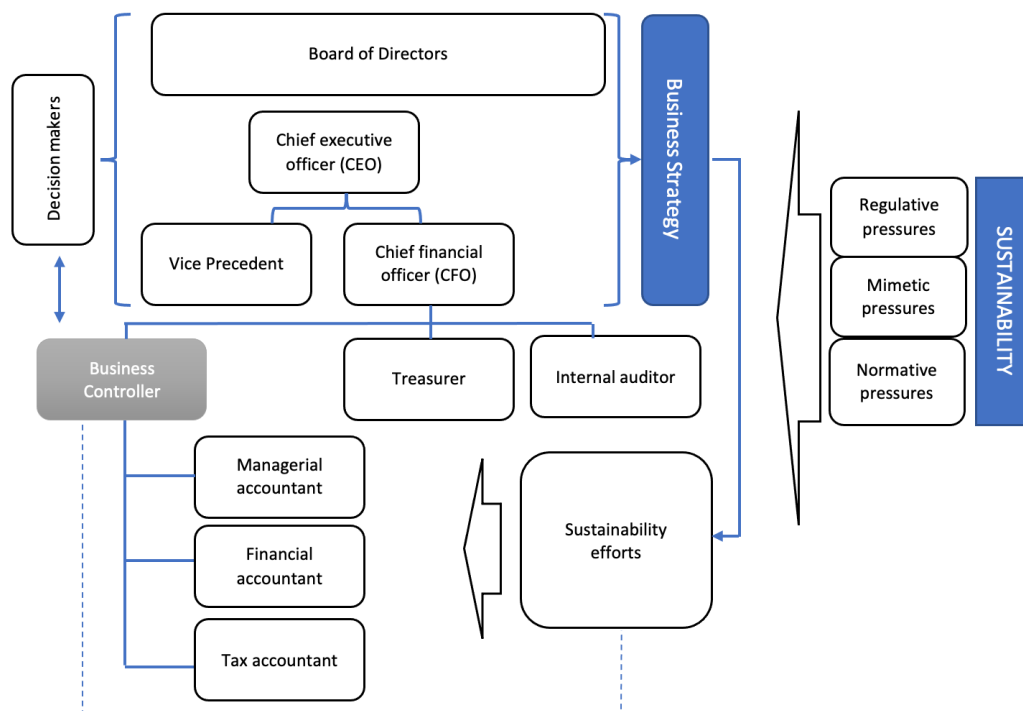

Figure 3: Conceptual model – Sustainability pressures and controller role

3.0 Method

The purpose of this chapter is to explain the procedure of how we went about trying to answer the research question. Hereunder we also elaborate on how the study was carried out. Argumentation for which method was chosen is presented first, thereafter the choice of research strategy and design. In here, we include the theoretical approach, the method of research and the strategy for research. Followingly, how data was obtained, decisions regarding informants and the selection are explained. Hereunder we also explain how the data set was processed and analyzed. Following this we also touch upon how research must ensure high quality based on its reliability and validity. Lastly, in the end of this chapter the ethical considerations are discussed.

3.1 Research method

In social science one distinguishes between two methods: Quantitative and Qualitative methods (Mehmetoglu, 2004). In quantitative research there is a greater focus on cause-and-effect relations, and in qualitative research one forms hypotheses derived from existing theories regarding the specific phenomenon (ibid). Furthermore, in qualitative research a greater focus is put on understanding, and hence there is a greater weight put on understanding a phenomenon and develop theories (ibid). As researchers it is our job to study things in their natural habitat and try to interpret the phenomenon in the form of meaning humans give them (ibid).

This thesis is based on a qualitative approach in seeking answers to our problem statement. We gathered insights and understanding in interactions with employees at the case organizations. By approaching it qualitatively it enables researchers to study the research question deeper and catch nuances in descriptions of what is being studied. Our research consisted of fewer participants, in the hopes of achieving deeper insights and knowledge on the research question. This way the participants get more individual attention, contrary to a qualitative approach.

3.2 Research strategy

A research strategy serves as a tool that researchers can use to highlight problem statements (Mehmetoglu, 2004). It functions as the foundation throughout the whole research process. Mehmetoglu (2004) point to three main strategies within research; empirically based theory;

Ethnography; Case studies. Empirically based theory is used to develop theories. Ethnography describes and interprets a cultural, social group or system. Case studies are studies of an encapsuled system, or a case done over time via detailed and diverse data collection (Mehmetoglu, 2004). Hence, qualitative studies are associated with more than one research strategies. In order to study the research question, we saw it fit to conduct both a literature review and a case study (Brynman, 2016).

3.2.1 Literature review

Upon deciding to study changes in the controller role we had to research what literature already had studied, which theories would be appropriate, and which contradicts each other (Brynman, 2016). Through search engines by the likes of Oria, Google Scholar and others, we quickly got a broad and better understanding for the theme. As well as that, this also enabled us to develop the conceptual framework for this study.

Due to sustainability becoming more urgent in the recent decades, we mainly used research from this era – the Anthropocene. However, some well recognized theories (i.e., DiMaggio and Powell, 1983) often lays the foundation for new research.

The literature review was done before the interview guide was constructed. We did this to ensure the legitimacy of the framework. For us it was of imperative to base the framework on the literature, and not deciding on it after the interviews.

3.2.2 Case study

This study addresses the phenomenon that is changes in the role of a business controller in a real context. It is done so by studying how Norwegian aquaculture and fish farming companies use their business controllers and how the organizations respond to sustainability demand. Thus, it fits the description of what a case study is. One of the characteristics of a case study is that the object of analysis is confined to time and space (Mehmetoglu, 2004). Yin (2007) presents two strategies for analysis. The first one is analysis based on theoretical assumptions – theory driven. The second one is called descriptive case study. In our case the former is preferred. Yin (2007) recommends using descriptive case study only if one doesn't have any previous theoretical assumptions (Johannesen et al., 2011). In this study theory driven analysis was used because we had the theoretical framework from previous research. This framework was used for the analysis of data. Moreover, findings were interpreted and compared to already existing theories.

This research process started with an intrinsic interest in the way sustainability pressures organizations to change and adapt. There are many aspects to organizations. We opted for the aspect relating to the business controller´s role in an organization. We considered this an interesting case because literature show that business controllers are becoming more involved with decision making (Berg, T., 2015; Wolf, Kuttner, Feldbauer-Durstmüller & Mitter, 2020; Granlund & Lukka, 1997; Østergren & Stensaker, 2011; Henttu-Aho, 2016; Karlsson, Hersinger & Kurkkio, 2019; Bourmistrov & Kaarbøe, 2013). Furthermore, we found it rather novel to research the effects sustainability pressures have on this theme, and hence we based our research on the notion of this thematic. With this being the terminus a quo, we proceeded to examine how this could better be understood and studied. This led us to the theoretical contribution from DiMaggio and Powell (1983). The theory they present could help shed light on how sustainability shapes the role of business controllers in the case of aquaculture companies, through facilitating mechanisms of isomorphism in a group of organizations.

As explained by Stake (2000), the purpose of an intrinsic case study is not to build theory or generalize, but rather the main purpose is understanding the case itself. However, this doesn't imply that insight from the case study is not applicable or even relevant in other case studies (Stake, 2000). The aim of this thesis is not to produce new theories or to generalize different cases. Rather, our belief was that findings from this study could provide new insights on changes in the role of a business controller due to sustainability pressures, and how this facilitates mechanisms in institutional isomorphism in the organizations. Therefore, our contribution was aimed at examining an aspect of DiMaggio & Powell´s theory from 1983. This, as far as our knowledge goes, has not been researched extensively.

3.3 Research design

Research strategies serves as the foundation in choosing the research design. It dictates how data collection and analysis is done. In case studies one separates between three kinds of research designs: Explorative, Descriptive and Causal (Mehmetoglu, 2004). Explorative designs are investigative, and the researcher does not have a clearly defined research question. Collection of data material can be done before the research question(s) have been defined. One can view this as a preparation for a bigger study (ibid.). Descriptive designs describe. Studies which utilize descriptive designs require that the researcher presents and describes a theory. This theory then serves as a holistic framework to be followed throughout the research

process (ibid.). Causal research aims to explain. This type of design is used where one is studying the cause-and-effect relationship between two or more variables. Causal research designs are especially used in complex research of organizations (ibid.).

In this study we chose a descriptive design. We have described what constitutes to change in organizations in the theory chapter. This theory is something we wished to use to describe the data we found during the research. Both the problem statement and research questions were derived from this frame and theme of the study. This frame was maintained throughout the study, given that our goal was to depict how changes in the role of a business controller is influenced by pressures towards sustainability.

3.4 Data collection

Followingly the decisions regarding data collection are presented. This includes primary and secondary data, interview technique and the selected participants. Additionally, the interview guide and conducting of interviews is discussed. Researchers conduct an array of activities to gather a data set which enlightens the research question. Collecting data is a process that often is circular (Mehmetoglu, 2004). Qualitative methods are characterized by having the researchers collect a foundation of information from the limited number of informants (Johannesen et al., 2011). In case study one freely chooses the preferred method for data collection, which means that one can base the collection on, but not limited to, observations, documents, visual data, or interviews. Through the method of choice, the researcher obtains information until either one has a deep understanding or a theoretical satiation point is achieved (Mehmetoglu, 2004).

3.4.1 Primary and secondary data

In this study both primary and secondary data was utilized. Hereunder, primary data referrers to data which the researchers obtain themselves through methods mentioned above. This is considered as the main collection of the data material. Secondary data is considered data obtained by others for their own intended use (Mehmetoglu, 2004).

The primary data was obtained in the form of interviews with relevant persons in the organizations. For the secondary data we utilized research on this subject, books of relevance, articles and other literature relevant for this study. To further aid in secondary data collection search bases like Google Scholar, Oria, BIBSYS, bibliotheca, webpages of the organizations

etc. was exploited. In one of the cases an extensive annual report was exclusively sent to us to supplement the interview.

3.4.2. Semi-structured interviews (Primary data)

Qualitative interviews are the most utilized method for collecting qualitative data material (Johannesen et al., 2011). This method promotes flexibility and is suited for most research projects. The method enables its users to acquire a deep understanding and detailed descriptions. Interviews opens up for the opinions, experiences and knowledge of the informants, given the context. Qualitative interviews are often prepared beforehand. On one hand one can have structured interviews with a given set of questions, while on the other hand the interviews can be unstructured where questions are adapted as the interview is held. Somewhere between these we have what is known as semi-structured interviews. These are partially structured questions and thematic decided beforehand (Mehmetoglu, 2004).

We opted for semi-structured interviews because it balances standardization and flexibility. They are interviews based on interview guides. Guides like these usually contains a list of themes and more general questions to be explored during interviews, which are rooted in the research question. Semi structured interviews facilitate more open conversation, encapsuling the perception of reality regarding the theme, and enables researchers to dig deeper on certain phenomenon. Moreover, this method facilitates a natural conversation. We saw it fit to have some standardization since we were two interviewers. Additionally, this enables us to compare some of the answers. Whereas flexibility was of importance because we saw the need to change course during the interview. If new information prove itself interesting, we should be able to follow that trail. This enables the informant to share their individual perception on the theme, which then enables us to adapt questions accordingly and perhaps follow up later.

Due to the ongoing pandemic and preventing the virus to spread further, every interview was conducted on an online face-to-face platform (e.g., Teams, Zoom, Skype, etc.). Supplementary e-mail and phone calls was utilized on areas we had identified the need for additional information or concretization. During the interviews we gained further knowledge and accordingly more questions arose. Hence, where information was lacking, we concluded the data collection process by having a final interview focusing on said areas. Every interview was recorded. Recording ensures the researchers full attention (Mehmetoglu, 2004).

Recording during an interview fosters a more natural conversation with the informants, enabling us to direct our full attention towards what is being said.

3.4.3 Selection

The informants are strategically chosen in qualitative interviews. The base for picking informants in qualitative studies is not representativity, rather it is of research expediency (Johannesen et al., 2011). However, it can prove itself challenging to fit everyone in the target group in the interview process. Hence a selection is needed. Furthermore, connecting with the appropriate persons isn´t guaranteed. Some might even be reluctant to participate in interviews (Mehmetoglu, 2004).

Putting together a strategic selection can be done in a variety of ways (Johannesen et al., 2011). In this study we looked specifically at the business controller. Therefore, it was of outmost interest to gather information from individuals that best represent this function. Upon discussing with our supervisor, Anatoli Bourmistrov, we concluded that said persons did not exclusively had to be individuals working as a business controller. Especially in the cases of those businesses that did not have business controllers employed. Some organizations had people functioning as business controllers, without them being defined as one.

Our primary intention was to conduct seven interviews with seven businesses respectively. However, due to different reasons we experienced that some of them withdrew. Successively, this led to us repeating the process of reaching out to more organizations requesting their participation. The recruitment of new participants was done in the scope of a strategic process, whereby we started at the top of the list of Norway´s top performing aquaculture companies and worked our way down. The position of companies on this list was used as an indication of the size of the company, and thus the likelihood of us contacting appropriate individuals for this study was increased. Moreover, during this process the selection got limited to five organization because we experienced a lot of similarities in the answers during the interviews. This in turn enabled us to proceed with extensive analysis of the data set through the scope of our research question. We agreed that further interviews would not add any new insights of significance, and thus increasing the selection would be of no real benefit. At this point we was satisfied with the depth we gathered from each participant. Table 1 below illustrates the selection. The participants were either people employed as business controllers or people in a position suited to answer questions about this role in their

businesses respectively (e.g., financial managers). This table categorizes the participants, length of interview and their position.

Informant	Position	Date	Place	Length
Informant A & B	Business Controller	14.03.2022	Teams	28:29 Minutes
Informant C	Business Controller	15.03.2022	Teams	58:23 Minutes
Informant D	Finance Manager	22.03.2022	Teams	39:50 Minutes
Informant E	Business Controller	28.04.2022	Teams	30:40 Minutes
Informant F	Business Controller	04.05.2022	Teams	30:39 Minutes

Table 2: Overview of the selection (primary data)

3.4.4. Interview guide and interview process

Interviews are more of a dialogue than it is questions and answers (Johannesen et al., 2011). Interviews in qualitative research are conversations which are structured and with a purpose. This structure is distributed among the different roles of the participants. The interviewer provides topics and question in which the interviewee follows up with answers (Kvale & Brinkmann, 2015). The purpose of it all is to deeper understand something, or to form descriptions.

Before the interviews took place a mutual agreement was established via e-mail between the researchers and the informants at each business respectively. This agreement presented general information about what was being studied, the purpose, how interviews would be conducted, the theme in question, confidentiality, and a statement of consent.

Previous to the interviews the participants were sent the interview guide (Appendix 1), general information and a statement of consent (Appendix 2) which assured their assent. Sending the interview guide to the informants before interviews were conducted gave them an opportunity to prepare and reflect on what they would like to answer. Thus, the primary data would be of higher quality. We found this to be beneficial in that it helped facilitate better grounds for a seamless conversation during the interviews.

We hoped to conduct the interviews by meeting the participants personally at a designated location. Unfortunately, the Coronavirus situation and other practical constraints prevented this. Hence, digital solutions were utilized during the interviews – i.e., Teams. The three first interviews were conducted in early March, the rest in late April. However, during the data collection phase we was faced with a lot of ignored and declined requests. Some pointed to the coronavirus, and others was just too busy to set aside time for participation. Subsequently, this led to delays and rethinking of our recruitment strategy. Every participant, researchers included, was situated at different locations across Norway. On one hand this increased flexibility, but on the other we faced some challenges. Namely technical difficulties and defining roles was most prominent. The interviews started by introducing us as researchers, then inform about the purpose of these interviews and if needed clarify specifics. Since we were two researchers, we delegated responsibilities; one of us led the interview, the other one took notes and observed participants. Doing it like this limited creating disturbances during the interviews. However, both of us interjected with follow-up question where we saw the need or opportunity for it. All interviews were recorded so that they later could be transcribed into text. The transcription took place immediately upon ending the interviews. Transcribing interviews straight away best reflects what was said and done during the interviews (Mehmetoglu, 2004). Follow-up questions or clarifications were addressed on communication via e-mails or phone calls. At the end of some interviews a few questions got re-addressed or commented on to round things up or clarify.

3.5 Data Analysis

Analyzing data in case studies is considered semi-structured, contrary to empirically based theory and ethnography, which is structured and unstructured respectively (Mehmetoglu, 2004). Meaning that analysis in case studies have elements from both. There are no defined and specific strategy for analyzing the data in a case study (Mehmentoglu, 2004). Analysis based on theoretical assumptions in case studies revolve around following these theoretical assumptions the researcher had at the beginning of the project and letting these lead the analysis process. Usually, the interview guide is used as a base in data reduction and data analysis. In case studies driven by theory, findings are interpreted against existing theory (Johannesen et al., 2011). The interview guide is based on the conceptualized frame in the theory chapter, as a mean to compare the data set with existing theories and research.

Transcriptions were done immediately after finishing the interviews. By doing it immediately afterwards one has the interview fresh in mind and one can better recall what was said by the informant, which minimized the margin of error.

3.5.1 Choice of analysis method

An analysis process has three main phases; Intensive analysis; Categorizing; Theory development (Mehmetoglu, 2004). The intensive phase forms the base for the two following phases. The next phase is the creation of conceptual categories that help the reader interpret the data (Ibid). The last phase of a case study analysis is developing theories, which Mehmetoglu (2004) states will happen by looking for relations between the categories.

The qualitative data analysis was initiated by organizing the data, and then moving towards an interpretation phase where we analyzed and interpreted findings. The transcribed data was mainly coded by categorizing data with corresponding meaning. In the first phase we identified units in the data set that would later be used to define categories. Moreover, these units were identified in the data set. Unit refers to words, sentences, or chapters (Mehmetoglu, 2004). Thereafter, the categories were made systematically, according to the aim and purpose of this study. Most of the categories were based on the theoretical framework of this paper. The last phase consisted of drawing conclusions that contributes to developing theories. We searched for meaning, causes, problems and challenges in the pursuit of finding answers to the research questions and the empirical problem statement. Subsequently, this information was bundled together and discussed against the theoretical framework of this research, which ultimately led to the conclusion.

The interviews were characterized based on the conceptual framework, and the data was analyzed thereafter. We looked for main areas and elements corresponding to the framework. The interview guide was structured after these categories and contributed to making it easier to identify categories later. We put marker "notes" in the data material that corresponded to categories respectively. These marked datasets would in the next phase be structured in tables divided into defined category. These tables contained content and details derived from the transcripts, including our interpretation of these. We both participated in this process to ensure that important information and meaningful details wasn´t overlooked, and to limit each

other influences on interpreting the data set. The final phase consisted of comparing the findings and thereafter collecting these in a joint document.

3.5.2 Theoretical approach.

Literature differentiates between *inductive* and *deductive* analysis processes. The inductive processes transitions from the specific to the general. Theories are made based on a limited number of observations. One characteristic of qualitative research is the inductive analysis process (Mehmetoglu, 2004). Contrary, the deductive processes transitions from the general to the specific. The analysist process starts off with developing theories. Typically, this theory comes from literature, and consists of hypotheses which researchers test (Mehmetoglu, 2004). However, in practice most studies combine these two approaches and is referred to as an abductive approach (Saunders, et al., 2016). In this study we made use of both methods and approached the theory and the empirical abductively. In the process we alternated between the research activities. This study consisted of reading existing theory coupled with collecting primary data from in-depth interviews in order to explore the controller´s role and uncover patterns in how sustainability interferes with it. In the data analysis we generated hypotheses that was tested against theory. We adjusted the problem statement and research questions accordingly.

3.6 Evaluating the data

Prior to initiating a study, researchers must critically consider the methodical themes. Especially evaluating the legitimacy of the qualitative research (Mehmetoglu, 2004). Therefore, the quality of such a study is largely dependent on the credibility of the data collection, the validity of the interpretation of this data, as well as their transferability (Mehmetoglu, 2004). The term reliability, validity and generalization become key components in a qualitative research project, but given different meaning compared to quantitative studies (Kvale & Brinkmann, 2015). To facilitate research of high quality and prevent false results, we identified threats against the reliability and validity and took measures to reduce these. We emphasize those who was of most significance for our study.

3.6.1 Reliability

An important question in every research is how reliable data really is (Johannesen et al., 2011). Reliability is associated with the accuracy of the research´s data, what kind of data is being used, how it´s collected and how it´s processed (Johannesen et al., 2011). Researchers should strive for high reliability. However, too much focus on this can impede thinking and variation (Kvale & Brinkmann, 2015). Thus, a distinction is made between external and internal reliability. The former implies that if the study is repeated in another setting, or at another time, the same answers and findings would be generated (Mehmetoglu, 2004). However, this is often an unrealistic demand for qualitative studies (ibid). As such, we disregarded external reliability in favor of internal reliability. The latter is associated with the conclusions drawn in this specific study, and how they should correspond with the conclusions other researchers would draw if the analyzed the same data material (Mehmetoglu, 2004). Noteworthy is it that this criterion is not exactly appropriate. For reasons like there not being one unified and structured technique for data collection, and the fact that it would be close to impossible for another researcher to duplicate the research and get identical answers.

Furthermore, to improve the reliability of this study we recorded interviews and transcribed them word for word. This limited other influences on the data set. However, note that recordings can also be disadvantageous. Participant´s willingness to answer and share information could be more restricted than it would be if recordings were not taken, because informants could experience discomfort. Every participant was asked if the accepted that the interview was recorded, and the reason for recording was given. We did not feel that recording the interviews in this research negatively impacted the data.

Interviews were conducted via Teams meetings, and some participants were situated at home office. To ensure the study´s reliability and reduce the affect this would have, we were flexible in setting time and date, and provided information beforehand. By having them prepared we limited hasty and unthoughtful answers.

We identified participant´s fear of speaking bad about their organization and the ramification this could bring as a threat to the reliability. Therefore, we initiated interviews by ensuring anonymity for the organization and the participant, with the hopes of them talking more

freely. We experienced great openness and willingness to answer. Hence, there is little reason to believe that the participants said anything untruthful.

Due to the still ongoing pandemic and busy schedules, interviews were conducted later than we hoped for. At times we felt uncomfortable using time out of the busy participant´s workday, while simultaneously putting pressure on ourselves. We do recognize that this could have impacted the data collection process. However, we addressed this "stress" and tried to limit it by being well prepared and having a general structure for the interviews. Moreover, we actively were aware of this and tried to not jump to forced and possibly wrong conclusions. We ensured this by processing the data material in phases, individually and collectively.

3.6.2 Validity

Literature uses the term validity which is associated with the relation between the general phenomenon that is being studied and the specific data (Johannesen et al., 2011). Data itself is not reality, rather it is mere representations of it. Thus, one needs to question if the data is valid representations of the general phenomenon. Our research maintains a high degree of validity since we asked open ended questions in which the participants freely could answer. Moreover, emphasis was put not asking leading questions to ensure that informants said what they really mean. We also asked follow-up questions. By ensuring adequate information about participant´s knowledge and experiences we could interpret what they wanted to convey correctly. This could be further ensured by sending participants the transcripts, however it was not done as the participants did not have a need of wish for it. This is a weakness in the study which we recognize. Validity is not an absolute – i.e., if data is valid or not – but rather a quality criterion that could be close to fulfilled (Johannesen et al., 2011).

3.7 Ethical considerations

In research processes and gathering of information from individuals there are several ethical guidelines and principles to abide. Participants in this study was given adequate and clear information regarding the purpose and we ensured their consent to participate. Moreover, we ensured that the participants or the organizations they represent would not suffer any negative consequences by participating. Hence, emphasis was put on safe storage of information, and

deletion of recordings once they had been transcribed. Furthermore, this study got approval from Norsk Senter for Forskiningdata (NSD) (Appendix 3)

Beyond the ethical considerations regarding data collection there are ethical considerations linked with processing the work in the thesis paper. This includes, but is not limited to, ensuring that the data is not tampered with or manipulated to achieve a desired result, and using the information for purposes that they are not intended to. Additionally, as researchers we had a strict policy on proper referencing. This was done so that we didn´t take credibility for work we did not do and/or display others work as our own. As well as that, it was important for us that the data displayed in this study is correct so that our reputation remains intact.

3.7.1 Statement of consent

The statement of consent entails that participant are informed about the purpose of the study and in short the design of it. Moreover, it explains the pro´s and con´s of a possible participation. Additionally, this document ensures that participation is of free will and emphasizes participant´s right to withdraw at any given time (Kvale & Brinkmann, 2015). E-mails were sent during recruitment of participants that explained the aim and purpose of the study (appendix 2). With that the interview guide and statement of consent was attached. The statement of consent highlighted the use of recordings during interviews, storage of data and the right to withdraw without the need for an explanation. Before the interviews, every participant had signed this document. Moreover, the ones who partook did not withdraw during this stage of the study. Even though the participants were informed about the recording, we asked for reassurance that recording the interview sessions was okay just before they were initiated. In the final phase of our study the recordings and transcripts got permanently deleted in accordance with the privacy rights highlighted in the statement of consent.

3.7.2 Researchers' role

The integrity of the researcher is decisive for the overall quality on both the scientific knowledge as well as the ethical decisions being made in a qualitative research project. Indeed, the importance of a researcher´s integrity is especially increased when linked with

interviews. This is due to the fact that interviews themselves are the most important tool for gathering a data set (Kvale & Brinkmann, 2015). Hence, our role as researchers in this study was weighted with responsibility – i.e., maintaining confidentiality, ethical guidelines and principles so that the right decisions could be made. The integrity, honesty, justice, experience and knowledge are crucial factors throughout the research process (Ibid). The scientific knowledge presented in this paper has been derived from strict requirements. The published findings are as precise and representative for the area of research as possible. As well as that, we as researchers strived to remain objective when interacting with the participants. Therefore, it was imperative for us to have no previous relation established with the participants in this study.

4.0 Findings

In this chapter we will present relevant findings from the interviews with informants from Cermaq, Grieg Seafood, Nordlaks, Viking Aqua and Holmøy. We find it appropriate to present findings separately. Moreover, participants have been categorized alphabetically and we will not connect them to the organizations respectively. Each company is coded with a number. We will however present interview findings in an interesting and structured manner in accordance with the framework.

4.1 How organizations experience increased sustainability-pressures.
To be able to evaluate if the companies of the aquaculture farming industry actually are experiencing an increase in pressure to become more sustainable, we had asked the interviewees several questions regarding the pressure for sustainability, where it comes from, how this affects both the controller and the organization in general. Every interview conducted provided a clear perception that their company is experiencing pressure to operate in a sustainable way. The mutual opinion in this area provides evidence that there is in fact an increasing pressure for sustainability in their industry. Where this pressure is coming from is somewhat different for every organization, but there seems to be a general understanding that there is both internal and external pressure, where the external pressure comes from both regulative pressure, like laws and regulations from the state or UN, or coming from the rest of the industry, including customers and competitors.

Starting with 'Interview 1', where we talked to two informants, the controller 'A' and the CFO 'B' of the company. B: *'...when we are in dialogue with the bank, they have clear expectations of how we work with this, and that there is a clear plan in relation to reporting and framework.'* They mention the bank as an actor that have expectations and provide pressure for how they solve the sustainability-issues, when asked if there were any other actors that also contributed to this, informant A replied: *'Both customers and suppliers. We have what is called ASC certification, there are some customers who require it. This is an environmental certification.'* Y: *'Audit is also following up this to see that it is complied with.'* X: *'But I imagine that the pressure from the outside, both from the media, etc., it will only get bigger.'* This concludes that they are indeed experiencing pressure from several external sources, both regulative and from the rest of the industry.

Interview 2 was conducted with the controller of the company, which will be referred to here as C. we asked the interviewee where the pressure for sustainability come from at their company, to which they replied C: *Banks, investors, public authorities, the EU, we in Norway follow the EU's guidelines, so it is the external pressure that comes with that. We are now in the phase where we are going to raise money, and it is the external pressure that made it so that when we built the organization from the start, sustainability was one of the first things that was employed.'.* The informant explain that they experience external pressure, mostly regulative, where laws from EU and the state have caused them to employee a sustainability worker as one of their first roles. C: *'...when we are producing 33,000 tonnes, we are one of the largest land-based facilities in Norway, 100-120 employees, clear targets for sustainability of fish death, energy, emissions, all this, then we must go out to the investor with these numbers...'.* C: *'...it is no use coming to an investor with some great spreadsheets and good numbers, unless you have clear KPIs and sustainability goals.'* Company 2 is a recently started company, and to be able to fully get going with their operations, they need investors. These investors, both individuals and banks, are putting an immense focus on sustainability when they present their projects. C: *'The banks now are such that if you are to get 'green loans', you must have clear sustainability goals in order to get money out at all. Investors say that if you do not have an exciting vision and clear goals for this, you can just leave the meetings again.'*

Interview 3 was conducted with Informant D, which was one of the financial managers of the company. When asked about the pressure for sustainability, and where this is coming from, the informant D responded: '*The pressure from the state is regulative, where we have to follow the rules that come. But then I also think one of the biggest influences is the local community and people in the community around us … where we notice a lot of negative and positive feedback, but those who shout the loudest are perhaps those who do not want it in the immediate area. But ultimately, it is the end customer, those who will buy the product, who sets the requirements and require that we must be environmentally friendly.'* As experienced by informant D, they have regulative pressure that must be complied with. But the surrounding community and its norms is also highly influential on them. Aquaculture industry is known to provide both smell and sound at some of its locations, which causes split opinions at their new facilities. This means that the normative pressure from the surrounding community also affecting them, but often covers a different part of the sustainability term.

Instead of pushing them to be greener, use less resources etc, they have requirements regarding the placement of their locations because of smell and sound. They also mention their customers to be a factor in causing pressure, deciding whether or not the product is environmentally friendly. We wanted to look into this, and asked if there where any certifications required by some of their customers. D: *'on aquaculture, we have Global Gap, where some auditors come once a year and review the entire operation and look at how much energy is used, mortality, feeding, really everything. They check if we are within these environmental requirements. They look at diesel for farming, see if consumption has been reduced from last year ... On trawlers, we have MSC approval on loin from the store, which shows that it has been fished in a sustainable area. This is very strictly regulated and has strict requirements from the state. We get a quota every year, and if everyone follows these rules, as most people in Norway do, if you are not fined, then you get this approval.'*.

In interview 4 we interviewed the controller of the company. We asked if they as a controller felt any pressure for sustainability, to which informant E answered: *'As a controller, you do not notice much in the sence that you have to make things greener, not directly, but perhaps via the sustainability department, which takes a lot of that blow.'* We also asked how he felt the pressure for sustainability effected the business as a whole, where they responded: *'I think it comes internally as well, we have a desire to be sustainable. But customers also want the products to be sustainably produced, so a little internally, a little from customers and a little from the authorities.'* Informant E argues that the pressure is split internally and externally, and we wanted to know how the other actors of the industry affected them as well. Therefore, we asked if the other actors in the industry contribute to the pressure, and that there is a kind of pushing between the companies to be sustainable, and that it is important that you are as sustainable as the others?*'* E: '*Personally, I do not care what the others do, but if they come up with a good solution to a problem, we should be at the forefront of looking at what they do. But I personally do not bench us against competitors on sustainability.'* We also asked more directly if the communities surrounding them contributes to the pressure they experience, or if it's just internal and from regulative factors, to which they answered: *'We are lucky to have few people live around our facilities, and otherwise have a good reputation around the fjords… But then there are places where there are complaints about noise, especially when there are boats at shore…* It seems like the pressure for sustainability is mostly internal, as well as regulative, because every organization in the

industry has to comly with the rules and regulations the state legislates, when asked if this was correct, E replied: *…and partly the customers that want to receive a sustainable product … we get paid more for fish that are ASC certified, where they are happy to pay a small price to sell with that stamping.*

The fifth interview was conducted with the business controller / financial manager of their organization, called informant F. We asked the informant what his thoughts were on the sustainability pressure, and if it was internal, or from society, laws and regulations or, competitors. Informant C responded: '*I think it's a good mix of everything. You can see that there is an increased focus on that, and it is continuing to increase among consumers, both in terms of private individuals but also other companies. There is generally an increased focus on it everywhere. Then I think it is important when selling salmon, which is not so popular among the entire population, to be able to show that you are working towards being environmentally friendly.* This gives a clear indicator that there is an increasing pressure for sustainability in the aquaculture industry. They also point out that the aquaculture industry has a somewhat unpopular reputation regarding sustainability, which would make it even more important for them to act *'environmentally friendly'*. We wanted to find out more about their suppliers and customers were affecting them on the topic, to which they responded: *It's at least important for us … when the war in Ukraine started, we made sure that our suppliers did not buy or sell products with the Russian markets*. This also shows that even the companies involved can contribute in their own way to create sustainability-pressure, not only internally, but externally to other actors in the business.

The interviews show us that the pressure experienced throughout the industry is very similar. They all have regulative pressure from the state, where they have to meet certain expectations when it comes to sustainability. The customers also have requirements for certifications, both in wholesale and end customer. The society around them will often make comments about location and the noise or smell coming from the facilities. Other organizations in the industry will create norms, like we heard from informant E, where he stated that: *'we also make demands on suppliers, especially feed suppliers, that they make sustainable choices. Among other things, that we should not have soy from the rainforest. The whole industry has gathered there and said that we do not buy soy if it is from cut down rainforest.'* Another example of this is from informant F. When asked about how the industry as a whole acted

together on these areas, he responded: '*we have weekly meetings where we talk about this across the board and give advice to each other. At the same time, we are competitors, but on the sustainability side we collaborate more since this is good for the whole industry. The reputation of the industry is not determined by one player, so it is important that everyone stays sustainable ... When fish is ASC certified, it often cost 1-3 kr more pr kilo*'. This is a type of pressure that directly pushes every actor to produce certified fish that is more sustainable, and every company interviewed has this certification. It also provides evidence that the industry is becoming more alike on solving sustainability-issues due to the external pressure they all are experiencing.

4.2 Delegation of sustainability responsibility.

Like we've seen in the section above, each one of the organizations interviewed is experiencing some kind increase in pressure for sustainability. To be able to operate in industry, they must respond to this pressure. This means that new tasks and responsibilities regarding sustainability will have to be formed. Therefore, one of the main goals of the interview was to figure out how the organizations distributed the tasks regarding sustainability. Even though the controller is involved in work involving sustainability in some of the cases (discussed in findings part about the controller), the overall conclusion is that most of the sustainability tasks is done by either the management or a separate sustainability-department. Some organizations, often the larger ones, had a separate sustainability-department that dealt with sustainability. The employees of this departments were educated in sustainability or fish-biology, and would partake in both analysing, reporting and goals-setting.

When interviewing *Informant A & B*, they explained that they did not have any official framework for sustainability, and the responsibility was unsystematically placed. When asked how they would work on sustainability-task and issues, B replied: '*The impression is that sustainability is worked on throughout the organization, but in each individual unit. The overall framework is lacking. Therefore, things are done doubled up some places while other places they fall through. We need a framework that takes into account things that fall under sustainability.*' As they explain, they are having issues in solving sustainability-related task, because they rely on routine instead of a set system or framework. This were something they were aware of, and they were currently working on creating a new way of handling the issue. There are several ways to handle an issue like this, and when asked if they were looking to

create a new department for sustainability, or distribute the task towards different existing departments in a systematic way, B answered: '*We do not quite know how we want to do it yet…'*. They were looking into the other comparable farming companies, were some had their own department and some had sustainability managers. These were both options, but they wanted to focus on looking at the entirety of the sustainability scope and creating a plan for their strategic positioning.

During the interview with *informant C*, we got a description of a company that was in the starting phase of their operation. Their main objective was development, building their facilities, which requires accumulating investors. Even though they still hadn't gone in to the main part of their operation, where they are actually producing and making money, they still had an immense focus on sustainability, and were experiencing severe pressure especially from their investors. Their response to this was hiring an employee, recently educated towards sustainability. *'We have hired players with a strong emphasis on sustainability, they participate in board meetings and update the board in relation to sustainability elements.'* It was important for them that *'in every investment-decision we make, we should implement sustainability',* and therefore, they implemented the sustainability-employee as a part of the board of directors. That makes it easier to make a collective decision about an investment while always taking sustainability into consideration.

Informant D was the financial director of a smaller organizations than some of the other informants. They did not have a department or manager directed towards sustainability. When asked how they worked towards sustainability in their organization, informant D replied: *'The management at the main office handles it. We don't have a position angled towards sustainability, but we have an employee functioning public contact, and he's taken responsibility for these sustainability reports, which are to be carried out every year.'* This company have chosen to use the management to control sustainability, both in goal setting and following up these goals. The reporting of the KPI's and data for sustainability is done directly from the different facilities that operate on farming. Their social contact has also taken responsibility in producing sustainability-reports in the absence of a department og manager directed to sustainability. It's expected in smaller business for employees to take on responsibility like this, when new issues and task come up because of, in this case increased sustainability pressure, even though they are not originally delegated to do it.

So far, we have had businesses with specified roles taking care of reporting and analysing sustainable data, and we've also had examples where these task fall into several parts of the organization, and become spread, where employees are delegated this responsibility along the way. When asked where the responsibility for sustainability-reporting is placed in their business, informant E replied: *'We have our own who work only with sustainability, but they rely a bit on us on the number part there as well'.* When the informant says *'rely on us'* they are talking about the business controllers, meaning they have their own department for sustainability, but they involve the controllers in the calculation part of the analysis. They also mentions that the reporting of these number don't go directly from the controllers to the management, but *'goes through the sustainability-department'.* The sustainability-department *'prepares quarterly energy reports, with both diesel, petrol, oil, gas, etc. being reported on'.* We also asked who was involved in goal-setting towards sustainability, to which they replied: *'The goals are usually from the management team, which creates goals and sets the strategies for this'.* The management is in charge of setting the goals, like we saw in the last interview, but in this case we have a team working on sustainability which does the analysis and reports the result back to the management. This team consist of people working directly towards sustainability, but also the controllers, saying that they: *'assist towards that group, where we are a team who work with these analyses and are still walking up the road on how to solve this and report on this, and use the numbers in the future.'* The company at hand is a bigger company with more resources than the previous, which makes a case as to why they are able to hire a team working directly towards sustainability instead of delegating the responsibility at other parts of the organization.

Informant F is working in a subsidiary, which means that they have *'support functions in the parent company, where there are employees who work only with sustainability and development. They are in charge of the largest climate accounts, and we also have an employee for sustainability who works in the subsidiary. They work only with certifications and the climate accounts regionally. Among others ASC and Global Gap.'.* Since the company where informant F is a controller, is a subsidiary for one of the largest actors in the entire industry, they have a great amount of support from the parent company when it comes to sustainability-issues. The employee working with certifications in the subsidiary is also responsible for KPI's and reporting. The decision-making in sustainable investments is done by *'me and the regional director who has the final decision on what to invest. But since we are a subsidiary, the large projects that can cost several hundred million will have to go*

through the board of the group.'. The controller along with the regional director is in charge of decision-making with smaller projects, even when there is sustainability involved. They have been doing a project where they are going from using fuel when boats come to shore, to having electrical power instead. In this case, the controller is also doing the analysis of whether or not the project is profitable and sustainable.

When looking at the interviews as a whole, there is a red line between the size of the organization and how they delegate sustainability-task and responsibility. Like we see from informant A&B and D, which is more of an local actor and not quite on the size as C, E and F. In these cases, the responsibility is not systematically placed anywhere, but falls on several people of the organization. The reason for this outcome is the amount of resources it would take to employ someone to work directly towards sustainability. There might also be less sustainable activity in the case of a small business, which means they can handle it by placing it on the management, controllers etc. With the larger organizations, both C, E and F have one or more employees working directly towards sustainability. Even though this is the case, we still see the controller being involved in analysis and reporting, as well as the management often taking care of the goal- and decision-making.

4.3 Changes in the Business controller´s role

The controller typically has been responsible for all accounting-related activities, and typically reports to the CFO organizations. The role typically include assisting with the preparation of the budgets and financial reporting, overseeing the financial health of the company (Kenton, 2021). The participants in this study have different level of experience and education in their background. The range stretches from recently educated informants, to informants with a lifetime worth of experience. On one hand we have informant C who is over 60 years old and has worked as an accountant, consultant, CFO, Logistics manager and controller the past 30 years. Currently he works as a business controller for 10-15 companies and still do some consulting. While on the other hand informant F & E have recently finished their studies and have been working in their organizations 4 years respectively. Informant E has been throughout the organization and been active in most links in the organization. Followingly this leads the informant to have a broader insight in activities. Namely the

informant "*has worked a lot towards butchering, electrification, following up projects, sales, credit insurance and follow-up*". The one with the least experience is Informant D, who started working in 2020. This variety in experience and educational level among our informants allows for different perspectives and inputs.

Informant A & B officially became business controllers in 2018 but have had this function since 2015. As a controller in this organization informant A "*thinks that what I do as a controller is a lot of things controllers in other companies does no*t", and believe that they are evolving towards business partners in long-term goal achievement. To this informant B supplemented that they are "*not only used for reporting, but also as partners in decisions*". Informant A´s perspective on recent changes is that controllers get added responsibilities beyond financial statements, tied closely to resources. This informant also works out investment analyses that get used in investments decisions. Moreover, in Company 1 there is no framework for sustainability-delegation, hence informant A envisions that he will have more activities tied to this aspect. Informant B highlights that Company 1 have not worked out how to delegate sustainability responsibility just yet, and how it will affect the controller directly. However, the informant seems confident that the controller will have a central role. To this Informant A supplements that "*one of the things that is important to me is that what we send out – reports or* numers *– is accurate. In that case, on areas if controllers formulate sustainability reports it is important that that the indicators are correct, which is an important part of my job.*"

Informant C is a controller in the main Company 2 but is also a controller for the biggest owner. This is the informant with most experience in our study – i.e., 30 years. Currently, informant C assisted in founding the company. additionally, whenever the entrepreneur are founding a new company, Informant C says that "*I handle all the formalities for the company, I am also a referent in the board of directors, I have all communication with the accountant, work with internal reporting, external reporting, budgets, prognoses, thus far very much linked to the financial*". On the notion of sustainability, Informant C says that since this is such a newly established company, and that they are established at a time where sustainability is the paradigm, it doesn't matter if you present good financial statements if you don't have clear goal setting and Key Performance Indicators on sustainability issues. He views the new establishment as advantageous compared to companies that have operated in the industry longer, since "*we can start all over*" and steer clear of the criticized sustainability

problems that has manifested. He says that in regards of sustainability they have placed this focus outside the role of a controller and tells that Company 2 har designated sustainability workers. However, he says that in the last year and a half he has learned more about sustainability due to the increased focus. Hence, in his decision processes this knowledge is utilized. For instance, this informant has participated in formulating a sustainability blueprint for Company 2. When asked whether Informant views a business controller as an independent unit or a cooperative partner for long-term achievement the answer was "*a cooperative partner absolutely. I work across the entire organization and mainly contribute with financial elements to the leader group. I am not in the leader group, but I sit and report directly to the CEO*". In the time moving forward, the informant thinks that in Company 2 developments will lead to a new controller and a sustainability controller as two entities. The latter will have a set of unique and distinct competencies than traditional controllers. The need for financial controllers will still be there, but they will need to follow up on different KPI´s.

The informant´s opinion is that controllers in small and medium sized organizations will have to familiarize themselves with sustainability and increase their competencies thereafter. As for large organization, Informant C expresses that they have the resources to source sustainability controlling out as a separate entity with comprehensive competencies. The smaller actors must adapt these competencies – i.e., the economic entity known as business controllers. He says that he don´t see himself having to adapt to sustainability the way the coming generation have to. However, he is oriented on sustainability, and will likely be forced to be oriented on sustainability in the time moving forward. His outlook on the situation is captured well when he explained that "*if I were 10 years* younger *I would have to think completely different in terms of the financial and sustainability. The economic and financial department will have to turn their heads and think completely different in the future*". When asked if Company 2 envisions business controllers to analyze sustainability, Informant C replied the following: "*In small and medium sized* companies *controllers and financial managers will handle this, and they will have to follow up on KPI´s. in larger companies I think the controller will perform analysis, with data delivered from CTO´s and designated sustainability workers. But, measuring and analyzing will still be something the business controller handles*". He proceeds that in the context of this industry, controllers must have a deeper conception of the meaning behind numbers like fish mortality, how to calculate these, and have competence beyond traditional tasks. The role as Informant C see it is developing to controlling the company rather than financial statements, since they are automated to a larger degree. We asked informant C whether sustainability is something the organization wants controllers to

analyze, data collection and analyzing sustainability numbers, and if the informant envisions controllers working with. Informant C replied "*in small and medium sized organizations it will be the controller and CFO that handles this, and must follow up on KPI demands being raised. In larger organizations I think the business controller will perform analysis. Since the CTO will provide data and designated people work on the sustainability-part. But measuring and analyzing is still something the controller will perform.*"

Informant D do not function as a business partner. This informant sticks to reporting, not business decisions. There are no recommendations being done, only commenting. This informant is neither a business controller nor does the informant have significant experience. Informant D is the only one that works as a finance manager. However, with time the informant thinks he will progressively take more part in higher level management. This is a contrast compared to Informant C, which implies that experienced controllers develop over time to become participative in organizational decision-making. Informant D stated: "*Currently I´m more involved in reporting, I don't make decisions. The numbers I report are part of decision processes though, however I am not, as for now at least. We´ll see later when I have more experience*"

Informant E is a Business Controller in Company 4. During the now 4-year employment, informant E has experienced most of the organization, worked in most of the departments and have a great overview over Company 4. Informant E stated that he has a lot of insights and was asked whether this also meant that the controller have any mandate in these functions, to which Informant E replied "*Yes I would say so. As controller we have accumulated a significant weight in relation to the top management. If we say that something is profitable it weighs in and gets listened to*". In Company 4 there are designated biological controllers which business controllers works closely with; The biological controllers present biological analyses to which the business controller decides a value on. This is how they have "…a *interplay between economy and biology*". Informant E most definitely view the role of a business controller as a business partner that collaborate across departments, and that this is something that they desire. In Company 4 they aim at having the controller in close proximity with every part of the business, ranging from breeders to mid-and-top-management - "*we want to have a finger in the game everywhere*". Informant E have not noticed any significant changes in the role during his career other than increased sustainability focus, with things like

following up on recourse consumption and emissions. The designated sustainability department do lean on the business controller to gain insight in profitable and sound investments and directions. However, in Company 4 the controller role is more connected to advisers rather than decision-callers. They clarify the economic ramifications and suggest propositions depending on whether they see opportunities or challenges. Based on self-interest, Informant E has invested time in learning certain sustainability guidelines and frameworks and thinks that this has it part in the mind of a controller. The main function of a controller, in the eyes of Informant E, is to create the best results. Hence, if having this knowledge contributes to increased profitability it is indeed beneficial. The controller thinks that this will increasingly gain importance in the future – "*If I am to be a bit visionary, I envision that purchasing will not only be measured monetary, but also in CO2 impact, rather than just cost and VAT.* So *this way we have CO2 imprint as well*". However, Informant E currently does not feel comfortable taking over the role biology controllers have due to lacking competence in this field. The controllers philosophy is that "*as a controller I feel that one needs to consider the whole, one must have a holistic picture*", and is opposed to the idea of having really scoped in expertise.

Informant F from Company 5 work in a subsidiary within the company as a financial manager and business controller. Hereunder the regional manager and Informant F are in charge of spending and expenses. In total, Informant F has close to 5 years of experience. In terms of sustainability, Informant F produce payback calculation on possible new solutions, analyze the effect, and formulate a projection for how such an investment will affect long-term operation. Informant F and the regional manager work together and have the final say in whether certain investments should be made. However, since they work in a subsidiary the largest investments (e.g., over 100 million NOK) must go through the board of directors in the organization. Nonetheless, they have a financial frame for maintenance worth some millions NOK that they delegate across departments. In Company 5 they have a support function where employees specifically work on sustainability and in the subsidiary, there is one employee that work exclusively on certification and climate accounting regionally. Within half a year Informant C got involved in these higher-level activities – being more involved in decision making on sustainability issues rather than analysis and reporting. "*we have a better overview as economists*" Informant F said, and linked it to the recent trend of green loans that requires that certain investments are pro-sustainability and contributes positive to the direction for the environment. He envisions that in the time moving forward green loans will

increasingly focus social concerns and things on the business side. In terms of sustainability reporting Informant C says that in a way it is his responsibility to oversee the content. Informant C works close with every departments and other parts of the organization and view cooperation as important in Company 5. This notion can be summed up by the following quotation: "*It´s important to gather all inputs before making a decision. It is not always the cheapest alternative that is the best one*". Adding to this, Informant F said "*Controllers are supposed to control that things are right [...] In a smaller company, the controller will probably contribute more to the climate accounting, and that probably will happen. For my part I have a lot of the data, but not the information of how this is calculated, so it will be harder for me to calculate that this is right. I can see how much electricity we have used, how much fuel we have used, but flights etc. is harder for me to control*".

4.4 Business controller´s tasks and activities.

Every individual informant is faced with a new set of activities and focuses compared to what literature describe as traditional for business controllers. Automation, new systems and new technology makes traditional financial tasks and activities more efficient. Subsequently, this mean that what has otherwise been time-consuming now gets handled much faster and allows for business controller to be more available for other aspects. Beyond financial figures and measures, most of the controllers are dealing with consumption rates – e.g., fuel consumption, waste rates, mortality rates on fish, and several other Key Performance Indicators that are linked to sustainability. Some of these double as cost-drivers and is in that respect in line with typical controller activities. In the eyes of Informant C, the controller is stepping away from controlling financial statements isolated, and instead they will control the entire company. This opinion is based on the increased level of automation and processing systems. Adding to this, informant B was asked whether it is likely that in the future controllers will carry responsibility for resource allocation, to which the answer was "*I absolutely believe so*". Informant C has been working active for the longest, meaning that the informant personally has experienced changes in activities over the years – "*What has happened these 30 years is that before we did not have Excel, it is the way and technology, now we have sky-based financial systems. I have been there since hole cards, which you probably have not heard of, and until now where we mostly only sit in the online cloud*". The informant also talked about them working on a system for slaughter, overseeing fish, and fish

welfare. This information indicates that indicators beyond the financial is a core focus. The informant´s opinion is that technology like this is incredibly important.

In the scope of decision making, Informant C pointed out that "*we have to define sustainability, which footprint this decision leaves, and why we choose one thing over another*". The informant continued explaining that a lot of what he will have to work with is tied to following up KPI´s on sustainability goals. Currently though, the informant´s main activities are linked to the financial aspects. Informant C especially highlighted the importance of working with sustainability goalsetting, considering that recently most banks issue green loans that require fulfillment of certain sustainability indicators. Informant E said that "*we wish to be profitable as well as being in control of our emissions*". This notion we found to be the case with every interview. Informant F does a lot of standard work: end of year accounting, periodization, prognoses, and budgets. Everything linked to investments accounts and investment budgeting. Beyond this, the informant will assist in strategy in the time moving forward. In the cases where the informant – business controllers – actively partake in decision making, we identify that financial statements isolated is not sufficient and that the controllers respectively have a broader business understanding. Functioning in decision-making seems to be an activity in itself. "*as a controller I feel that one needs to consider the whole, one must have a holistic picture*", according to Informant E who is opposed to the idea of having really scoped in expertise in just one area, especially sustainability..

Generally, we see a shared opinion among the informants when they talk about sustainability reporting. As the title "business controller" suggest, they feel a level of responsibility in overseeing and controlling that everything checks out in these reports before they are published. Again, KPI goals and achievements is a central topic. Informant E was asked specifically about changes in activities, to which the reply was "*sustainability reporting has gained increased focus lately, overseeing our consumption and emissions*". In Company 4, the sustainability department lean on Informant E in terms of the number side of things and a cooperation between sustainability workers and business controllers is depicted. This overlap is present in most of the organizations informants spoke of respectively.

5.0 Discussion

This chapter is dedicated to discussing the empirical findings against our problem statement backed by the theoretical frame of this study. This chapter leads to our concluding remarks that will be draw in the final chapter of this paper. This conclusion is rooted in theoretical and practical implications. Followingly, we will specify our contribution to research, reflect on possible weaknesses and suggest further research.

5.1 Increased pressure for sustainability.
To be able to properly explore how the pressure for sustainability has affected the salmon industry, we must understand where the pressure is coming from and to which degree it's relevant for the involved actors. From institutionalism, it's argued that external pressures in an industry can force organizations to become more alike. This is called isomorphism and theorizes that organizations have three types of pressure that is similar for the actors in that industry and is pushing them in the direction of becoming more similar. The increasing similarity is not necessarily making the organizations more efficient but provides a safety-net where they get legitimacy, societal support and security in the industry. We have investigated which type of institutional pressure the organizations are experiencing, and if the industry is indeed becoming isomorphic. According to the literature, we have three types of institutional pressure. Institutions is identified as anything from governments, legal authorities and organizations which can impact behaviour, professions, public opinions, competitors, customers, society etc. (DiMaggio & Powell, 1983). Each one if these institutions can affect the organization in the form of either normative, mimetic or regulative pressure.

Normative pressure are described as the pressure emerging from the norms and values of either professional or societal associates. In the theory we separate between social normative pressure, refers to the opinions, values and norms contained in society and the general public, and professional normative pressure refers to the norms and values in the surrounding professional actors of the organization, like competitors, suppliers and other organizations impacting the business (Meyer & Rowan, 1977). Normative pressure is not enforced by law and can in theory be ignored, but this will result in a bad reputation.

Our research suggests that there is normative pressure in the industry. Although, not every organization provides evidence of being affected by the norms surrounding them. Informant

A provided empirical findings that the media is creating pressure for the organization and that this pressure will only increase with time. The media is a social normative pressure that can lead to an increase in normative pressure elsewhere. The media has a great effect on the society around them, and if they are demanding sustainability and exposing the lack there of, it will lead to a higher demand in the surrounding community and associated organizations. Informant D regarded the local community and people in the community around them as one of their biggest influences. He argued that they receive a lot of feedback, both negative and positive from the society around them. The institutional rules provided can be identified as 'rationalized myths' (Meyer & Rowan, 1977). Complying to this feedback is important because myths are expected to be implemented into the organization in order to gain knowledge and legitimacy, and to be able to compete and survive in their current market. The attitudes, political opinions, systems and procedures of an organization is greatly impacted by the opinion of the public (Meyer & Rowan, 1977). We get a similar response from informant E. They claim to have few people live around their facilities, and otherwise have a good reputation around the fjord, but they still experience pressure from the community is for the most parts complaints about noise, especially when there are boats at shore. They also experience professional normative pressure from their customers, referring to how the end customer want the products to be sustainably produced.

A form of professional normative pressure is the Sustainable Development Goals from UN, referred to as UN SDG. All the informant asked about the guidelines provided by UN said that these were a focus area for the organizations, and they intended to comply and reach these goals. This is not a forced regulation, since its not enforced by law, but its something that creates a good reputation and should therefore be implemented if possible (Meyer & Rowan, 1977). The interviews provide empirical evidence of both social normative pressure and professional normative pressure. The guidelines provided by UN certainly impact the organizations to some degree, but can also be helpful in goalsetting, and creates a mutual understanding throughout the industry.

Mimetic pressure is the need of copying or mimicking other actors of the industry. Our empirical evidence indicated that if a competing actor come up with a good solution to a problem, they would be at the forefront, looking at what they do and adapting to the new approaches. This is especially important when there is uncertainty around the topic. Mimicking will then help the organization be perceived as successful, or similar to successful organizations (Meyer & Rowan, 1977). Informant E and F showed clear signs of mimetic

pressure in the industry. In the situation of sustainability, one can not afford to slip up or lack performance. This will result in, as we've seen from the earlier section regarding normative pressure, a bad reputation for the company and possibly the industry as a whole. This was one of the points brought up by informant E and F. The industry plays on the same team when it comes to sustainable issues, even having meetings to discuss how to perform sustainably. This fits the theory of mimetic pressure, since the organizations interviewed uses other organizations as security to avoid making mistakes regarding this sensitive area.

After conducting the interviews and analysing the result, it became clear that regulative pressure was by far the most impactful and forcing pressure the organizations were facing. Every organization provided clear evidence that they had to follow the laws and regulations forced upon them by either the state or UN. Not following these regulations would result in fines that could potentially run them out of business. You get this type of pressure when the norms, or rationalized myths, like the ones we see in normative pressure, gets enforced by law, and therefore strengthened (Meyer & Rowan, 1977). DiMaggio & Powell (1983) regards regulative pressure as coercive isomorphism, which is the formal and informal pressure from organizations one depend on. From the empirical evidence, the informants exhibit a great deal of coercive isomorphism through the pressure external actors put on them, and also the pressure they exert on others. We mostly see this is customer-supplier relationships. The informants claim that their customers require specific sustainability-certifications for the products in order to buy them. The end customer also pay more for products with these type of certifications. Not only do they experience the pressure as a supplier, but they exert pressure as customers. The informants have mentioned that the industry has gathered and collectively agreed to not buy fish-food from products containing soy from the rainforest. This is not illegal to do, but an informal norm or demand where the industry have united.

The theory also mentions the possibility for field level and organizational level change. This refers to how the institutional pressure affects the actors, and to what degree they have to comply to this pressure. The conditions of change in institutional isomorphism is determined by the actors dependency on surrounding actors (DiMaggio & Powell, 1983). From our empirical findings, it's clear that the aquaculture can often salvage themselves from this dependency, since it's normal for the actors to own a large amount of the value chain. This is seen through several of our interviews, where some of the interviewees informed that they had hatcheries, well boats, sea facilities, slaughterhouses, and further processing in the

factory. The outliner was that the food was often supplied externally. Less reliance on external actors means increased possibility for resistance to the pressure.

The theory of institutionalism, especially 'The Iron Cage', builds on how the institutional pressure creates isomorphism. From the findings-section, you can distinctly see how the pressure throughout the industry is virtually the same, and they all chose to comply to this pressure, and follow the norms, regulations, and ways of their competitors. This creates evidence of isomorphism in the industry. Not only is the institutional pressure cause isomorphism in organizational fields (DiMaggio & Powell, 1983), but the need for a good reputation in the entire industry causes the organizations to work together, having meetings about sustainability and looking to each other for new solutions. Sustainability is a touchy subject, where error can devastate the stature of the company. Isomorphism in institutional context will relieve uncertainty, and the alignment of structures will help them to obtain legitimacy. Therefore, isomorphism is particularly prominent in this industry.
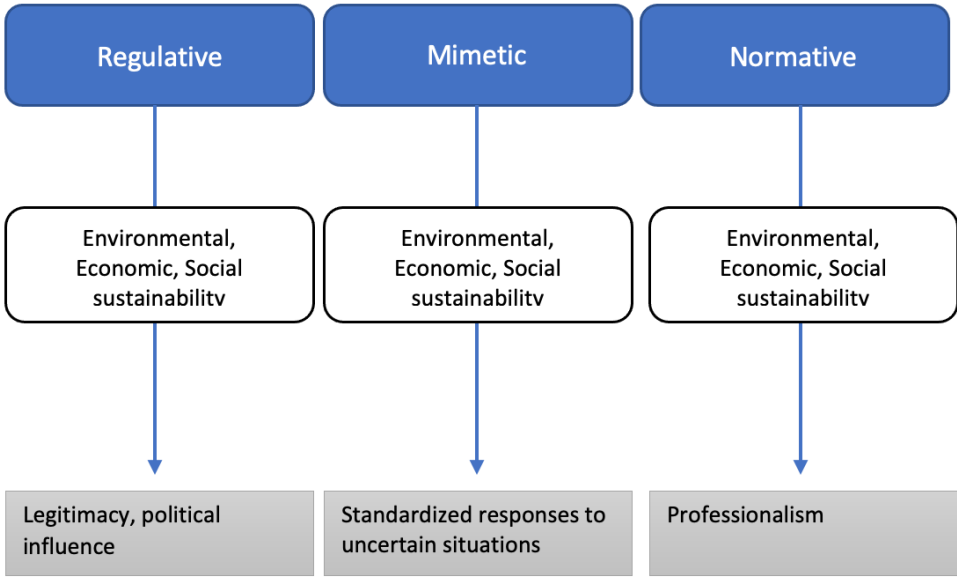

Figure 4: Outcomes of the different types of pressures

5.2 Changes in the controller role.

The core of our research is to identify the implication sustainability has on further changing the role of business controllers. It is already well established that the role has undergone changes due to an array of factors, and we accredit previous researchers for identifying

several of these aspects. In this research we chose to scope in on the need for sustainability, or rather the pressure of sustainability and which implications this brings for the controller.

According to literature controllers could have the function as business partners that are important actors in charge of financial information and have a critical role as advisors in managerial decisions (Berg, T., 2015; Wolf, Kuttner, Feldbauer-Durstmüller & Mitter, 2020; Granlund & Lukka, 1997; Østregren & Stensaker, 2011; Henttu-Aho, 2016; Karlsson, Hersinger & Kurkkio, 2019; Bourmistrov & Kaarbøe, 2013). Empirical findings align with literature on this aspect. The outlier is Informant D, but this is mainly due to this informant being employed as a financial manager rather than a business controller. Despite this, Informant D see oneself being part of higher-level decision making at a later stage. Findings indicate that controllers the controller are not only used for reporting, but also as partners in decisions. Informant A´s perspective on recent changes is that controllers get added responsibilities beyond financial statements, tied closely to resources. As per the aquaculture industry, resources are highly sensitive to sustainability issues. And, as highlighted in the foregoing chapter, findings show that controllers envision being in charge of resource allocation. Unquestionably, in this industry resource management and sustainability concerns are interlinked. Hence, we see firstly that controllers will have to deal with sustainability, and secondly that their inputs in managerial decision-making is of great value. Not only that, but also, we found that informants seem to base their identity on what the title suggest, Controlling. Identity as Wolf, T., Kuttner, M., Feldbauer-Durstmüller, B., & Mitter, C. (2020) contributed with their publication, emphasize the close link between perceived image, identity, and role change. The researchers pointed out that a change to business orientation is positive and that business controllers wish to be business-oriented, but their commitment to fulfill such normative demands can cause tension. The notion of business partnering is still not straightforward. This new business orientation leads to increased new competencies without reducing the old ones and is linked to desired identities. This notion is well illustrated by Informant C who has worked while these changes have happened. In terms of sustainability, the informant says that a lot of new focus and effort has gone to developing the sustainability competencies, especially in recent time. Adding to this, Informant E clearly stated that due to self-interest, time has been invested in learning certain sustainability guidelines and frameworks. The Informant thinks that this has its part in the mind of a controller. The main function of a controller, in the eyes of Informant E, is to create the best

results. Hence, if having this knowledge contributes to increased profitability it is indeed beneficial. Informants thinks that this will increasingly gain importance in the future.

Our empirical findings are largely in confluence with the content of the publication from Wolf, T. et.al. (2020) and we see that the generalization based on their review of 64 articles is manifested in the aquaculture industry. The notion of increased sustainability competencies is seemingly not as much required as it is desired, and based on our empirical analysis we have the impression that every business controller wishes to contribute in decision making. Especially in the case of Informant E, Informant F and Informant C we see that business controllers functioning as a business partner fits the narrative of an omnipotent leader capable of combining incompatible requirements (Wolf, T., et.al., 2020). However, we question where this need for joining in on business decision making stems from. In the case of Informant C we see it as natural for this business controller to partake in higher level management due to a life-time worth of experience. The younger informants expressed great desire to partake in decision-making. Previous literature describes this as a symptom of self-esteem. Professionals try to increase self-esteem by pursuing more consistent and esteemed identities. It´s found that management accountants not only reflect about their current identity but also about desired and ideal identities, thereby recognizing the divergences and striving for more concordance between these identities (Wolf, T., Kuttner, M., Feldbauer-Durstmüller, B., & Mitter, C., 2020). Our empirical findings support this notion, and Informants portrayed that they feel like they have applicable skills and knowledge in higher level management – i.e., financial insights, business overview, sustainability concerns and clarity on overall impact. Thus, they feel justified to have a say in decision-making.

In this regard we see sustainability as an underlying driver for change, in conjunction with already identified drivers. Not only do controllers have to be up to date on sustainability, but they also want to understand it so that they can provide sound advice and suggest directions. The increased involvement and use of controllers provide updated information, and the controller could challenge managers on their decisions (Bourmistrov & Kaarbøe, 2013). The information that controllers possesses is correlated to sustainability, and the controller have a broader overview of the organizations, which in accordance with what Østregren & Sensaker (2011) stated: it causes the controller to be more powerful. We found that to be the case in the

context in which this study is put. Our informants were asked if the controller have any mandate in the higher functions. Summarized, the replies indicate that this is the case. Controllers have accumulated a significant weight in relation to the top management. Their opinion on what is best for the organization and most profitable have significant weight in decision and gets listened to. We find that our informants often do more than is required. Findings leads us to see that with time the business controller will have a close partnership in long term goal achievement, but as for now they are not quite there yet. The latter mentioned has been identified by Wolf, T., Kuttner, M., Feldbauer-Durstmüller, B., & Mitter, C. (2020) and they state that despite the creation of job profiles or organizational units to provide possibilities for controllers to become business partners, this aspirational identity remains fragile and leaves them with a continuing insecurity and feeling of "still not being there." They aspire an identity in line with their values and standards, but frequently recognize misalignment between what the profession currently stands for and how it ought to be in the future. In the case of Informant B, the discovery by Wolf, T., et.al., (2020) holds very true, and we experienced glimpses of this in most of the informants. This is indicative of how controllers could want the role to change.

Chell´s (1985) situation-act model explains how a person must act within the limits of situations, governed by rules, and behaviour is prescribed by socially acquired roles. A role is adapted in situations to perform effectively within the situational limits. There is a distinction between the job description and the actual role, because it's more concerned with the behavioural aspects of the works and the outcomes the person is expected to achieve. From what we were able to gather from the informants, we see that informants are doing more than the traditional description require and hence they do not act within these limitations. This is likely due to both their business knowledge and their desire to better their self-esteem in organizational context (Wolf, et.al., 2020). Moreover, roles individually exist in relation to co-workers, managers, and society, and these parties have expectations for a role. If individuals in a role live up to these expectations, they are considered successful. This implies that when external expectations change, so will the role. According to our findings we see that the controller role and identity is currently more internally driven in relation to sustainability. Considering this we see that per definition the controllers in our study are more than successful. This leads us to question whether it is a matter of time before expectations for the role changes, and these added efforts by the informants will become something that

management expect from business controllers in the time moving forward. We find it highly plausible that the knowledge controllers hold as "nice to know" will transition into knowledge that they "need to know" (Karlsson, et.al., 2019), and thus the expectation in the time moving forward could be that controllers will *have to* share opinions and input at critical decision-points, rather than *being able to*.

There are similarities in what controllers are and do. Controllers; use financial numbers from accounting and sources like quality, customers and coworkers; are forward-looking by contributing to goals and prognoses; are situational – adapting to the local organization; line managers is the customer; and have competencies within business, enterprises and economy is critical. The forward-looking orientation is the biggest change in the controller role (Berg, T., 2015). Our empirical findings correlate to this being one of the larger changes, and hence controllers advance as business partners. Sustainability, as described in the introduction is about respecting future generations. Business controllers as partners should have transitioned away from traditional and rational management accounting techniques, and rather have competences for rich and forward-looking information for strategic decisions (Karlsson, et.al., 2019). Consequently, we see that most of the informants encompass this forward-looking mentality with regards to sustainability, especially in terms of "the next generation". These neoteric personalities entering organizations with mindsets shaped by sustainability paradigm changes the role to be one of more utility, and Terje Berg (2015) have identified "personality" as one driver for change. These finding coincides with the net-sum of literature used the theoretical frame, which indicates that the role of finance professionals has changed from "*scorekeeper*" to "*value-added*" business partner. But perhaps more so in industries experiencing severe sustainability pressures. Based on our collected data material we see this being the case. However, we don't have adequate insight in industries other than the aquaculture industry, therefore we cannot make any statement on behalf of these. "*The cheapest alternative is not always the best one*" – stated by one informant – clearly indicates this shift towards holistic long-term orientation. That which is best strictly economically is not compatible with what is purely best for sustainability, and vice versa. On one hand economic incentives isolated would have no regard for what is deemed sustainable in pursuit of profitability. On the other, sustainability isolated would mean to do no harm, leave no marks, and reduce all consumption in pursuit of restoring a regenerative and harmonious world. The two contradicts each other, and organizations must face this conflicting reality every day. The

controllers are faced with a balancing act, and the information is of great value, which is where we see controllers really becoming business partners. We see that our findings aligns with the mechanisms of the conceptual model of chapter 2 (*Figure 3*).

Figure 5 illustrates how sustainability pressures relates to the role of a controller, and how the controller encompasses such a holistic orientation.
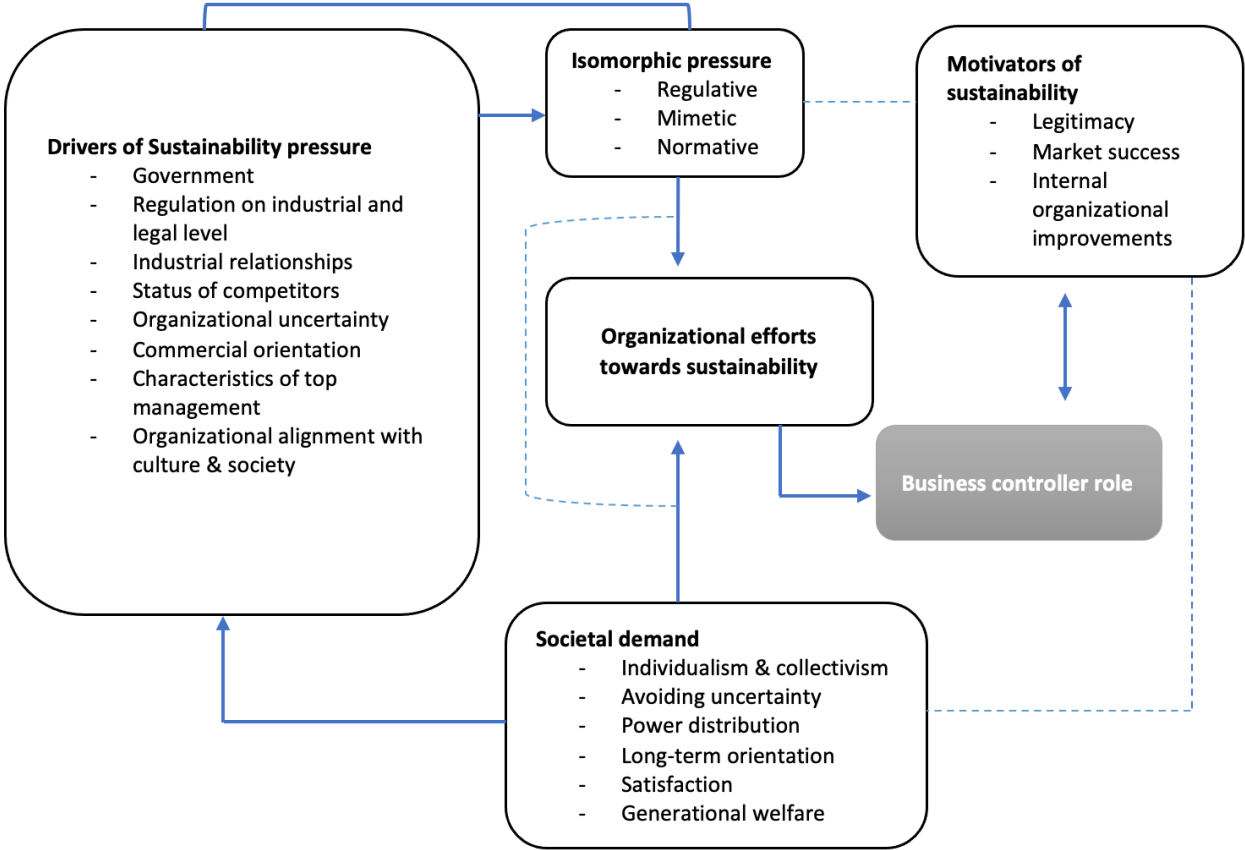

Figure 5: Illustration – sustainability pressures and the business controller

We would like to address the *becoming* aspect further. Hereunder we will emphasize three factors that further impacts the role; Education level; Experience; organizational size.

Education level is another factor that *can* weigh in on the role the business controller gets. Both Informant E and Informant F graduated from their economic education not more that 4 years ago. They studied at acknowledged Norwegian business schools, which we know

keep up to date on new paradigms, trends, methodologies, competence needs, etc. that gets incorporated into the curriculum. The reason we address this aspect is that Informant C doesn't have as advanced educational background as the rest of the informants, yet we see that in relation to their organizations respectively Informant C, Informant F and Informant D have comparable level of respect and authority internally. A more contemporary education encompasses what Informant C has learned through experience, and thus it legitimizes the "impact" newly educated individuals have, as unveiled per empirical analysis. For instance, Informant D have confidence in the abilities and knowledge possessed and have positive outlooks on his way to becoming a partner. The informant is not participating in decision-processes, however the numbers the informant produce are though. The informant think that one he has gathered more experience there are opportunities for it.

Experienced controllers, which in this case is Informant C, have experienced changes, technological accelerations and been through these paradigm shifts of business. Adding to this, experience is gathered from multiple levels and roles in a career – the more the better. Therefore, there is a natural path for more experienced business controllers to have significance in advising and directing. In the case of Informant C, our impression is that this individual is a pillar to lean on for the respective company. However, this argument has its limitation due to us only having one heavily experienced controller participating. Nonetheless, we find this noteworthy because when we compare Informant C to Informant D they operate at completely different ends of the spectrum of organization. Hence, this is what lead us to address the experience level.

Organizational size facilitates different dynamics. In our study we had informants from small, medium, and large organizations. The natural course is that larger organizations have more financial resources to employ specific competencies – i.e., sustainability departments – compared to smaller, less financially liberated organizations. The size difference impacts the way controllers work and how sustainability gets handled. Common for all informants is that sustainability is a driving factor in their daily tasks and activities, and in some way they have to use their business-oriented holistically thinking. In the smaller organizations, the informants are more directly involved in following up and paying attention to sustainability indicators and other KPI´s relating to the bigger picture of business strategy.

Whereas the larger organization, this is done in a department designated to sustainability tasks and activities. The controller doesn't have the *need* for such specific competencies, rather they *want* to have some general competencies as they find it beneficial for the bigger picture. It was brought to our attention that as controllers one needs to consider the whole and have a holistic approach. However, we found an opposing opinion from Informant E when it comes having scoped in expertise on sustainability. This opposition is understandable, but whether it is feasible for small companies remains a question. Limited resources create a "one-for-all" type of responsibility, and hereunder the business controller have more direct involvement in certain indicators as just mentioned. The level of delegation is significantly reduced, but that does not mean operation is less effective and efficient. Based on our empirical findings, we see that the spectrum of active to passive involvement in sustainability related contexts is correlated to organizational size and resource availability. This however does not imply that controllers in the biggest organizations have a completely passive role. Rather, controllers on each end of the spectrum have in common that information regarding sustainability will have to come to the in one way or another, and this information aids in holistic long-term evaluation.

5.3 Business controller´s tasks and activities

Recent decades have provided rapid innovation and copious technological advancements. Innovation and new technologies are also drivers for change in the controller role, and followingly this brings about new activities and focuses. Time-consuming tasks have been streamlined and automated. Effectively controllers have more time liberated. In many cases this freed up time is directed toward activities related to sustainability and controllers are increasingly tasked with this. In one way it detracts from what they are "supposed" to do, but in another way, it fosters broader business view and better understanding of mechanisms between economy and sustainability. Thus, controllers have a sturdier foundation when it comes to assist in decision-making activities. Consequently, this leads controllers to indeed be more active in this field of organizations. These new activities controllers are tasked with corroborate development towards being value-added partners. I was no surprise to discover that the new ways are more effective and thus yield more time to do other tasks.

A relevant claim by Bourmistrov and Kaarbøe (2013) is that changes in controller roles could be a symptom of introducing new control systems for management based in beyond budgeting. This organizational movement towards "stretch-zones" is what beyond budgeting entails. In it we find mindset changes like improving the decision-makers through degree of interaction in the business environment, improving forward-looking abilities, stretching beyond one's capacity, "intelligent guesses", and revealing ambitions and a mindset that is more proactive and challenge-seeking. Most of our informants fit this claim. They are active across their organization and gather financial and non-financial information to form a holistic picture of what will be best according to strategy. Again, modern technology allows for controllers to have a reflective approach. For the change in behavior one can look at managerial decisions and actions supposed to be more flexible, interactive, driven by business-needs, learning-oriented and stimulate resource usage more effectively. The "stretch-zone" introduces changes in accounting techniques which then also changes controller´s mindset, behavior and communication regarding core business, external and internal environment, role of people and organizations in society, etc. (Bourmistrov & Kaarbøe, 2013).

Derived from a conjunction of innovation and digitalization, transitions towards beyond budgeting practices, and sustainability pressures being at an all-time high we were able to identify new tasks that controllers are faced with. From the informants participating in our research, we were able to identify the following activities as a result of sustainability orientated business strategy.

Key Performance Indicators are in some of the organizations factors that the controller work actively with. Informants often mention factors like electrical consumption, fuel consumption, on/off time on boats, CO2 and carbon imprint, compliance with ASC certification, waste, slaughter, and fish welfare, etc. However, the degree to which controllers will have to work with these measurements will range. According to empirical findings the small and medium sized organization will have the controller and CFO handling data collection and analysis of sustainability metrics, and they are the ones to follow up on KPI demands being raised. Whereas in larger organizations looks to only perform measurement and analysis. There likely will be designated personnel working on the sustainability parts of the larger organizations.

60

Resource allocation and resource management is another activity that we identified in our findings. Controllers likely will transition to take on responsibility and work up mandate in this aspect of business. Our argument here is based on the fact that Informant B said that he clearly thinks it will be the case in the future. But as we mentioned earlier, it depends on the size of companies. Larger companies have more resources and thus it´s more likely that the controller role in this regard is more of an advisor, whereas the smaller companies can expect to have controllers more directly involved. Nonetheless, the overview controllers have of business seems to be wanted and beneficial in resource decisions. Resources in the aquaculture industry is closely correlated with sustainability

Oversight on a myriad of reports is increasingly becoming activity controllers are occupied with, at least in the case of informants from the aquaculture industry. The paradigm is that since they are controller then controlling is what they do – this entails non-financial measures like the KPIs we mentioned above. They review, analyze, and correct where needed to in the scope of their business understanding and relay key takeaways in critical decision-situations. Sustainability pressures cause banks to issue green loans, accordingly the business controller have a bigger responsibility in overseeing that everything is right so that loans are granted. The general notion gathered from the empirical part is that controllers are supposed to control that everything checks out and is in alignment with business strategy. Again, organizational size is of significance. Smaller organizations will likely have the controller more actively contributing to certain reports – e.g., climate accounting. In this case of Informant F a department works on the parts this controller cannot. The main takeaway is that controllers oversee that things are right in order to move the organization according to strategy, and hence it further validates the opinions controllers have at critical decision-points. Hentu-Aho (2016) showed that controllers do provide alternative prospects for strategy-based target setting processes. They reconcile resources of the organizations with the strategic targets and environmental contingencies. The implication is that controllers indeed play an important role in increasing global transparency in target-setting which is otherwise top-driven. Sustainability pressures and tasks in this regard only adds to this, as it has close ties in the area which the controllers are active, and sustainability is arguably a strategic aspect in

organizations in the aquaculture industry. These new activities pertaining to sustainability aspects further confirms that controller are eligible for business partnering.

As we have mentioned, the controller is a role of more power. And now when faced with such activities and tasks we would like to argue that the controller seems to develop to function as a pillar to lean on for managerial decision-making. Controllers keep control, and thus they better understand what is beneficial for company strategy based on financial and non-financial numbers. Their forward-looking mentality and broad business understanding is beneficial and should be considered in meetings with top management. To what extent business controllers have mandate as decision-maker is dependent on how individual policy and how decentralized the organizational structure is.
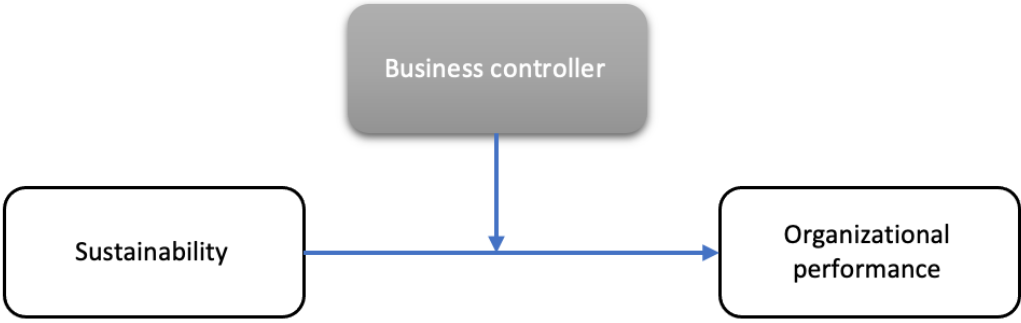

Figure 6: Moderation of financial and non-financial aspects for organizational performance

6.0 Conclusion

This chapter presents the conclusion of this research. First, we present our insights on the research sub-questions. Once these are addressed, they will followingly lead to our concluding remarks on the main problem statement of our research.

6.1 Research sub-questions

The insights on the following sub-questions of the research are presented in this paragraph.

1. *Where does the pressure for sustainability come from and which institutions?*
2. *How does these institutional forces change the role, identity, and activities of controllers?*

1. Where does the pressure for sustainability come from and which institutions?

Institutional pressure comes in the form of normative, mimetic, and regulative pressure. During our empirical research and analyzation of the aquaculture industry, evidence each one of these types we're detected. Regulative pressure, or coercive isomorphic pressures are common denominators. With legislations and strict compliance to frameworks within the industry, an external pressure such as this one cannot be avoided. In most cases, compliance must be in accordance with Global G.A.P., GAA/BAP, ESG and ASC frameworks and guidelines. Not surprisingly, findings revealed that certain suppliers require compliance with laws and regulation from organizations for them to cooperate. Additionally, on the consumer-side, the market is increasingly leaning towards products with certified sustainability-branding – especially with the media heavily criticizing sustainability in the industry. This dual-sided pressure affects organizations accordingly. Clearly, compliance is considered as a bare minimum. But besides that, some of the organizations aim at being at the forefront and do more than is required of them in terms of sustainability. This step away from the bare minimum comes as an internal pressure, and the implications this has for the controller role is addressed later in this section. While on the notion of this internal pressure, we find it noteworthy to question whether this would be the case if the external demand and need for sustainability was as intense.

The notion of organizations wanting to "play organizations good" in this industry indicate the mimetic processes at play. The norm as seems to be tied to the bigger perspective: For the industry to succeed, all organizations must "pay their dues". Transparency keeps the industry moving in the right direction and the way one actor respond to certain coercive pressures is welcomed to be adopted by other actors, and vice versa. However, how well this is translated to actual practice remains questionable when one account for the competition in this industry.

In a way the two foregoing mechanisms of isomorphic change ties into normative pressures experienced by the organizations. Attention is directed to the Sustainability Development Goals developed by UN for the time moving forward and will be a key element in operation and activities. These informal guidelines provide professional normative pressure. Sustainability is at core throughout organizations, which the controller is faced with. The less experienced controllers are more formed by societal and professional norm compared to the ones that have been actively working for longer. What this implies is that changes on these levels are implemented in educational formation of business controllers of the future. Moreover, it is also indicative of the increased awareness in contemporary society. Globalization and online information flows makes critical information accessible instantly – resulting in a more enlightened society. The result of this is that consumers have better and deeper knowledge, which forces organizations to conform accordingly, and thus this pressure is carried out all the way through to the business controller.

2. How does these institutional forces change the role, identity, and activities of controllers?

The net-effect of the institutional forces regarding the role of a business controller is that they work even more closely with departments and leaders and assists in decision-processes. This is well documented in previous literature and holds true in our case too, which further solidifies previous research. This shift from individual agent to "business partner" entails paying attention to more than financial measures solely. Hereunder sustainability-oriented measures are cared for. The main reason for this is the liberated time business controllers have because of new technologies. This efficiency means that focus can be directed to other procedures. Additionally, organizations face increased pressures for sustainability and therefore added focus is being put on practicing sustainability and measuring it. From what we gathered from the informants, we conclude that the controller tends to be a part of measuring and reporting sustainability indicators.

The role is indeed undergoing changes. A large amount of the differences described from previous studies and literatures manifests itself in our study as well. This further confirms that business controllers, or management accountants, are stepping away from routine-based financial work, and are progressing into a role that partake in decision-making and provide sound advice. They have unique insights and understandings that top level management would largely benefit from. In our study we find that business controllers are more ambidextrous, especially in terms of sustainability. We see that their competencies stretch beyond what their job-description traditionally require of them. This competence stems from previous schooling or added courses, which in conjunction with their financial understanding makes them viable advisors that assist in decision-making. This increased competence seems to be the new paradigm, at least in the case of this industry. The rapid sustainability demand compels business controllers to be on board with the same level of understanding. Firstly, for them to not suggest investments or moves that would be opposed to sustainability and secondly, for them to better understand what would be the most profitable long-term. However, this is more so the case in smaller organizations. The organizations of significant size have a dedicated sustainability department. Nevertheless, the business controller still interacts with them.

At the core of all business is the need to be profitable over time. In the scope of sustainability in the aquaculture industry this means setting goals and controlling things like on/off time on boat engines, attention to fuel consumption and sustainable alternatives, waste management, researching electrical solutions and calculating profitability, and then compare costings with benefits and evaluate the long-term implications holistically. Automation and technological solutions increase efficiency in otherwise time-consuming tasks. This means that the controller now effectively has more time to work on analysing the financial aspect and evaluating the sustainability aspect. In addition to law, regulations, frameworks and standards, controllers must also seek room for improvements, considering feedback from the market and deal with internal Key Performance Indicators that will ensure sustainability in the organizational activities and operation. This added emphasis on other non-financial activities opens for the possibility of controllers to become a link in preventing greenwashing. However, this remains a subject for further research. This study shows factors that could facilitate this possibility. Further research is needed to formulate a definite answer.

6.2 Conclusion to the problem statement

We initiated this study by formulating a problem statement based on previous literature and the importance of sustainability. Our aim was to contribute a better understanding of which factors and nuances facilitates changes for the controller role through the scope of sustainability. From this we derived the following problem statement:

How does external pressure for sustainability change the role and identity of the business controller?

Increasing sustainability pressures seems to require that controllers – as partners in strategic decision making – are more balanced in their inputs, and thus they need a more long-term visionary approach when employed in organizations exposed to sustainability pressures. This development is based on the shift towards controller´s holistic long-term orientation. Amidst the tension between profitability and sustainability we see that the role of a controller is developing to function as a moderator of the two contradicting factors. The controller has a bridging function between what is best for profitability and for sustainability, which yield success for organizations. In our opinion this perspective highlights an alternative explanation as to why controller act like they do in uncertain and complex situations involving several decision-makers.

Controllers traditionally work mostly with financial statements, however, since more key activities are automated, they are more liberated from time-consuming tasks. Hence, deep analysis is a substitute for time-consuming calculating labour. The paper provides empirical evidence suggesting that the role of a controller in the aquaculture industry consists of a complex mixture of traditional and business-partner characteristics. Our hope is that these findings supplement literature on defining the role of a business controller moving into the future. Controllers reflect on what is best for longevity, and thus moderate and balance out what would seem as the most appropriate fit according to business strategy – they become moderators. Consequently, this implies the call for new and broader competencies.

This paper illustrates how controllers dynamically act to manage sustainability pressures facing the organizations. We found that the relationship between controller and managerial decision-making is stronger due to increased sustainability pressures, and thus it reinforces the notion of business controllers as "value added" business partners (Henttu-Aho, 2016). Controllers ensure the homeostasis of organizations in the face of increased sustainability

pressures, and function as a pillar to lean against for direction. Controllers encompass abilities which help managing risks and preservation of assets, they maintain efficient and effective operation whereby technological advancements have automated time-consuming labour. We found their sense for longevity as a factor to help ensure organizational future as well as them functioning as catalysts in execution of organizational efforts towards sustainability.

6.3 Theoretical implications

Our paper has utilized multiple theoretical anchorages. Findings from our research has shed light on other theoretical contributions by introducing them in a highly dynamic context. The institutional isomorphism theory by DiMaggio & Powell (1983) was used to conceptualize sustainability as pressure and how it can facilitate change processes. Literature related to changes in the controller role was used to firstly establish that there are indeed changes and secondly to identify drivers of changes in the controller role. We found that the theoretical frame is suitable for explaining and understanding how external sustainability pressures changes the role of a business controller.

6.4 Practical implication

The paper contributes to the literature on changes in the role of business controllers by presenting an actor-focused empirical study of controllers in organizations exposed to sustainability pressures. In particular, we have focused on how the role of a controller is changed due to organizations receiving such pressures. Our opinion is that this is of relevance as it supplements important knowledge on how the call for sustainability affects roles within organizations. Findings indicate that sustainability requires more from organizations and there is more to be controlled. Thus, the controller is faced with new activities. This then leads the controller to formulate a holistic picture of the organization and better understanding of what is best long-term, which is of importance in decision-making. The role of a controller is developing to be of significance in directing companies. Our thesis can also contribute to better understand sustainability pressures and how organizations could distribute certain pressures internally, which is of importance as the pressure for sustainability only is increasing.

6.5 Final Reflections

This was a study based on informant from 5 different organizations in the aquaculture industry. Our research should be carefully interpreted because it is not based on a confirmatory approach, meaning that changes are happening rather than have happened. We acknowledge that facts from the sample are self-reported, and that other actors in organizations have been excluded. Thus, we are aware of the potential biases with respect to strengths claimed or perhaps the importance of activities assigned by the organizations in which they are responsible and accountable, which are dynamic, hard to obtain, and depend on external forces. Due to this we cannot comfortably state that findings are eligible for generalization, however they are rather applicable in indicating how sustainability could affect roles and activities in organizations. This research was conducted in a limited time-window, which makes it more of a cross-sectional examination. If given more time, the research could dive even deeper in specific changes and observe the developments over time. The theoretical frame is sound for investigating other types of pressures and how they potentially will affect the controller role. Moreover, this limitation also made the research more context specified, which is beneficial for organizations operating within this context.

6.6 Suggestion for future research

This paper aims to open avenues of research to further extend the understanding of the role of business controllers and their transformation towards finding a better fit between organizational definitions and the emphasis of management control with the controller´s abilities.

Our study was conducted in a sustainability-oriented aquaculture context characterized by multiple actors and capital-intensive organizations, that are adhering to strict regulations and demands. Circumstances like these are important explanations for the reported findings. Hence, we would like to suggest exploring the extent to which our conclusions are applicable in other contexts in future research. Our expectations would be that the level of changes in the role is nuanced. Depending on the intensity of sustainability pressures, we expect that the role is more prone to change in industries that face the more intense pressures rather than those who do not. Furthermore, another suggestion would be to look deeper at the controllers bridging function of multiple departments. Initiating a study like this would help gain insights on how bridging manifests itself in practice.

A rather interesting approach to the controller role would be to look at how technological advancements and innovations mentioned further alters the role. More specifically, the increasing use of new information systems and big data implementation and the effect these have for the role.

It has briefly been mentioned the possibility of controller's function as a preventative agent in the greenwashing problematic. Further research could continue down this alley and explore what mechanisms could constitute this possibility and the viability of such an idea. From our study we found that controllers become a moderating role in the conflict between profit seeking and longevity. Hereunder it implies that controllers are familiar with sustainability-goals, -compliance, and -measurements. Hence, this information is of great power. Greenwashing would promote more economically favourable outcomes – e.g., market position, stock price, lower costs, loan applications etc. – which reasons us to suggest that further research could be based in this tension between the economic pursuit and favourable sustainable decisions. It was briefly mentioned that it would be questionable how much sustainability focus organizations would have internally if there were no external pressures for it. Do they promote sustainability because they truly want to or is it because they must? Ultimately, profitability the core incentive behind operating businesses. And it remains debatable how much organizations truly value sustainability. This problematic is likely where the greenwashing issues arise from, and the disconnect seems to be an interesting alley to further investigate.

The foci of our study were to provide insight from controller´s perspective in the Norwegian aquaculture industry. Further research is needed to fully comprehend the controller´s role and ability to affect overall performance in organizations. It would be interesting to see how controllers from various industries contributes and look at whether it is beneficial to distribute certain non-financial responsibilities towards controllers. We concluded that organizational size and structure impacts the role of the controller and what ownership is distributed. Thus, a suggestion based here would be to conduct a case study confined to one organization to provide understanding of what specific value the controller generates from the perspectives of the controller, top managers, and other departments.

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Appendix 1: Interview guide

Intervjuguide

Innledende

- Informasjon fra forskere
    a. Takker for at informant stiller opp
    b. Informasjon om temaet intervjuet omhandler
    c. Masteroppgaven
    d. Problemstillingen: *Hvordan ytre press for bærekraft har endret rollen og identiteten til kontrolleren?*
    e. Praktisk informasjon gjeldende anonymitet og gjennomgang av hvordan intervjuet foregår (tidsbruk, opptak, notering mm.)
    f. Samtykkeerklæring.

- Informasjon gjeldende intervjuobjekt
    a. Beskriv rollen din i selskapet
    b. Beskriv virksomheten
    c. Hvor lenge har du jobbet her og hva er din nåværende stilling?
    d. Hva er ditt ansvarsområde?

Kontrollerens oppgaver

1. Hvilke ting er kontrolleren opptatt av/fokusert på? Finansiell / Ikke-finansiell.

2. Ser dere på kontrolleren som en individuell enhet, eller som en samarbeidspartner for langsiktig måloppnåelse, eller noe annet? Hvordan foregår dette?

3. Er det noen nye oppgaver yrket til kontrolløren sammenlignet med for 10 år siden?

Endringer i kontrollerens rolle

4. Hva legger du i «kontrollerens rolle»?

5. Hvilke endringen har rollen gjennomgått mens du har jobbet som kontrollør?

6. I hvilken grad er en kontrollør knyttet til avgjørelser hos dere? Anbefaler den noe basert på innhentet data? Bruker dere disse anbefalingene i avgjørelser?

7. Sier kontrolløren noe til ledelse angående bærekraft?

Bærekraft

8. Beskriv hvordan bærekraft håndteres hos dere.

9. Merker dere noe til press om bærekraft? Hvilke da? Ekstern/intern?

10. Hvordan brukes UN SDG hos dere? Er det noe utover dette dere også implementerer?

11. Hvem har ansvar for bærekraft hos dere og hva innebærer ansvaret?

12. Hvilke kompetansekrav stilles for å holde på med bærekraft? Stiller dere noen slike kompetansekrav til kontrolleren? Hvis ja, hvorfor? Hvis nei, hvorfor ikke?

13. Er bærekraft noe dere vil at en kontroller skal analysere? Eventuelt hvordan og hvorfor?

14. Hva gjør/sier en business kontroller angående bærekrafts mål?

15. Hvis en kontrollør skulle overta dette ansvaret, hvilke endringer måtte da bli implementert sammenlignet med slik den jobber nå?

16. Hvilken rolle vil en kontrollør med oppmerksomhet på bærekraft få hos dere? Ville dens posisjon blitt endret på noe vis?

17. Hvis kontrolleren ikke er ansvarlig for bærekraftighets-oppgaver, hvorfor? Personegenskaper, utdannelse, annet...?

Endringer i industrien

18. Vil du si industrien og forskjellige aktører opererer for det meste likt eller ulikt? Eksempler på dette?

19. Ser dere på bærekraft som noe dere må gjøre for å overleve som bedrift?

20. Er det noen ledende bedrifter i industrien som dere følger, eller føler et press om å følge når det kommer til bærekraft?

21. Hvis controlleren får nye oppgaver knytt til bærekraft, og dette viser seg å gi ny suksess i andre bedrifter, vil dere da undersøke muligheten for dette hos dere?

22. Er det en norm eller usnakket regel om bærekraft i industrien? Fortell

23. Vil dere bli like noen aktører, eller ønsker at noen blir lik dere angående bærekraft?

24. Når dere er usikre på stegene videre, følger dere da de som har oppnådd suksess på området gjør, eller finner dere ut av det selv? Hvordan vil bærekraft se

ut i dette tilfellet?

25. Hva er det som gjør at aktører i denne industrien blir like? Din mening.

Følgende etter første intervju

26. Dersom vi ser vi mangler informasjon på et område, kunne du vært tilgjengelig for et nytt og kortere intervju?

27. dersom du føler noe mangler i ettertid, gjerne ta kontakt for å prate om det.

Appendix 2: Statement of consent

Samtykkeerklæring.

Forespørsel om å delta i forskningsprosjektet.

Vi er to masterstudenter ved Nord Universitet som nå er i gang med å skrive vår avsluttende masteroppgave. Temaet for masteroppgaven er presset om bærekraft og hvilke endringer det vil ha for en kontroller. Vi ønsker å kartlegge hvordan mål om bærekraft bidrar til endring i rollen en business kontroller har. Videre vil vi kartlegge hvilke endringer rollen til kontrolleren har hatt, hvilken motivasjon som ligger bak den nåværende rollen kontrolleren har og hvilke eventuelle muligheter eller barrierer som kan videre ha noe å si for rollen en kontroller får. Dette særlig med fokus på presset om bærekraft. I denne forbindelse ønsker vi å intervjue 4-7 personer i en posisjon til å si noe om dette fordelt på ulike selskaper. Spørsmålene vil være knyttet til kontrollerens oppgaver, endringer i dens roller og bærekraft. Vi ønsker å se problemstillingen fra alle de representative deltakernes sider, for å få en nyansert og helhetlig kartlegging av fenomenet. Intervjuet vil ta ca. 60 minutter, og vi vil sammen avtale tid og sted. Lydopptak og notater vil bli benyttet under intervjuet, hvilket senere vil anonymiseres. Personopplysninger blir behandlet konfidensielt. Å delta i studien er frivillig, og du kan når som helst trekke ditt samtykke uten å oppgi forklaring. Dersom du trekker deg, vil alle opplysninger om deg bli anonymisert. Prosjektet avsluttes i mai 2022, all data vil da være anonymisert og lydopptak slettet. Underveis i studien vil det kun være oss og vår veileder som har tilgang til innhentet datamateriale. Studien er meldt til Personvernombudet for forskning, Norsk senter for forskningsdata AS (NSD), for å sikre om at alle retningslinjer blir overholdt ved oppbevaring av data.

Dersom du godtar å være med på intervjuet, er det fint om du kan skrive under på den vedlagte samtykkeerklæringen og sender den til oss på mail. Alternativt kan du bekrefte dine signaturer skriftlig via mail (svar i denne tråden) ved å svare: Jeg, [Fullt Navn] har lest, forstått og bekrefter herved at jeg godtar å være med på intervjuet og dets innhold.

Hvis du har noen spørsmål til studien kan du ta kontakt med oss på mail
arntsen_1998@hotmail.com og alex.giggs@hotmail.com

Vi setter stor pris på at du er villig til å delta.
Med vennlig hilsen Alexander H. Hoff og Eskil Arntsen

Samtykke til deltakelse i studien.

Jeg har mottatt informasjon om studien, og er villig til å delta

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(Signatur prosjektdeltaker, dato)

Appendix 3: NSD Approval

NSD NORSK SENTER FOR FORSKNINGSDATA

Vurdering

Referansenummer

363789

Prosjekttittel

Masteroppgave

Behandlingsansvarlig institusjon

Nord Universitet / Handelshøgskolen / Centre for High North Logistics

Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)

Anatoli Bourmistrov, Anatoli.bourmistrov@nord.no, tlf: 75517673

Type prosjekt

Studentprosjekt, masterstudium

Kontaktinformasjon, student

Alexander H. Hoff, alex.giggs@hotmail.com, tlf: 90408478

Prosjektperiode

21.01.2022 - 20.05.2022

Vurdering (1)

21.03.2022 - Vurdert

OM VURDERINGEN
Personverntjenester har en avtale med institusjonen du forsker eller studerer ved. Denne avtalen innebærer at vi skal gi deg råd slik at behandlingen av personopplysninger i prosjektet ditt er lovlig etter personvernregelverket.

Personverntjenester har nå vurdert den planlagte behandlingen av personopplysninger. Vår vurdering er at behandlingen er lovlig, hvis den gjennomføres slik den er beskrevet i meldeskjemaet med dialog og vedlegg.

TYPE OPPLYSNINGER OG VARIGHET
Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til den datoen som er oppgitt i meldeskjemaet.

LOVLIG GRUNNLAG
Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake.

Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER

Personverntjenester vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

· lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen

· formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke behandles til nye, uforenlige formål

· dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet

· lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), og dataportabilitet (art. 20).

Personverntjenester vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER

Personverntjenester legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

Ved bruk av databehandler (spørreskjemaleverandør, skylagring eller videosamtale) må behandlingen oppfylle kravene til bruk av databehandler, jf. art 28 og 29. Bruk leverandører som din institusjon har avtale med.

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med behandlingsansvarlig institusjon.

MELD VESENTLIGE ENDRINGER

Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til oss ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde: https://www.nsd.no/personverntjenester/fylle-ut-meldeskjema-for-personopplysninger/melde-endringer-i-meldeskjema
Du må vente på svar fra oss før endringen gjennomføres.

OPPFØLGING AV PROSJEKTET

Personverntjenester vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!