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Selective Startups: The importance of partnering experience on new ventures' learning outcomes from collaboration with established ventures

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Selective Startups: The importance of partnering experience on new ventures' learning outcomes from collaboration with established ventures

"You can succeed best and quickest by helping others to succeed".
- Napoleon Hill

Executive Summary

The blue economy has been recognized for its potential to meet future requirements and represent immense opportunities for economic growth, employment and sustainable development. Emerging ocean industries are particularly expecting significant economic growth in the years to come, due to powerful incentives to innovate. Uncertainty in the regulatory and emerging environment, as well as urgent need for innovations that can replace current unsustainable solutions, causes industry players to increasingly seek collaboration with external partners. To meet requirements for future industrial sustainability, collaboration between new and established ventures may pose unique opportunities to increase its potential. For a collaboration to be successful, both parties should be committed, but this has been deemed challenging due to their diverse capabilities and structures. Efficient coordination and management of inter-organizational learning in partnerships is thus needed for collaboration to truly impact the sustainability of an industry.

Accelerator programs are a solution for new ventures to connect with relevant industry ecosystems, including established ventures. These introductions might be crucial to create maximum value of collaboration, due to their ability to decrease challenges related to resource limitations, which otherwise would be difficult to achieve value from new ventures' sustainable ideas. By participating, they are building possibilities for themselves that could form future collaborations that may not have happened without the learning outcomes from an accelerator program. The defined research questions are explained below.

What is the role of inter-organizational learning in new ventures following collaboration with established ventures, and how can it contribute to enhancing sustainable value creation in an industry?

What is the mitigating role of accelerators in enabling collaboration between new and established ventures?

In our qualitative study, we seek to understand the dynamics present during knowledge sharing in learning processes between two organizations, and the people constituting them. This section provides insight into our research process in its entirety, using a hermeneutic and explorative method as guiding principles for our choices. The repercussion of this is our research setting will influence how we provide meaning to our data, both during collection and analysis, which is important when considering the protection of our informants. Our findings and discussion is based on experience of two new ventures in a specific partnership, as well as the reflections on partnerships from management in one new venture who intend to partner with established ventures in the future. This case selection, supported by our document analysis, provided valuable contrasts to our research findings, and highlighted the importance of partnering experience on identifying alignment and

being selective when deciding to partner up with established ventures.

New ventures believe their collaboration with established ventures will enable industry change and sustainability. For a partnership to impact the sustainability of an industry, both parties need to be committed to actually create a change and know about how to work with sustainability already before entering the relationship. New venture experience with collaboration triggers potential preferences on future alignments with established ventures, which increases industrial sustainability, due to a more effective learning and co-development process. The interest for new ventures to join an accelerator program in this case has been new possibilities enabled by embeddedness in relevant networks and increasing the effect on sustainability and inter-organizational learning on sustainable value creation. Learning from independent contributors, which new ventures access through accelerators, has influenced the concreteness of their sustainability strategy and ability to communicate it externally, which is expected to be of importance for their ability to attract aligned partners and be selective to ensure alignment in partnerships. To conclude, the role of inter-organizational learning in new ventures following collaboration with established ventures can contribute to enhancing sustainable value creation in the blue economy.

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1 Introduction

It has been stated that "Partnerships between incumbent players and startups are the way forward for the fourth industrial revolution¹ to be sustainable in the long term" (Larkin & O'Halloran, 2018, p. 5). The ocean connects continents, people and communities and presents immense opportunities for economic growth, employment, and development (OECD, 2020). This connection is consequently the very nature of all activity in the blue economy, meaning that only common solutions can contribute to substantial development. Several actors within the industry expressed the importance of common solutions (The Norwegian Shipowners' Association, 2018; Stuchtey, Vincent, Merkl & Bucher, 2020), global cooperation (Gjølberg et al, 2017; The Norwegian Government, 2019) new competence (The Norwegian Shipowners' Association, 2018) and fresh approaches (OECD, 2019).

The ocean-based industries are experiencing significant economic activity and rapid growth, and it is being explored how the diverse resources of the ocean can increasingly be integrated into the world economy (O'Brien, 2020). It is expected that their contribution to value creation of the global economy will double and employ more than 40 million people worldwide by 2030 (OECD, 2016). Sustainable stewardship of the ocean is anticipated to be important in the development and transformation of several national economies. There is increased demand for water-borne transportation services, ocean preserving solutions and more sustainable solutions in traditional sectors, suggesting that the industry is heading into an exciting era (The Norwegian Shipowners' Association, 2018; OECD, 2020). The future of the ocean economy is predicted to be green and innovative, and the need for innovation is more pressing now than ever (Katapult Ocean, 2019). Forces of regulations, consumer demand, and emerging technology solutions create powerful incentives to innovate, and it is expected that the accelerating pace of digital innovation can reshape the performance of existing ocean activities, as well as creating new ones (OECD, 2021). The potential for

¹ The Fourth Industrial Revolution describes the exponential changes to the way we live, work and relate to one another due to the adoption of converging technologies being applied to create an inclusive, human-centred future (Marr, 2018), enabled by technological advances from the first, second and third industrial revolutions (Schwab & Davis, 2018).

increased value creation in marine sectors is currently on the rise, as more players are contributing with different forms of innovation which can contribute significantly to industrial sustainability.

Recent research indicates that dynamic capabilities² and lean thinking³ is crucial for achieving a sustainable ocean economy throughout the upcoming transition that is expected for this industry (OECD, 2019). Established industry players are to an increasing extent trying to refine their innovation strategy, but express significant barriers to innovation, including a strong presence of traditional mindsets and reliance on existing success (Katapult Ocean, 2020). Despite significant investments on innovation resources, 94 percent of executives express that they are dissatisfied with the innovation performance of their own firms (Anthony, Cobban, Nair & Painchaud, 2019). Following the recognition that innovation is crucial for future growth, and the challenges established ventures face when managing innovation, more companies are looking to external resources to accelerate innovation efforts (Chesbrough, 2011). An emerging approach to open innovation is collaboration with new ventures, recognized by their dynamic capabilities, agility⁴ and risk-willingness (Weiblen & Chesbrough, 2015). By collaborating with startups, established players can adopt unique solutions to achieve more sustainable operations and products (Valuer, 2020). Entrepreneurs focusing on sustainability are thus expected to be of importance in the industrial transformation by making significant contributions in the greening of the blue economy.

As new ventures are often constrained by resource limitations, it can be challenging to achieve the potential maximum value from their ideas (Stevenson, Roberts & Grousbeck, 1989). There is, however, a growing potential for established players in the ocean industry to utilize capabilities and new ideas originating in the startup ecosystem to capture added value (Hora, et al, 2018). One approach for doing so is collaboration through formalized inter-organizational relationships, which the prevalence of is growing rapidly. However, there also exist great challenges in how

² Dynamic capabilities are strategic, and relates to an organizations' ability to identify and assess opportunities, mobilize resources to capture the value it provides and transform according to the rapidly changing business environment it is embedded in (Teece, 2012).

³ Lean thinking is a method adapted by new ventures which favors experimentation over elaborate planning, with the intention of making the process of starting a new company less risky (Blank, 2005).

⁴ Being agile relates to a company's ability to keep pace with a dynamic environment, which requires flexibility in management of both operational and dynamic dimensions of a business model (Fjeldstad & Snow, 2018)

diverse organizations can best cooperate to find the best solutions, and the need for support in this process is consequently growing as the number of startups within the industry is rapidly increasing. The complexity of sustainability challenges implies that no single organization or sector has the resources to develop sufficient solutions, which is why collaboration between several diverse industry players is essential to achieving this (Gray & Stites, 2013; Valuer, 2020). Emerging initiatives that facilitate such collaboration and create ecosystems that can enable corporate-startup collaboration will thus be an important measure in the transformation of the blue economy.

Existing literature mostly considers the benefits and risks related to collaboration to utilize diverse resources, and how this can affect the innovative ability of involved actors (Hora et al, 2018; Chesbrough, 2006). Furthermore, there exists literature on collaboration for resource and knowledge sharing in innovation processes and sustainability in ecosystems (Riesener, Dölle & Kuhn, 2019; Rauter et al., 2015; Hockerts & Wüstenhagen, 2010), which mainly considers the motivations for collaborating on such challenges. Further, it has been stated that inter-organizational knowledge transfer may relate to unique innovativeness (Powell et al., 1996; Tsai, 2001). In addition, it suggests that the added value of organizational knowledge transfer is related to existing capacity in the receiving organization to assimilate it (Cohen and Levinthal, 1990). Thus, collaboration for sustainable development through inter-organizational learning increases value frames that promote sustainable development on industrial and system levels (Dzhengiz, 2020). Based on different learning levels it seems to be possible to combine multiple levels of learning and thereafter adjust routines, organizational behavior, values, beliefs, and capabilities to better address relevant and assimilated learning, and thus organizations' ability to promote a sustainable future.

Additionally, increased interest in the literature and amongst actors in the business environment on the role of accelerator programmes proposes a potential to investigate how accelerators create an ecosystem that enables such collaboration. Several studies show that accelerators play a critical role within emerging entrepreneurial ecosystems (Pustovrh, Rangus & Drnovšek, 2020; Goswami, Mitchell & Bhagavatula, 2018; Miller & Bound, 2011). By harnessing open

innovation, they can forge a broader network of relationships with external actors to increase the capacity and embedment of the ecosystem, which advances the system by attracting the best new ventures (Pustovrh, Rangus & Drnovšek, 2020).

However, little work has been done on organizational learning in new ventures, and especially on the learning occurring in collaborative relationships with corporate partners. Bridging these topics, with inter-organizational learning as the linkage element, can provide valuable contributions to existing research fields. Building on this combination of existing literature and the identified gap, we will thus investigate how dynamics in ecosystems can facilitate collaboration between new and established ventures, which ultimately can contribute to enhancing industrial sustainability. We do so by applying literature on inter-organizational learning, and directly relate this to the new ventures' ability to transfer and integrate the learning outcomes, particularly on company sustainability practices and the overall impact on industrial sustainability.

1.1 Research Question and Aim

Building on existing literature, we wish to investigate how collaboration can enhance sustainability as a result of collaboration between new and established ventures. We will study the effect of open innovation and interorganizational learning between a new venture and an established organization in a formal partnership. We do so by applying essential literature on entrepreneurial ecosystems, open innovation, accelerators, sustainability and inter-organizational learning. We further investigate the support for directly relating this to the new venture' ability to transfer and obtain knowledge for enhancing sustainability practices. Additionally, increased interest in the literature and amongst actors in the business environment on the role of accelerator programmes proposes a potential to investigate how accelerators create an ecosystem that ultimately enables such collaboration. We do this by investigating the mitigating effect of accelerator participation in enabling such collaborations, which to our knowledge is not yet considered in the accelerator literature. Drawing on these discoveries, the following research questions are defined:

What is the role of inter-organizational learning in new ventures following collaboration with established ventures, and how can it contribute to enhancing sustainable value creation in an industry?

What is the mitigating role of accelerators in enabling collaboration between new and established ventures?

1.2 Outline of the thesis

The thesis is composed of seven chapters. Following this introduction, chapter two will present the empirical context of our research, with the intention to provide insight into the industries in scope and a better understanding for the reader when presented with the cases that our research is based on. In chapter three the theoretical foundation for our research is presented, which culminates in an analytic framework in which inter-organizational learning is central. The methodological procedure will be discussed in chapter four, including reflections and explanations on the choices we have made during the process. Our findings and analysis will be presented in chapter five, followed by a discussion on their implications and relations to theoretical concepts in chapter six. Lastly, chapter seven will accommodate our conclusion, including reflections on the contributions and limitations of our research, as well as recommendations for further research.

In this chapter, the empirical context of our research will be presented. We will provide an overview on established and emerging sectors within the blue economy in light of the current state of industrial sustainability. This will facilitate an understanding of the conditions in which our cases are situated. Additionally, we provide information about the new ventures, their partnerships and the accelerator which provided our access to these informants.

2.1 The state of sustainability in the Marine Environment

The blue economy aims to improve human wellbeing, social equity, reduce environmental risks and ecological scarcities using our ocean resources (OECD, 2019). There is vast potential in the ocean to meet the pressing challenges arising from a growing world population, but existing activities add to mounting pressure on the ocean ecosystems. To realize the full potential of the ocean's ability to support long-term socio-economic benefits we need sustainable approaches that simultaneously support economic development (OECD, 2019). This requires involvement of diverse actors, including the established traditional ocean sectors (The world bank group, 2017). To understand the need for successful sustainable development projects, it is a prerequisite to look at the ongoing and evolving challenges of comparing present needs towards the future ones (Elliot, 2012). The current situation has not met the need for protection of all ocean resources (United Nations, 2020), which emphasizes the need for transformation in ocean industries to meet the requirements of a blue economy.

Rising temperature has affected the arctic areas, whereas species invasion is projected to be most intense in this area (OECD, 2020). 992 billion NOK could be lost by 2050 attributable to catastrophic weather. However, humans are expanding their knowledge within technology and innovation, and the information about the ocean is getting more accurate and easier to understand, which supports the maritime environment to innovate in a way that promotes a more sustainable future (Peters, 2016). New technology for alternative fuels, energy saving, hybrid power

and hydrogen boats are of huge interest for the future maritime transportation and robots can inspect the discordant environment identifying pollution and greenhouse gas emission (Peters, 2016). In other words, these are all substitutes that could replace current methods causing overproducing of land pollution, noise pollution and other waste that is disrupting the environment and ocean ecosystems (OECD, 2020). In order to understand the potential of adopting new solutions within the traditional industries, it is essential to look at emerging industries and how these are enabling alternatives or improvements through common solutions for a more sustainable future.

2.2 Established Industries

Globally, over 3 billion people are working in ocean-based industries (OECD, 2020), which contributes 1,5 trillion of the global economy annually (Ocean Panel, 2020). Industries such as tourism, fisheries, maritime transportation and the petroleum industry are important contributors to job security worldwide. The oil industry is largely driven by fossil fuels with huge carbon emission, and their presence in the energy field has significant consequences for environmental sustainability (Opeyemi, 2021). In 2019, about 85 percent of energy consumption worldwide was non-renewable, such as oil, coal and natural gas (Opeyemi, 2021). In 2018, 38 976 million people worked in the fishing industry (Shahbandeh, 2020), which is considered an essential activity for feeding the population. Sustainable fishing is the future and especially for overfished populations (CBEI, 2021), which is a significant threat to food security, nutrition, and health. If fisheries management should continue, management must be specified with clear objectives (Jennings, 2001). The immense reduction of sea ice, despite being catastrophic in many ways, also poses opportunities for rethinking shipping manufacturing (OECD, 2020). Already, the world's largest container company "Maersk Line" has deliberated to ship on an Arctic Route along Russia's north coast, because of the melting ice (Cockburn, 2018). However, there is a need for new energy sources for shipping operations in order to reduce the impact of increased activities in this industry.

As established sectors, these all contribute to economic development, but current unsustainable practices have failed to consider the impact of using ocean resources on the environment, resulting in endangering of numerous marine species, disturbing natural habitats and limiting the oceans resources' ability to absorb CO2, which impacts the availability of environmental resources and climate change significantly (OECD, 2020). It is therefore important to highlight the potential of emerging industries to develop sustainable solutions and prevent further environmental damage.

2.3 Emerging Industries

An increased focus on sustainability has led to new behaviour within markets, customer demand, laws and regulation, forcing firms to reduce their environmental impact and increase innovative activities (Chang, 2017). This is causing sustainable development to naturally drive disruptive innovation (Christensen, 1997) and sustainable entrepreneurship proposed as a form of creative destruction (Hart and Milstein, 1999). Sustainable entrepreneurship is a combination of economic, social and environmental value creation and may be on the path towards commencing a next industrial revolution (Senge and Carstedt, 2001). Thus, emerging industries such as renewable energy, aquaculture and marine biotechnology could facilitate more sustainable development in the marine environment.

2.3.1 Renewable Energy

The potential of new energy sources is currently being assessed, not merely on its capability to increase economic growth, but also on the sustainability of such growth (Opeyemi, 2021). Worldwide, non-renewable energy dominates the energy consumption, where only 11.41 percent of exajoules are accounted for by renewable energy sources. The need for increasing the share of renewable energy is significant due to environmental damage (Opeyemi, 2021). Renewable energy is an emerging industry powered by the development of solar energy, offshore wind, ocean energy, tidal energy and wave energy (European Commission, 2019). Renewable energy has been proven to be better offshore than on land as the wind is steadier at sea and on a global aspect the offshore wind sector will acquire a significant market share in 2050. About 320 organizations currently work within this sector and almost half of them are based within Europe (European Commission, 2019). Additionally, solar energy is approaching a significant level of development from a technical perspective and recognized by its value for reducing carbon dioxide emissions. To

achieve the set energy and climate targets, there is a great focus on solar energy development and other renewables industries (Heffron, et al., 2021).

2.3.2 Aquaculture and marine biotechnology

The human population is increasing, with a population rate of 1.05 percent a year, and consequently the use of natural resources has been overexploited (Roser, Richie & Ospina, 2019). Hence, a result of aquaculture and industrial development with a focus on retaining life support, emission of land, water and air for future generations (Pillay TVR., 2004). Aquaculture breeds, raises and harvests fish species and aquatic plants are creating healthier habitats and rebuilding stocks (Pillay TVR., 2004). Sustainable marine biotechnology has huge economic potential and operates on living organisms as a source of biotechnology applications. Several products are based on marine biotechnology such as materials, healthcare, medical care, food, fuel, feed processes, paper and chemicals (European Commission, 2019). One increasingly discovered application of marine biotechnology is the use of seaweed as a raw material for new products. It is expected that the commercial seaweed industry will reach 21 billion dollars in revenue by 2023 (Mayid, 2020), and can as a low input and renewable natural resource be of importance in meeting future human needs with a limited climate impact. Amongst the benefits of seaweed farming and commercialization is its ability to absorb CO2 and be formed into biofuel, food and medicine (Mayid, 2020).

2.3.3 Desalination

People are dependent on clean water. Yet, water scarcity is a great challenge in many developing areas of the world (UN, 2021). 97 percent of the world's water supply is composed of the ocean (UN, 2021), which has made it unavailable as a nutrient source in many areas, especially when climate change is causing drought and dry soils. An emerging solution to this is technologies that can turn saline water into freshwater. The process is called desalination and is rapidly being used to provide consumers fresh and healthy water. Additionally, the process is reducing the salt amount in saline water from as high as 35,000 parameters of saline to 1000 parameters of saline (USGS, 2018), which indicates that this may be a sustainable solution to the pressing challenge.

It is important for cross-sectoral initiatives and collaboration amongst all marine sectors within the blue economy to transition into a sustainable industry. Established and emerging industries should collaborate with each other and adapt sustainable solutions in order to meet these emerging trends and manage the transition. According to Parmigiana & Rivera Santos (2011), no organization is an island, and needs a network with other organizations to survive and grow. Facilitating collaboration between diverse players across emerging and established industries, is expected to provide fertile ground for new innovations that can answer to the challenges and opportunities these industries are collectively facing.

2.4 Case Information

Participants **X**, **Y** and **Q** are developing their companies in emerging industries, within renewable energy, marine biotechnology and desalination. All companies have during the past years participated in the same Accelerator program, **K**, an investment fund focusing on supporting new ventures with sustainable impact on the marine environment. Participant **Y** is in a collaborative research and development project with company **V** and participant **Q** is collaborating with company **O** on an environmental and social project in a rural area. Participant **X** has not yet been in formal collaborations with established ventures but has a vision to partner up in the future and has been in dialogue with several central industry players. However, their mindset on corporate partnerships is mutually essential to gain insight in their mindset about the steps before partnering. This section presents a description of the accelerator program, our informants' companies, their partners' companies, and their collective projects.

2.4.1 Accelerator K

All the informants participating in our research have a common link from engaging in the accelerator program hosted by accelerator K. The accelerator program focuses on the sustainable marine industries and invests in and supports the companies to achieve their missions, strategies and scalable impact, as well as ensuring embeddedness in relevant industry networks. Through partnerships with

corporates, research institutions, new ventures and organizations they are building a global ocean ecosystem which is valuable for new ventures in these industries, and for awareness about innovative solutions in the ocean space.

2.4.2 New venture Q & Company O

Startup Q developed their company with a vision to desalinate ocean water in areas of water scarcity, become ocean safe, regenerative and to be 100 percent solar powered. They are working with multiple leading companies with a desire to acquire sustainable approaches to water supply. Startup Q uses solar energy to create high-quality water at scale and their partner O is using this type of solar energy to generate access to clean water for people in a rural area in a developing country. Their collaboration is facilitating the world's first solar thermal sustainable water purification technology on scale.

Company O's mission is to achieve a sustainable strategy that consists of transformative targets, aiming at reducing carbon footprint and water waste. They partner with various forms of suppliers, NGOs and other organizations to achieve their targets. They aim at making strong progress into 2022 with 100 percent renewable electricity, 50 percent carbon brewing and zero coal use, reducing 4.3kg C02 per hl in 2019, a reduction of 39 percent since 2015, and equivalent to taking 109 thousand vehicles off the road for a year. Company O collaborates with partners who supply their ingredients, packaging, logistics and refrigeration, to rapidly integrate varieties into their supply chain, and their mission is to gain 30 partnerships with suppliers to reduce their carbon footprint by 2022.

2.4.3 New venture Y & Company V

Y developed an innovative floating solar solution for offshore conditions. The design handles rough weather conditions and develops a higher energy yield from wind and waves and are additionally substituting horizon pollution solutions. They have partnered with two established partners in their home market to implement their first pilot project in 2021, which will prove their value statement and solution to potential customers and enable future commercialization. Their long-term ambition is to use electricity to create value.

Company V is one of their partners and were impressed with their marine science knowledge and how ideal an opportunity this would be as a relevant collaboration for their current mission. They are pairing with the partners to develop a backsheet with a similar module that will aim at being more efficient. Hence, the technology would become less expensive. Since Company V is boosting solar performance worldwide, similar to what Y aspire to achieve, their mission is to improve the cost of energy and make it clean, less expensive and available for everyone with the same vision and mindset, which they share with Y.

2.4.4 New venture X

Company X was founded in 2018, receiving support from experts within the marine environment, biotechnology, economics and investment. 12 other companies gave support to creating this biotech innovation to generate social, economical and environmental benefits. Their company produces food & nutrition products from sustainably farmed seaweed. With a mission to mitigate climate change, they are additionally ensuring food security and developing job opportunities by creating a new industry and value chain. X has gained significant traction even before their products are fully developed, and have been in dialogue with a number of well-known and established ventures within the food consumption area, but awaiting the research and development phase to be finalized before entering any formal partnerships. These dialogues have been centered around their perspective on the need for X's products, including market insight and consumer behaviour, what potential partnerships could look like and the strategy for enabling a complete value chain with sustainability in focus.

The literature review aims to develop the theoretical foundation for the analysis that will be conducted later in the research process. This chapter presents an overview on the dynamics of entrepreneurial ecosystems and open innovation, in particular collaboration between new and established ventures, as well as the mitigating role of industrial accelerators in enabling such collaborations. Further, we apply literature on inter-organizational learning to frame how learning from collaboration and accelerator participation is supporting industrial sustainability.

3.1 Entrepreneurial Ecosystems

Change in global trends and environmental concerns cause challenges that require industry players to react quickly and flexibly, and companies increasingly innovate in collaboration with various stakeholders within ecosystems. These ecosystems can integrate new concepts to support industrial sustainability during the development and innovation phase (Riesener, Dölle & Kuhn, 2019). The aim of business ecosystems is related to the connection and coordination of participants, the diverse resources they each possess and optimization of efficiency and effectiveness (Moore, 1996). There have been proposed several success factors for ensuring industrial sustainability through innovation ecosystems; interdisciplinary cooperation relates to how networks seem to be complementary by facilitating collaborative agile product development and platforms for idea exchange. On the input side, the factors primarily support the simplicity of collaboration within a network (Riesener, Dölle & Kuhn, 2019). This furthermore establishes symmetries of agility and stability and suggests that collaborative ecosystems support fast and resource-effective development. The benefits suggested by other researchers also include sharing the risks and costs of innovation processes (Hora et al, 2018).

The European innovation ecosystem is stronger than ever (Larkin & O'Halloran, 2018), suggesting that the potential for collaborative efforts amongst diverse players within it is great. Participants within an ecosystem must be complementary (Riesener, Dölle & Kuhn, 2019), and interdependence, such as the one existing

between dynamic startups and resourceful corporations, is an important dynamic within a well-functioning ecosystem. The combination of different capabilities enables radical innovations while still enhancing resource sustainability. Thus, innovation within an ecosystem often needs inflows and outflows of ideas to accelerate (Freeman & Engel, 2007).

3.2 Open Innovation

In past markets, firms have primarily applied a closed innovation model using internal resources to their competitive advantages (Chesbrough, 2006). Global trends and environmental concerns, however, cause challenges that require industry players to react quickly and flexibly (Riesener, Dölle & Kuhn, 2019). As a response, companies increasingly innovate in collaboration with various stakeholders within innovation ecosystems, commonly referred to as open innovation (Chesbrough, 2006). Open innovation is ultimately the intentional use of both knowledge inflows and outflows from internal and external sources with the purpose of accelerating internal innovation and market expansion for external use of innovations (Chesbrough, 2003). This allows organizations to weigh a larger number of resources and knowledge for developing sustainable innovation (Rauter et al., 2015).

3.2.1 Collaboration between new and established ventures

In our research we limit the concept of open innovation to the single phenomenon of collaboration between new and established ventures. Open innovation is, per definition, processes that are characterized as collaboration with other parties (Chesbrough, 2006; Lee et al., 2010). New ventures often face liabilities of newness (Stinchcombe, 1965) and smallness (Freeman, Carroll & Hannan, 1983), which reflects their restrained resources and limited negotiation power (Dickel, Hörisch & Ritter, 2018). Research on the characteristics of startups have emphasized the fact that they are flexible and agile, willing to take risks and consequently are able to develop innovative ideas (Weiblen & Chesbrough, 2015). The nature of startups' restraints, however, consequently makes them more dependent on external partners, resources and the local ecosystem (Brunswicker & Vanhaverbeke, 2015; Nambisan & Baron, 2013; Van de Vrande, et al. 2009).

In contrast, established ventures have resources, power and repeatable scalable business models (Weiblen & Chesbrough, 2015; Kohler, 2016) and often engage in incremental process innovation, with minimal external effects, rather than radical innovation that can potentially change industry trajectories (Hockerts & Wüstenhagen, 2010). These existing resources, processes and cultures reflects past investments and success, that often restricts and limits exploration (Steiber & Alänge, 2019; Christensen & Overdorf, 2000) and anchors these established ventures in a business-as-usual approach (Hockerts & Wüstenhagen, 2010).

Dynamic capabilities are strategic and relates to an organizations' ability to identify and assess opportunities, mobilize resources to capture the value it provides and transform according to the rapidly changing business environment it is embedded in (Teece, 2012). To what degree, and how fast, a venture's specific resources can be aligned and realigned to meet requirements or exploit opportunities in the business environment is determined by the characteristics of these capabilities (Teece, 2012). Additionally, the alignment of internal and external resources is a determinant of when and how decisions to form partnerships with other organizations are made, meaning that entering collaboration will only happen once the organization has aligned their internal resources with the developments happening externally.

The flexibility of new ventures often results in faster exploration of new technologies or development of creative business models, making them attractive sources of inspiration for established ventures with a desire to pursue further development of their innovation strategy (Marion & Friar, 2012; Miller & Bound, 2011). Established ventures can benefit from collaboration with new ventures in terms of expanding their business model through access to new technology that can complement their existing portfolio (Hora et al, 2018) and stay on top of development by learning to create solutions that fit emerging markets (Teece, 1992). Furthermore, previous research explains how startups and corporations can leverage on each other's diverse capabilities and resources, which the other often seem to be in need of and suggests the added value of such partnerships. The research of Hora et al (2018) found that this can have significant effects on the

innovation capability of both startups and corporations and further establishes dynamic capabilities and better sensing and seizing of opportunities which ensure competitiveness and consequently provide greater innovation abilities in ecosystems. This is thus promising as a source of sustainable solutions to ensure future value creation for both established industry players and potential disruptors and control a potential disruption of the corporations' existing business models (Larkin & O'Halloran, 2018).

Benefits of collaboration include exchange of resources, capabilities and knowledge, which proposes an attractive strategy for startups who often face liabilities of resource constraints (Freeman & Engel, 2007). Cooperating with firms that possess the required resources and effectiveness to scale fast, indicate that startups can pursue their innovative ideas and growth aspirations on a larger scale. This can further be expected to ensure sustainable competitive abilities and future growth opportunities. Proposed benefits of such collaboration thus include expected growth, access to new markets (Hora et al, 2018), increase of social capital (Lechner, Soppe, & Dowling, 2016), independence from external capital (Hora et al, 2018) and positive effects on reputation and visibility (Larkin & O'Halloran, 2018), which indicates the potential for increased long term survival.

As startups may lack certain resources and possess relatively low negotiation power, they might face certain risks in collaboration with regards to managing their business dynamics effectively (De Rond and Bouchikhi, 2004). Other risks are the need for revenue from external resources, and those that have a limited amount of time to find funding to be able to continue their operations if partnerships fail to succeed (Larkin & O'Halloran, 2018). The spirit of a startup is unique, and if collaboration is getting too integrated, and dependency on corporate decision making too strong, there is a risk of losing the unique spirit. Furthermore, the existence of scaling too quickly can be a challenge if startups do not have the ability to answer to this growth. Because of their low negotiation power, startups also face the risk of being caught by "corporate sharks" (Katila, Rosenberger & Eisenhardt, 2008). The corporation can waste the start-ups resources by only using them as a consultancy firm for innovative inspiration (Larkin & O'Halloran, 2018). The top-down approach of a corporation can also be a challenge since the entrepreneurs and

early employees of a startup are used to making decisions collectively and across positions, which contradicts with the individual decision- making process associated with a top-down approach. For corporations, a perceived risk might be that the product or service created is not as expected amongst their stakeholders, and reputational damage may occur (Larkin & O'Halloran, 2018). Outcomes are unpredictable and parts of the process happen outside the corporation, enhancing the risk with regards to lack of control. It can also be challenging if employees in other parts of the corporation don't understand the change and it might meet resistance. When selecting a partner, it is recommended that one needs to see a common vision and a solid understanding between the partners (Hora et al, 2018).

In contexts characterized by high uncertainty, risk and innovativeness, the degree of collaboration with external partners increases (Tether, 2002; Pfeffer & Salancik, 1978). These are typical conditions for environmentally oriented firms seeking to meet the complex sustainability challenges of today (Hockerts and Wuestenhagen, 2010; Mazzucato, 2016; Schaltegger and Wagner, 2011). This suggests that collaboration is an effective measure to meet emerging demands for sustainable operations, while mitigating risk. While established ventures are seemingly often less ambitious in their environmental transformation than new ventures, they are expected to have a broader reach due to their established market presence, resource availability and larger scope.

Mitsuhashi & Greve (2009) have implied that the availability of aligned partners determines partner selection, as well as the initial decision to partner up. They highlight the importance of market complementarity, the ability of an alliance to provide new market opportunities for both parties, as well as resource compatibility. Partners need to be similar enough to function together, but also distinct enough to provide additional value to each other (Mitsuhashi & Greve, 2009). Consequently, there should be a contract to follow, including expectations, agreements and important details of the partnership, highlighting what one provides one another in terms of added value and how to get there (Larkin & O'Halloran, 2018). Information exchange and common objectives are important to prevent conflicts caused by information asymmetry, and to prevent other misunderstandings which may arise in inter-organizational relationships (Hora et al, 2018). It is ultimately the

complementary skills of new and established ventures that leads to compound impact and drives an industry towards sustainability (Hockerts & Wüstenhagen, 2010). Consequently, it is considered essential that these players can successfully work together and learn from each other.

3.3 Industrial Sustainability

In 1995 the formation of industries towards the business aspect of sustainability became a significant focus for the market to measure their environmental sustainability performance (Paramanathan, et al., 2004). Per definition, industrial sustainability is about social progress, protection of the environment, prudent use of natural resources and rapid economic growth. These all need to be considered from a business perspective (Neri et al., 2018; Paramanathan, et al., 2004), in line with the triple bottom line logic (Elkington, 1998). When directly related to productivity and innovation, industrial sustainability refers to how one needs to rethink the value proposition on a product and process level, and implement incremental change to these. This further makes important contributions to the overall institutional environment and the industry's pursuit of improved sustainability performance, by facilitating a reduction in negative impact (Smart et al., 2017).

The pressure from various stakeholders to become sustainable is crucial for the progress of this development because of the publicity and consequences from not focusing on industrial sustainability. The first step to become sustainable, is to ensure that it is an actual business case, which creates additional financial gain, a positive reputation from becoming sustainable and provides increased innovation and technology skills (Paramanathan, et al., 2004). However, companies do struggle in becoming sustainable at the beginning because of the lack of understanding, radical changes, identifying the surroundings and core of the issues and creating the strategy. These aspects are not without challenges, but essential for long term development (Paramanathan, et al., 2004).

3.4 Inter-organizational Learning

Complementarity can act as motivation to inter-organizational learning (Dzhengiz, 2020). It is a balance between being different enough to learn from each other and having the same beliefs and aiming for the same direction. Inter-organizational learning occurs when knowledge sources are external to the organization and absorbed to be transferred and utilized internally (Wijk & Jansen 2008; Zahra, & George, 2002). Research on organizational knowledge transfer has focused on how knowledge transfer relates to innovativeness. Organizational knowledge transfer enables an organization to generate new ideas for new product development (Powell et al., 1996; Tsai, 2001), as it stimulates the combination of existing and newly acquired knowledge and augments a unit's capacity for making novel linkages and associations (Jansen et al., 2005). In addition, the accumulation of knowledge not only permits more efficient utilization of related knowledge but also enables organizations to better understand and evaluate the nature and commercial potential of technological advances (Cohen and Levinthal, 1990).

Wijk & Jansen (2008) indicates that size positively relates to transfer of organizational knowledge. Larger firms or organizational units may not only have more resources to devote to knowledge transfer (Gupta and Govindarajan, 2000), but may also have more diverse knowledge resources that enable absorption of new knowledge (Cohen and Levinthal, 1990). Learning from a partnership thus builds upon the cognition and backgrounds of collaborating parties, which determines their ability to both transfer and absorb the knowledge created. Mitsuhashi & Greve (2009) found that complementarity and compatibility were the foundation in alliance formation of organizations with past partnering or networking experience, while this was not the case for the ones entering their first alliance, which indicates that these are important characteristics of successful alliances. Larsson et al. (1998) have highlighted that the success or failure of strategic alliances rests upon the partners' management of the collective learning process that an alliance provides.

Collaborative initiatives that facilitate sustainable development through interorganizational learning do not only entail acquiring knowledge about how one can work with sustainability in new ways, but also in what ways one can engage better with various partners (Dzhengiz, 2020). It seems that prior partnering experience does not only increase the chances to form alliances in the future, but further affects organizations' effective future coordination of partnerships (Sampson, 2005; Gulati, Lavie & Singh, 2009). Overcoming challenges related to delivering sustainable development outcomes requires integration and development of capabilities into one's core business, as well as engagement with value frames that promote sustainable development. Development of new capabilities that help addressing sustainability concerns internally is a result of inter-organizational learning processes triggered by collaborative partnerships (Dzhengiz & Niesten, 2020). An organizations' culture, strategy, resources and existing knowledge are all factors that motivate organizations to enter alliances and partnerships for sustainability (Dzhengiz, 2020). The absorptive capacity of partnering firms explains the extent of how they can learn from collaborative initiatives based upon their separate prior related knowledge (Cohen & Levintal, 1990).

Social capital can be created and/or increased through inter-organizational learning processes (Armitage, Marschke & Plummer, 2008) and is influenced by dimensions related to coordination, trust and compatibility in inter-organizational relationships (Dzhengiz, 2020). Coordination mechanisms for the recognition and integration of complementary differences in resources and knowledge poses opportunities for creating solutions and value frames to sustainability challenges. This requires untraditional inter-organizational relationships to unveil effective coordination mechanisms which can improve learning outcomes (Blome, Paulraj & Schuetz, 2014; Olsen, Sofka & Grimpe, 2017; Dzhengiz, 2020). The cognitive dimension refers to inter-organizational fit and how the organizational frames of respective partners can enable or inhibit effective communication and knowledge transfer, as well as inter-organizational learning (Shou, Che, Dai & Jia, 2018; Ashraf et al., 2019). Some argue that convergence in different values, knowledge systems and logics towards shared mental models is needed in order to improve the ability of

organizations in strategic networks to better respond to environmental challenges (Ryan, Mitchell & Daskou, 2012), and that inter-organizational learning of social capital can reduce initial cognitive distance (De Marchi & Grandinetti, 2013) and lead to shifts in value frames (Sol, Beers & Wals, 2013).

System-level measures are outcomes from collaboration which impacts the social and environmental benefits on macro-levels (Selsky & Parker, 2011; Dzhengiz, 2020). Essentially, inter-organizational learning about sustainability may increase the effect on performance of both the collaboration and the individual companies, which can ultimately contribute to the sustainable development goals, referred to as system-level outcomes (Dzhengiz, 2020). For instance, a significant number of organizations aiming to achieve the sustainable development goals are focused on partnerships and collaboration to achieve their missions. By optimizing and effectively coordinate the joint learning process within inter-organizational relationships (Larsson et al., 1998), which often is achieved due to past experience with partnerships (Mitsuhashi & Greve, 2009), outcomes on partnership level are improved, and yields positive impact on a system level (Dzhengiz, 2020).

3.3.3 Types of inter-organizational Learning

Organizational learning may increase better performance within an organization (Garzia, et al., 2019). However, there exists a significant difference in levels of learning (Dzhengiz, 2020), namely exploration vs. exploitation, single-loop vs. double-loop and lower-level vs higher-level learning. Exploration includes the factors of discovering and pursuing new innovations, while exploitation is about choices and implementation (March, 1991). The learning of the unknown and the development of things that exist are both important to combine (Dzhengiz, 2020). While single-loop learning happens when an error is corrected without second thoughts, double-loop learning happens when an error is corrected after examining the actions and learning from it (Morales, Jover & Llorens, 2009). Lower-level learning appears within an organizational structure on repetition and routines. On the other hand, higher-level learning occurs when adjusting rules and norms and sparks organizational development through skill development and insights (Dzhengiz, 2020).

Based on the learning levels it seems to be achievable to connect multiple levels of learning and thereafter adjust routines, organizational behavior, values, beliefs and in capabilities (Dzhengiz, 2020). Larsson et al. (1998) refers to double loop learning as the trade-offs between the integrative and distributive dimension in interorganizational learning. They argue that these need to be balanced in order to eliminate the learning strategy of maximizing individual appropriation, as it undermines the joint learning outcomes and fails to reach the potential collective effect of the collaboration (Larsson et al., 1998). Joint knowledge development in strategic alliances will benefit from applying double loop learning in this sense, as empowerment of joint learning in the whole alliance yields stronger effects from the collaboration and emphasizes long-term orientation, interorganizational trust, and collective awareness.

3.5 Accelerators

Established ventures increasingly engage in initiatives that enable new organizational systems to meet the pressure for developing disruptive innovation models (Richter, Jackson & Schildhauer, 2017), calls for collective solutions and adoption of sustainable industry transformation (Hockerts & Wüstenhagen, 2010). Several players are thus establishing internal initiatives facilitating internal corporate entrepreneurship, such as corporate accelerators (Hausberg & Korreck, 2020; Kohler, 2016). Corporate accelerators are aiming at bridging the gap between new and established ventures (Kohler, 2016) and that established ventures ultimately profit from the knowledge, creative ideas and innovative capability of new ventures (Richter, Jackson & Schildhauer, 2017).

Accelerators are addressing the challenges posed by the limitations of young companies and aim to accelerate early-stage ventures through cohort-based programmes including funding, mentoring and network facilitation (Hallen, Bingham & Cohen, 2014; Pauwels, Clarysse, Wright & Van Hove, 2015). These organizations have emerged as a prominent feature in ecosystems around the world (Bliemel, Flores, De Klerk, & Miles, 2019; Brown, Mawson, Lee & Peterson, 2019). The effectiveness of an accelerator is said to be reflected in its ability to bridge actors with different assets and competencies together and that way encouraging network-embedded innovation opportunities (Gabrielsson, Politis,

Persson & Kronholm, 2016). Though their main focus is on development of individual new ventures, research have found that they also help nurturing local entrepreneurial ecosystems (Pustovrh, Rangus & Drnovšek, 2020; Goswami, Mitchell & Bhagavatula, 2018; Miller & Bound, 2011) and strengthen industry clusters (Bliemel, Flores, Klerk & Miles, 2019). Accelerators have thus posed an important intermediary between the new ventures participating in the programmes and the external environment (Chatterji, Glaeser, and Kerr 2014; Brown, Mawson, Lee & Peterson, 2019). Network development is prominent in research as one of the most important aspects of accelerator participation (Kohler, 2016; Kupp, Marval & Borchers, 2017). Successful accelerator programmes play a key role in building network ties between new ventures and important stakeholders that possess resources which can in different ways support their development process (Miller and Bound, 2011; Pessot, 2016).

Accelerators furthermore creates a new deal-flow for venture capital funds (Miller and Bound, 2011), simplifying their work in finding suitable and proven ventures for upcoming investments and acting as an intermediary in connecting promising ventures with the investment landscape. Drawing on the conclusions made about new ventures being the key drivers of economic development and innovation (Schumpeter, 1976), but restrained from impact on a larger scale due to resource scarcity, we can assume that investments have a key role to play in the development of sustainable businesses. In addition to providing funding, venture capitalists can play a big role in developing a strong business case facilitating triple bottom line opportunities and return on investment (Bocken, 2015). Accelerators thus carry important responsibility in assessing and promoting sustainable ventures and connecting these to sustainable capital in order to tackle the pressing challenges.

3.6 Analytical framework

This chapter provides an overview on how the theoretical concepts collectively form a comprehensive framework, which will represent the basis for our analysis and discussion of the empirical data. To understand how the emergence and strengthening of industrial ecosystems can contribute positively to industrial sustainability, it is important to understand the additional dynamics in this process.

The presented literature suggests that connections made between diverse participants in ecosystems can spur unique innovations (Moore, 1996; Freeman & Engel, 2007; Riesener, Dölle & Kuhn, 2019) that can support industrial sustainability (Paramanathan, et al., 2004; Smart et al., 2017). Accelerators are important institutional players who can strengthen the diversity of ecosystems around the world (Gabrielsson, Politis, Persson & Kronholm, 2016; Bliemel, Flores, De Klerk, & Miles, 2019; Brown, Mawson, Lee & Peterson, 2019). The open innovation paradigm introduced by Chesbrough (2003) has encouraged numerous different approaches to innovate, all with the same aim; to leverage external sources to expand resources and knowledge that facilitate innovation (Chesbrough, 2006; Rauter et al., 2015). Diversity in resources between new and established ventures (Marion & Friar, 2012; Miller & Bound, 2011), spurs incentives for collaboration between these two and are becoming increasingly widespread (Hora et al, 2018; Larkin & O'Halloran, 2018), as global challenges pose increased uncertainty and risk for every business (Tether, 2002; Pfeffer & Salancik, 1978). Complementarity also acts as motivation for engaging in inter-organizational learning processes (Dzhengiz, 2020). The ability to derive significant learning outcomes from interorganizational relationships is determined by both prerequisite abilities and dynamics within the collaboration but can yield value for both parties and their surrounding environment if the learning process is managed efficiently (Jansen et al., 2005; Wijk & Jansen 2008; Dzhengiz, 2020; Mitsuhashi & Greve, 2009).

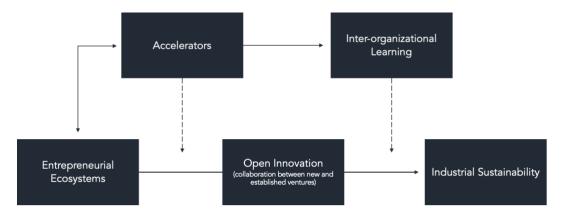


Figure 1: Analytical framework

To summarize, entrepreneurial ecosystems are facing interesting times in terms of increased entrance and activity from diverse and complementary players, which opens opportunities for valuable co-development and collaboration between them.

Accelerators are an important function to enable this. Industrial sustainability is about finding the balance in a triple bottom line. As this has proven challenging in past years, the paradigm of the fourth industrial revolution, driven by partnerships for common solutions, seems to be an appropriate platform to explore how this can promote sustainable development. For collaboration to yield outcomes on industrial sustainability, inter-organizational relationships need to facilitate learning. It seems that efficient learning outcomes require catalysts for efficient coordination of the partnership, where the most important ones are identified as the acquisition of social capital and past partnering experience.

4 Research Methodology

This chapter aims to provide the reader insight into our research process in its entirety, including the reasoning for the choices we have made and the methodological foundation for these. We will present the background for our chosen research design and important considerations and characteristics related to the specific design. We further explain our primary and supplementary methods for data collection, as well as a description of our process for data analysis. Finally, we discuss ethical considerations, including information on participant protection, and reflections on the quality of our research.

In our qualitative study, we seek to understand the dynamics present during knowledge sharing in learning processes between two organizations, and the people constituting them. This is considered a social phenomenon, and interpretation becomes important (Thagaard, 2018, p. 45). A hermeneutic method is thus applied in our research process, explained as an approach emphasizing the consequences of interpreting actions and attitudes on a deeper level than what is immediately expressed, and phenomena can be understood differently depending on the context (Thagaard, 2018, p. 45). The repercussion of this is to consider that knowledge in this sense is not purely objective, and our research setting will influence how we provide meaning to our data, during collection and analysis.

4.1 Research Design

Maxwell (2012) argues that qualitative research designs should be interactive, meaning that they need to allow flexibility to make adjustments in one research component, if this at any time is influenced by changes in another. The data analysis process can for example lead to change in the initial research question. We conducted an exploratory study with multiple case studies where we completed multiple interviews on three collaborative projects between new and established ventures in the ocean industries. Qualitative, explorative studies build theory inductively and represent an iterative process where researching, writing and theoretical discovery occur simultaneously (Bansal & Corley, 2012).

We are building our research on a combination of topics where some topics have separately been well covered, while others have received limited attention. In particular, our chosen combination of research topics is not well covered in the literature. Thus, an exploratory research design is considered most appropriate, as we cannot not know how the true interconnections between these topics will affect the direction of the research, and we are dependent on the flexibility to develop the theoretical and methodological concept throughout the research process. This also includes adapting components accordingly as new information is revealed and additional or revised theory needs to be explored to continue the research process. Furthermore, as this compound topic is something we have limited knowledge about initially, qualitative research methods are best suitable to expand our insight and understanding through detailed data.

We have experienced the necessity of developing theory inductively as new information was uncovered during the research process. Shortly after writing the literature review, we noticed a lack of connection between the literature topics. Interorganizational learning was identified as a topic that we believed would saturate the gap. However, the topic was broad and confusing to narrow at that point. After pursuing the first stage of the interviews we gathered essential data on significant learning outcomes which gave us the direction we needed to narrow the field. Subsequently, the literature review on interorganizational learning was written out and used as a foundation for developing interview guides before approaching our second round of interviews. Our wish to investigate theory on and effects of interorganizational learning emerged as a result of refinement in aim and research question after talking to field and research experts on the topic, and during preparation of interview guides. The choice to investigate this topic further and make it a central part of our research is a result of the importance this topic played in the first round of interviews. Our research questions have also been iterated multiple times, as a result of additions to our literature review and changes in the analytical framework, as well as during our data analysis process.

A qualitative method bases interpretation of data on current theory to provide context and describe the phenomenon in-depth and uses emergent theory to expose the phenomenon in new light (Bansal & Corley, 2012). Detailed accounts of data sources and analysis is thus required in order to give meaning and trustworthiness to the data and the emerging theories (Maylor, Blackmon & Huemann, 2017, p. 178). When the unit of analysis is the basis for the research, rather than the method itself, case studies are recommended (Stake, 1994, s. 236).

Case studies are rich, empirical descriptions of particular instances of a phenomenon that are typically based on a variety of data sources (Yin, 1994). They are used to develop theory inductively by recognizing patterns of relationships among constructs, both within and across cases and their underlying logical arguments (Eisenhardt & Graebner, 2007). Case generalisation is based upon analytical or theoretical representativity, and significance is evaluated in light of preconditions enabling interpretation of empirical variation by category or certain defined variables (Yin, 1994; Andersen, 2013, p. 99). The use of different methods and sources in a case study increases richness of the data, defined as triangulation, which is further said to increase the confidence of the presented results (Maylor, Blackmon & Huemann, 2017, p. 204). In addition to qualitative, semi-structured interviews we applied archival analysis from secondary sources on the prevalence of the phenomenon, which will best ensure an understanding for the context and potentially prove generalizability or contrast to qualitative findings.

In multiple, comparative case studies, representativity is tied to theoretical selection criteria and variation amongst the selected cases (Andersen, 2013, p. 91). A multiple case study is thus argued to provide better analytical control and clarify conditions of validity for coherence (Sartori, 1991, pp. 244-245; Andersen, 2013, p. 92). Furthermore, it makes it possible for us to apply an exploratory design approach and still pursue a holistic perspective and substantiate our aim to understand the complexity of the phenomenon of interorganizational collaboration. For the research we are pursuing, we have defined the unit of analysis to be the knowledge sharing mechanisms that exist between new ventures and corporations within such conditions. To gain insight into this phenomenon, we apply the three cases, which will act as the empirical foundation for our analysis.

4.1.2 Case Selection Criteria

Access to cases and informants was granted in collaboration with accelerator K. We applied a strategic selection of informants in order to ensure that all cases met the defined case criteria,in line with Thagaard (2018, p. 54). George and Bennett (2005) emphasize how preliminary knowledge when selecting cases will strengthen the research design and reduce undesired variation amongst cases (Andersen, 2013, p. 32). Due to close relations with portfolio companies and partners in the industry, K could provide access to relevant cases and the opportunity for us to closely assess cases against our defined case criteria when selecting which projects to study. We selected cases that are as similar as possible on dependent variables, meaning all criteria other than the differences we aim to investigate, which provided increased focus on selected main contexts. The case selection criteria defines the connections between empirical and theoretical dimensions (Andersen, 2013, p. 32).

We have selected case criteria that can potentially ensure exclusion of certain cases to limit unwanted variety amongst selected cases, but will also be used as selection criterion for ensuring a necessary and desired level of variety and provide analysis of valuable nuances between cases. Accordingly, we have defined the following case selection criteria for our research purpose:

Level of involvement (type of collaboration): We aim to investigate the learning effects of collaboration between two fundamentally different organizations, and an important criterion is consequently that the level of involvement of the collaboration facilitates learning opportunities and knowledge sharing amongst the two. A pilot project or a research and development project are considered as projects facilitating such a collaboration, while a basic customer/supplier relationship is not. Furthermore, we believe our research will provide more generalizability when allowing us to investigate several sectors and types of collaborative projects, which is possible as this is not our main unit of analysis.

Stage of project: We aim to investigate ongoing collaborative projects to utilize the real-world context and avoid after the fact biases that may arise when participants reflect on past-time interactions. Ongoing projects, however, might have different durations, and for long term partnerships we may encounter reflections on past experiences even in an ongoing project. The most important criteria on this dimension are ultimately that all three case studies are all in similar stages, to ensure that possible reflection biases do not affect the generalizability opportunity of our study, but a certain degree of variety is appreciated to draw on the nuances of cases. Participation in accelerator programme: In order to ensure application of the empirical data to our second research question, on the mitigating effect of accelerators, we access all cases through our collaboration with Katapult Ocean. All informants are thus employed in new ventures that have participated in an accelerator programme. This is also one of the variables where we expect to find variation, and will thus not be known in advance when selecting which exact collaborative projects to analyze.

4.1.3 Alignment with criteria in selected cases

Despite our relation with K and the convenient access to cases, it was a great challenge to find companies with projects that fit the case criteria perfectly, especially considering the stage of the new ventures and the projects. In terms of the stage of the project two of the cases were very similar, despite the fact that the new ventures are in different phases. The collaborative projects were formal partnerships, with agreed upon goals for the specific project and a potential for future expansion of the partnership if the initial project is successful. Only a short time before we talked to the informants, the collaborations had been in development, were recently announced publicly and about to start operational processes. The two cases also met our criteria for level of involvement as both were formal partnerships where the new ventures and their respective partners work collectively to develop and implement the solution, not merely customer relationships.

Additionally, we ended up with one of the new ventures not having any formal partnerships with what we'd define as an established venture. The company had

several engagements with such ventures, which we had been informed about by the accelerator team and our first informant, but none were formalized to the extent that our second informant was comfortable discussing these as a single case. However, it brought us an interesting perspective of what they imagine they can bring to the table to establish venture partnerships, and eventually played a significant role in contrasting what the two other new ventures have compassed through formal partnerships. We consequently decided that an analysis on this ventures' perspective on potential partners and related expected learning rather than a selection of a particular case would still be valuable to strengthen and specify our analytical framework and research questions. Since the fourth new venture we contacted, which we knew met all the case criteria, unfortunately could not find the time to meet with us, we concluded that this contrast would bring an interesting perspective to the direction of our thesis, seeing that we identified partner experience as important learning also from the two other cases as well. Additionally, we unfortunately were not able to talk to representatives of the partnering ventures and made the decision to focus mainly on learning in new ventures in our findings.

4.2 Data Collection

4.2.1 Interviews

Interviews are one of the main methods used in case studies (Andersen, 2013, p. 119). This method is suitable when it is important that questions are considered in a various order and provides more flexibility in terms of the ability to clarify both questions and answers, as well as ensuring that every relevant item is answered (Straits & Singleton, 2018, p. 217). Another advantage of this method is how individual questions can be developed during the interview to capitalize on the special knowledge, experience and insights of the separate respondents (Straits & Singleton, 2018, p. 205). The respondents' response to questions tend to guide unor semi-structured interviews, but it is recommended that the researcher take a conscious and active approach in order to fully capture their understanding and insight and ensure greater analytical control (Andersen, 2013, pp. 120-122).

When selecting informants we used the snowball method to gather participants. The snowball effect is an approach used in methodology studies, particularly, the effect starts small and tends to increase and build upon itself (Thagaard, 2018, p. 56). Our process started with contacting an institution in our network, namely accelerator K, who we discussed potential relevant cases with. They gave us further information about the cases, and put us in contact with the persons who eventually became our informants. Initially, they were also supposed to put us in contact with representatives from their partner company. However, capacity and unforeseen circumstances with both cases made it impossible to schedule interviews with them within a reasonable timeline of our research process. The selection was strategic; all of our participants were new ventures within the blue economy and had been involved with the same accelerator program. The new ventures were contacted through email and were informed about the interview and furthermore provided with the consent form.

Data was collected through interviews as our primary method and document analysis as a supplementary method. We conducted semi-structured interviews to provide insight into the motivation for and learning effects of collaborative open innovation projects, in an overall industrial sustainability perspective. We aim to understand this phenomenon through the perspectives of certain principal participants involved in the studied projects, namely our informants. Semi-structured interviews are best suited for this purpose, due to their ability to reveal the informants' own opinions and experiences, which is not always available through other approaches (Andersen, 2013, p. 119). For each case, we conducted two interviews with the new venture informants.

We decided that one introductory interview to understand the new ventures' experience with established venture collaboration and assessing these cases' fit for our research purpose, followed by one interview mainly focused on actual interorganizational learning effects would meet our need for data. Our interview guides were developed according to the main purpose of each interview, where the first interview with new venture informants aimed to uncover their experience with different collaborative projects, perspectives on learning and impact on sustainability in each of these, which contributed to our understanding that the

informants and their organizations are a fit for our research purpose. Following this, one single project from each new venture was selected as the case of analysis, and will be the foundation for the development of interview guides for the second round and ultimately the empirical analysis. These interview guides, in accordance with guidelines for semi-structured interviews, provided direction for the interviews, but simultaneously allowed for flexibility.

We conducted in total 6 interviews, with informants from 3 different new ventures, divided into 2 interviews for each company and with 4 informants all together. After interviewing three informants from new ventures, we decided that the amount and quality of the data from the first round of interviews was sufficient to move forward with the three selected cases. These interviews provided enough insight to conclude that we can point to both similarities and nuances amongst the cases, and to develop a revised framework for the connection between the theoretical topics, which acted as a valuable guiding principle for development of interview guides for the second round. The interview guides for the second round of interviews were mainly based on learning outcomes from the collaboration, as well as deeper investigation of the intention and perceived alignment between the partners. To address our second research question we dedicated a section of the interview to questions about the contribution of accelerator participation in enabling valuable connections for the new ventures. Based on responses from informants in the first round we additionally investigated the learning occurring in accelerator programmes.

All interviews were conducted with the same methodology, length and primary questions so that comparison of the findings would be easier. The total length of the first interviews was 30 minutes for each participant, and all were conducted online because of restrictions and geographical considerations. At the first interviews only one of us was asking the questions and communicating while the other was responsible for observing, taking notes, recording, and finally transcribing after the end of the interview and an immediate check-in with the one who primarily asked the questions. Our questions were divided into 3 categories: partnership, learning and sustainability, with a total of 13 questions. The informant received a one-page research proposal, including information on participant protection and rights, but

no additional information beforehand on what kind of questions that may be asked, ensuring genuinely and spontaneity in answers provided.

During the second interview we switched roles and the other was asking the prepared questions while the other was responsible for the administrative considerations and observing. The second interview had a total length of between 1 hour and 45 minutes and was also performed online. Our questions for the second interview were divided into 4 combined categories, based on the findings from our first round: collaboration and sustainability, collaboration, and learning, learning and sustainability and accelerator participation and learning/embeddedness, with a total of 21 questions. Like the first round, informants received no information on the detailed content of our questions.

	Y	Q	X
Type of interviews	Digital interview on Google Meet	Digital interview on Google Meet	Digital interview on Google Meet
Time of interview 1	30 min	30 min	30 min
Participations at Interview 1	1 Informant, 1 questioner and 1 observer	1 Informant, 1 questioner and 1 observer	1 Informant, 1 questioner and 1 observer
Main topics for Interview 1	partnership, learning and sustainability	partnership, learning and sustainability	partnership, learning and sustainability
Time of interview 2	45 min	45 min	45 min
Participations at Interview 2	1 Informant, 1 questioner and 1 observer. Same informant as interview 1	1 Informant, 1 questioner and 1 observer. Same informant as interview 1	1 Informant, 1 questioner and 1 observer. Different informant than interview 1 to cover other topics, more insight into partnership relations

Main topics for Interview 2 collaboration & sustainability, collaboration & learning, learning & sustainability and accelerator & learning collaboration & sustainability, collaboration & learning, learning & sustainability and accelerator & learning collaboration & sustainability, collaboration & learning, learning & sustainability and accelerator & learning

4.2.2 Document Analysis

A document analysis can be applied with the purpose of orienting the scope of a specific topic, as background for research on certain organizations or as sources on a chosen case conditions (Thagaard, 2018, p. 119). In order to ensure the quality of the selected document sources we need to consider their relevance, authenticity and credibility (Thagaard, 2018, p. 119). Particularly relevant for our research is the use of documents for gathering background information on the companies our informants are representing, as well as on the related case.

Analysis of documents which can highlight and help us identify which settings of the organization and specific case will be strategically important for our further analysis (Thagaard, 2018, p. 120). We are complementing our primary data from interviews with analysis of a selection of reports on the topic of collaboration between new and established ventures. The purpose was to strengthen our own findings and increase generalizability or highlight contrasts, as well as highlighting the prevalence of this type of open innovation and how main factors are influencing the process.

After a broad search of relevant resources on the topic of collaboration between startups and corporates in library databases, and partially applying the snowball method to our search, we identified in total 4 reports which were particularly relevant for supporting and contrasting our primary research. Our search strategy was formed based on terms identified in our literature search, and mainly on variations of a combination of the terms startup-corporate, collaboration and sustainability. The results including terms like sustainability, environment and impact were limited, and eventually excluded totally after assessment of source quality. Our selected resources are thus sourced based on the following search words: startup, start-up, new venture, entrepreneur, entrepreneurship AND

corporate, established venture, AND collaboration, collaborating, partnership, partners, open innovation, external innovation.

Below we will present the selected reports and discuss their relevance, authenticity and credibility according to our research scope. A few reports were considered relevant, but deselected due to limited authenticity and a questioned motivation.

Mind the Gap: Challenges in capturing value from corporate-start-up collaborations (Andersson, Benonisen, Timmermans & Gan, 2021) The report is created and published by Sopra Steria Scale-up, NHH (Norwegian School of Economics) and UiO (University of Oslo) with the purpose of identifying where challenges arise in start-up-corporate collaboration and their findings are based on a survey with startup management and innovation directors in Norway. This report is thus of relevance to our research for comparative reasons, either contrasting or complementing our data on particular cases of collaboration. Furthermore, the business environment in Norway is relatively similar to the areas where our informants operate. As well acknowledged research institutions, we assess the publishers as credible. They are relatively independent players with regards to the motivation of publishing this research, as they do not directly benefit from a greater prevalence of this phenomenon. We conclude that they are also authentic in their intention with the report; namely to address challenges and provide potential solutions to these.

Winning Together: A guide to successful corporate-startup collaboration (Mocker, Bielli & Haley, 2015) The report is published by Nesta, Founders Intelligence and Startup Europe Partnership with the purpose of guiding executives in corporations to better management of start-up collaboration by understanding the value it can provide. We consider this report relevant due to the recommendation it provides based on selected successful cases. As these are all startup ecosystem players we can understand a motivation for publishing this report in support of this phenomenon, but still consider them independent enough to be authentic. The authors are representatives from all institutions, which are all well known, and the content can thus be considered credible.

Collaboration between start-ups and Corporates: A Practical Guide for Mutual Understanding (Larkin & O'Halloran, 2018) The white paper is published by the World Economic Forum as part of an initiative to explore key principles for developing a pan-European ecosystem, in particular to strengthen mutually beneficial models of collaboration between start-ups and corporations. The motivation of the World Economic Forum to publish this paper is mainly as an initiative for strengthening the ecosystem, and not unbalanced in terms of supporting either party. We thus assess this resource as authentic and credible for this purpose. In terms of relevance, this resource is used in both our literature review and findings chapter due to its broad coverage of collaboration prevalence and what is needed for successful collaboration.

Corporate-Startup Collaboration Report (Oxford Research, 2019) Oxford Research has created this report for Microsoft, Nordic Innovation, Valuer and TechBBQ, and the findings are based on a survey with management in Nordic corporates, and qualitative interviews with selected corporate executives and an innovation ecosystem stakeholder. This report is considered relevant as it highlights specific cases as well as the motivation for collaboration and potential challenges. As a research institution, the authors are considered credible, and the diverse publishers' motivation is balanced as they are playing different roles in this ecosystem, and we assess the resource as reliable.

To deepen our understanding about the chosen cases and the involved collaborating companies, we have additionally analysed resources related to the collaboration and each of the companies. The case descriptions are a composition of information from company websites, company reports, news posts and verbal information provided in interviews and by accelerator K. Our analysis of this compiled information will be presented together with the topic specific documents in a comparative table in our findings chapter. The additional insight we gain on the companies when analysing relevant documents ensures that we can anchor our further research on the collaboration they are involved in, in line with Thagaard (2018).

4.4 Data Analysis

Researchers are obligated to theorize the meaning of data to guarantee the quality of qualitative research (Silverman, 2014, p. 112). It is thus recommended that in systematization of qualitative data one should alternate between methods which present a synopsis of the data and theoretical reflections to provide an understanding of them (Mason, 2018, p. 187).

In qualitative research, data collection and analysis happen simultaneously (Kvale & Brinkmann, 2009, p. 177). When entering the analysis phase, it is thus important to note that the analysis process started already when conducting the interviews, as we applied considerations of how we may understand what the informants expressed during the conversation, and these direct how we later analyze the written data (Thagaard, 2018, p. 151). The initial step of analyzing the transcribed documents requires that we gain a thorough overview of their content and establish an impression of how these relate to and can provide an understanding of theoretical phenomenon. We applied a cross-sectional analysis to compare data from all informants on selected topics and defined a set of descriptive codes for the most prominent topics which formed the basis for our comparative analysis. This is in line with Thagaard (2018, p. 152-154). It is important to note that categorization of data additionally represents a risk to limit other perspectives in data which are not included in categories as we highlight tendencies, which will be important for us to consider throughout the analysis process (Thagaard, 2018, p. 155).

4.4.1 Category classification

As soon as transcriptions were ready, we read through each interview to get an overview. Following this, we used a colour coding strategy to identify and categorize statements which help us highlight the key topics in our data This furthermore made it very clear what topics our written analysis should mainly be based upon. We then did an initial collective analysis of the first interviews based on the identified, which provided us some preliminary understanding and conclusions. In addition it provided a good foundation when developing questions for the second interview that helped us identify the most interesting topics and

define questions that will allow for more depth and valuable answers. We were surprised with the amount of discussion points we were able to identify already through a relatively scarce amount of data, but were pleased with the amount of relevant information that our informants shared at this initial stage. When planning for the second round of interviews, we thus had a good foundation for investigating the most prominent topics further.

Findings in the interviews led us to expand our literature review to include concepts on inter-organizational learning to further motivate our research. As we read through several times and in different ways we uncovered and identified an increasing amount of data which we were able to relate to theory. Simultaneously we gained an increased understanding of the key topics and patterns within and between interviews. Categorization of central topics from the interviews contribute to tie individual topics which each code represents together across our data (Thagaard, 2018, p. 154), which we extended and applied when analyzing the second round of interviews. We applied a deductive approach to our categorization based on our chosen theories and the reach of our research question, meaning that we only chose categories which will ultimately contribute to answering our defined research question.

4.5 Ethical Considerations

When conducting research, ethical concerns regarding data collection and analysis, treatment of participants and responsibility to society should be assessed (Reese & Fremouw, 1984). For our proposed research, ethical considerations include gathering informed consent from informants and guaranteeing the anonymity and confidentiality of the individuals and organizations involved in the research process. We submitted an application for our research to The National Centre for Data Research in Norway (NSD), which considers the alignment between our research purpose and need for data as well as the collection, storage and treatment of data in the research process. We received approval of our application ahead of reaching out to potential informants and starting the data collection. Interviews were recorded with our private phones. Within 72 hours all data was transcribed,

and the recordings deleted. During this period, recordings were stored separately from all other thesis material, including consent forms and informant information.

Three ethical considerations are particularly important in qualitative research, where we as researchers are directly interacting with our informants through interviews, namely informed consent, confidentiality and consequences of involvement (Kvale & Brinkmann, 2009, p. 63; Symon & Cassell, 2012, p. 104). These apply beyond the live interview setting and are embedded throughout the research setting (Kvale & Brinkmann, 2009, p. 61).

Informed consent entails our obligation to inform participants about the purpose of our research, features of our research design and the identified risks and benefits of participating in our research, as well as the right subjects must not be coerced into participating in research and withdraw at any time (Kvale & Brinkmann, 2009, p. 70-71; Straits & Singleton, 2018, p. 486). In addition to understanding that participation is voluntary, subjects should also be provided enough information to make an informed decision about whether to participate or not. When conducting interviews, information regarding the research should be provided in advance of the planned data collection (NSD, 2018). It is, however, important to consider that there needs to be a balance between providing information to an extent that ensures that the informants can give an informed consent, but not detailed to the extent that their answers and behaviour is affected (Thagaard, 2018, p. 23). All informants received a one page thesis proposal with information about our thesis, ethical consideration and data protection and the expected extent of their contribution to our research. A distributed consent form was collected from all participants in advance of planned interviews.

Confidentiality refers to the importance that the privacy of the individual or organization needs to be given anonymity (Straits & Singleton, 2018, p. 495; Kvale & Brinkmann, 2009, p. 63). Usually, an investigator can identify each response, hence it is important to protect research participants' privacy to ensure confidentiality. With regards to the planned interviews, we will secure anonymization of informants and companies, and omit any identifying information. This will ensure that we do not disclose individual's identities in any reports of the

study and not divulge the information requested without the participants permission (Straits & Singleton, 2018, p. 495). Confidentiality is also particularly important as we will be interviewing informants on behalf of their organizations, and we need to respect their needs of keeping confidential information private or undisclosed.

Consequences refer to the importance of identifying and considering potential consequences for informants participating in our research (Kvale & Brinkmann, 2009, p. 63). For the informants in our research potential consequences might be that their statements, particularly the ones they make on behalf of the company they are representing, might be perceived differently than what was intended. An additional risk for our informants is the aspect of speaking an opinion about an ongoing project with external contributors, including statements which might be directly related to their relation and experience with their partner. This might cause hesitation to share certain details, despite an agreement of confidentiality. To limit the possible biases of hesitance to share we have provided detailed consent forms and kept an open dialogue with the informants. Additionally, we limit potential consequences of our research for the participants by applying research findings in an honest and accurate way, and we have to the best of our ability ensured that the transcribed text is loyal to the oral statements of our informants, in line with Kvale & Brinkmann (2009, p. 63). Additionally, we have carefully considered our understanding and analysis of these data. Furthermore, applied literature will be respected with regards to giving credit to cited sources.

4.6 Assessment of thesis quality

Applying a critical view to research is important, also when it is your own. The understanding one enters the research process with, and consequently how one applies interpretations during the process, is influenced by prerequisite knowledge, as well as the selections and exclusions during delimitations of research scope and theory. We have to the best of our ability tried to limit the influence of prerequisite understandings by being open to introducing new perspectives and directions to our thesis when necessary. However, our thesis has some limitations due to the time and scope of our research process, as well as unforeseen circumstances which impacted our availability and reach of relevant data.

Firstly, since we did not get to conduct any interviews with representatives from the partner company in our selected cases, as initially planned, their perspective on the impact and learning outcomes of the collaborations is omitted from our research. It is thus important to note that contrasts related to learning outcomes in new and established ventures that is highlighted in our findings might be influenced by the fact that the informants are answering what they have learned versus what they believe their partner has learned, and that our findings could be different if a partner informant was interviewed. This might affect the credibility of our findings, in particular on highlighted criteria for successful collaboration, since we cannot know if the partners have experienced the collaboration as successful. However, we do believe our findings are still highly relevant for new ventures as we highlight how they can facilitate and obtain true value creating learning outcomes, as well as providing direction for future research on the topic.

Secondly, we recognize that we might have lost important information during interviews due to the fact that interviews had to be digital. This posed great limitations in our ability to observe their body language, tone of voice, which is possible but may not be as clear to observe in video meetings, and the general atmosphere in the room. Mehrabian (2017) has explained the importance of non-verbal communication, suggesting that the key elements of successful communication is firstly your body language (55 percent), secondly your tone of voice (38 percent) and lastly the words you use (7 percent). This confirms the impact of these restraints on our research process, and is an important consideration for the trustworthiness of our ability to accurately transfer the verbal information to written, and consequently also the identification of underlying tendencies expressed during interviews.

Thirdly, we have limited experience with qualitative research, which likely has influenced our ability to fully capture the potential of the interview setting and definition of questions. We have, however, to the best of our ability, designed questions according to methodological guidelines and to capture the entire scope of our research. It is also important to consider the impact of the relationship between informants and researchers, representing an asymmetrical power relation (Kvale & Brinkmann, 2009, s. 52). We need to acknowledge that this might have influenced

the research setting, as we cannot guarantee that they shared the entirety of the case with us, despite our perception that the informants were willingly sharing great amounts of information. Additionally, since informants knew that one of the researchers had relations to the accelerator providing access to cases, we can neither guarantee the extent of honesty in every answer due to potential desires to maintain harmony in existing relationships, especially in regards to accelerator participation.

Lastly, we would like to highlight the impact of applying document analysis to our research, in order to draw comparisons to our own primary data. As previously mentioned, the effect of triangulation of data by using different sources, increases the confidence of the presented results (Maylor, Blackmon & Huemann, 2017, p. 204). We have developed the document analysis continuously, alongside our primary research process, to ensure that we have a broad and recent coverage of the topic, which have provided access to empirical insight that has strengthened our understanding of the phenomenon, already before the primary data collection started. This, in combination with a relatively broad understanding of the new ventures and potential cases due to our involvement with the accelerator, strengthened our understanding during the interviews, and our ability to ask valuable and relevant follow-up questions that eventually proved important in the development of our analytical framework, in line with George and Bennett (2005) and Andersen (2013).

5 Findings

This chapter presents topics related to the main topics from our second round of interviews on; collaboration, motivation, learning and sustainability from the perspective of informant **Y** on their collaboration with **V**, informant **Q** on their collaboration with **O** and informant **X** on their vision for future collaborations. The findings from the data collection are presented and analysed to identify issues and patterns in the empirical data and the presented litterature, which will be discussed further in chapter 6. The chapter is structured as follows; 5.1 provides information on each of the cases that we draw findings from. 5.2 gives an overview on collaboration for industrial sustainability. 5.3 will cover the topic of alignment in motivation and passion connected to sustainability focus in collaboration. In part 5.4, inter-organizational learning is in focus and in 5.5, the relation between sustainability and all above mentioned topics is presented. Finally, the main similarities and differences will be highlighted.

5.1 Case Information

During the first interview, we uncovered that all three new ventures have experience with collaboration. Every informant mentions access to resources their company does not possess themselves as an important motivation for entering partnerships, while we also can identify several differences in how they approach and select partners based on the underlying aspirations of each company. Types of partnerships range from R&D, pilot projects and more general customer-supplier relationships, with a variety of different partners, from seaweed farmers to universities and local partners to global, industry leading MNEs. After collecting this general overview of the companies' experience with collaboration, we selected one project from each company conjointly with the informants, which will be the main focus of our research.

Key information about each case is presented in the table below:

	Y & V	Q & O	X
Type of collaboration	R&D project	Test project	Different types of partnerships (no formal corporate partners)
Stage of collaboration	Ongoing	Ongoing	Various
Description	In developing their solar panels, Y is working with an established actor in the solar industry as a supplier to test different back panels to their unique solution.	Together with a large, international brewery Q has implemented their solution to a desalination plant in a rural area for social and environmental impact in the local community.	Partnerships with seaweed farmers as suppliers of their key ingredients. Testing production facilities with a partner for alternative packaging production.
Roles of informants	CEO	Development and impact lead	CFO (1. interview) and CEO (2. interview)
Stage of new venture	Through initial R&D phase, starting demonstration of first product	Through R&D phase, starting commercialization	In R&D phase, planning for commercialization
Time since accelerator participation Founding year,	6 months	18 months	6 months
Country	2019, Netherlands	2013, Netherlands	2018, UK

5.2 Collaboration

The similarities between the informants are notable because they are seeking to partner with established ventures from a similar field, and with a similar sustainability focus. Q is highlighting that they are seeking numerous innovative collaborations and assume several criteria important in partner selection. Ultimately, all informants' visions for future collaborations are all seeking to partner with sustainably focused companies, who perceive their co-developed innovation as part of the solution to a problem that is currently challenging their traditional operations. The perception for the collaborations is not to change an unsustainable company, but to collaborate with someone who is already sustainably focused and can help them tell the story of being sustainable and successful together. Additionally, the collaboration between Y and V helps both parties to gain more sustainability focus within the industry in general. Similarly to Q they seek a larger scale where they would like to influence an entire market to change. Both

collaborations are expected by the new ventures to contribute significantly to creating or changing the market that the collaboration occurs in, including its sustainability.

Y: "I knew what to expect when we started to collaborate with V". Informant Y expressed that collaboration is essential for a new venture and stated how difficult it is to become active in the renewable energy market without collaboration. Additionally, they believe they should presume to be selective with whom they collaborate with. Their collaborations with Company V are also science based and have the same knowledge foundation, and followingly the same vision and expectations when partnering. Additionally, adding the weight of a new venture compared to a larger company is minimal, but given in this case on solar energy, they develop other ways to meet the challenge, and create new possibilities by working together.

Q: "The people who reach out to us are the one who are fundamentally trying to do something different and are trying to be really and fully as an advocate of this space". New venture Q started to communicate with the head of sustainability in company O. Informant Q claims how essential their collaboration has been because of how they brought in a new form of technology to their startup, how innovative the corporate O is, looking for constant improvements and that they both have great sustainability standards. Nonetheless, Company O looks for opportunity and potential that reflects on what they are seeking in a partnership. The way the new venture Q looks at impact from working with O is one way of thinking about the impact that the collaboration facilitate, creating clean water and employment in a rural area, but if the larger companies like them start talking about the impact on public platforms it could potentially have an impact to inspire other corporations to do the same, form a ripple effect that could then start to change policies.

X: "I think the answer is that, integration is crucial, partnerships are crucial and mutual benefits are crucial, but we are still developing what that will look like, on both ends." True integration of their solution, partnerships and mutual benefits is crucial for informant X. Collaboration may develop expansion, marketing, corporate and financial benefits. On the contrary, the drawback may be that you

become one of many, which can limit your positive impact. Informant X will look to partner with someone who is on the same page and might still be in the growing phase. New venture X feels strongly about partnerships and is vocal that is how they will grow their business, with someone who is mission aligned and in an emerging sector in the plant based field. The advantages of that, would be that they could grow equally, reducing power imbalance. Additionally, the new venture is looking for someone who can tell the sustainability story and not only acquire their product, explaining an ideal relationship as one where they are equally dependent on each other.

5.3 Motivation and alignment

X: "If you ally with someone who does not share your mission and vision, you are going in two different directions and that would just prove not to be successful". According to X, a good way to actually ensure the balance between passion for their purpose and the integration of their solution is a mutually beneficial relationship up and down the value chain, and a plan for how to integrate it. Hence, it is essentially about how to find the right partners. New venture X wants to find partners who are aligned with their mission and help to tell the story about seaweed, and ultimately build and grow the industry.

All informants believe that aligned motivation and passion is one of the most essential factors for a collaboration to be successful and achieving sustainability and learning from it. Y is passionate about their technology and believes that the partner should have the same drive in changing the market, while informant Q believes that full commitment is important for it to contribute to positive impact. The way to do so is to inspire their collaborating partner with their sustainability story, motivation and commitment. In such a way, they believe that working with passionate, mission led co-workers, partners and having a regular focus on innovation and its contribution to sustainability will result in continuous motivation and passion to work with solutions like theirs. According to X, setting up a business in a new market is really hard. For example, they are working with establishing a value chain that doesn't really exist, and find it challenging that you do not have anything you can point to and say there is startup X's supply chain. Informant X

believes that their motivation is to have a positive impact and it is worth the hard work.

Q: "What we found when working with the corporations is that when they work with us, it is infectious. It's more exciting. So, I think it is about being part of something that is bigger than yourself." According to Q, working with corporations is inspiring because they see that their dynamic and passionate environment is infectious, which makes it more exciting when being part of something that is bigger than yourself. According to Y, equal passion is the drive to collaborate as partners. New venture Y are passionate about what they do in the marine industry, and believe in their future impact on the industry, driven by technology. If informant Y approaches people in a non-activated manner and a non-passionate matter, nothing will happen. Thus, our informant believe the essence of making collaboration work is about motivation and passion. According to Y, there is no ground for a fruitful combination without any alignment.

The collaboration between Y and V develops equal motivation and passion, after long discussions about the formalities and future ideas. Y has seen particularly what large corporations will do for you as a startup once they believe in the mission. Informant Y hopes that they can inspire some of these companies on the way and make sure that it's not only startup Y, but also entire electric value chains and other similar solutions who volatilize the maritime space for these solutions. They believe that the maritime space offers resources that can be used in a responsible way and together figure out how to solve one of the largest crises we are currently experiencing.

According to Q, it is more about the enjoyment and mentality of a new company that triggers a unique motivation in O. Q believes they have been aligned with full commitment, which has made the partnership with O successful. New venture Q has big aspirations for their technology and nonetheless wants to expand globally and contribute with helping others. Also, since Q is a small organization and is asking themselves how they can have the most impact and how to scale effectively and quickly, the collaboration with company O is helping them achieve the application of their solution on scale. Their partnership has triggered innovation,

sustainability and established structure. Even though Q were really early stage, company O set aside capital for their sustainability budget specifically for investing in their innovation, which they contrast with a previous experience with a similar company, who took them on, but did not really make room for them in their budget to truly make a change. Additionally, this made it actually possible to collaborate with each other and look for opportunity and potential rather than risk. Q: "It is like action speaks louder than word right". Recognizing what a small startup as Q can bring to a large company like O is crucial for understanding how they can create value together. Even though the power is unbalanced, the essential part as a new venture is the innovation you bring and highlighting the success you can bring to the company. New venture Q ultimately believes that they have learned company O about their sustainability history, motivation and commitment.

5.4 Learning

X: "People are trying to figure out what kind of opportunities this (our innovation) can be applied to within the area. From their perspective it may be to create possibilities with something new and learn from seeing what potential our solution opens for." When it comes to learning from collaboration we can clearly distinguish the two informants with previous partnering experience from X. From X's perspective, learning is expected to be related to their sustainability reporting and the uniqueness of their products, which they are experts on. We do see that learning outcomes for the new ventures in inter-organizational relationships with established ventures is often related to gaining explicit knowledge such as reporting on sustainability, clarity in communication and branding, and especially expanded market insight. However, Q and Y express that they believe their contribution to their partners' learning is more implicit and tacit in their collaboration with O and V. They believe that rather than tools and explicit knowledge they have brought mission led energy and commitment which inspires the mentality of partner employees to pursue sustainable solutions.

Overall, we can distinguish the informants' learning based on partnering experience, where we indicate that partner experience resembles more humbleness towards the contributions from the partner and their expertise on sustainability, in particular reporting, understanding how they fit with and the partner selection

process. For example, we see that partnering experience also contributes to the understanding that there are potential partners out there who are in fact interested in co-development and understands your value and contributions, which will impact future partner selection processes as it makes it easier to identify a mission alignment and willingness to take risk and invest in your solution. This has been highlighted by both Q and Y, who furthermore address the importance that a well functioning collaboration potentially can have on learning in the industry as a whole as they together can show the potential of these new solutions when applied on a larger scale.

Y: "When it comes to sustainability, we have a lot to learn from them. In terms of tracking and tracing their supply chain, I would say they are far ahead of us". Informant Y expresses that in particular for traceability of their supply chain V is far ahead of them and that Y can learn a lot from them with regards to that, while they learn their partner about the potential for a new application of solar in their shared industry. The company has experienced that established industry players are looking to them to see how their solution works as a measure for transition towards renewable energy, and thus believe that partners engage with them to learn. Y further emphasizes that for their project with V they ultimately have shared learning objectives for the collaboration; to understand what technology works best for this particular application, which will be important for future development and clients for them both.

Informant X expresses concerns for finding an established venture partner that shares their mission and envisioning for the industry going forward, and to be a codevelopment partner and not only a supplier or an acquisition. We relate this concern to lack of partnering experience, as we see that Y and Q more easily are able to identify and target partners with whom they are mission aligned and where they are in fact a significant part of the project. In particular they point to their realization that in dialogue with potential partners they are able to identify their intentions and alignment right away, while X finds this more challenging. However, we see that particularly the belief that the new ventures bring the sustainability story and that the collaboration helps them to tell the story together is shared amongst all informants, including X.

Q: "O wanted to do things sustainably and wanted to do things differently." Informant Q clearly expresses that their greatest learning from this particular partnering experience is that having a "cheerleader" in the partner company is crucial when you are a small and relatively new company trying to land a deal. Not only do you need someone rooting for taking on a project with you, but this person should be a decision maker. The chosen partnership is compared with earlier partnering experiences when explaining how O views innovation with startups in another way; as opportunity and potential rather than risk and uncertainty. Q's cheerleader has been the head of sustainability in O, who not only has managerial influence, but also controls the budget for where investments in impact are applied.

It was explained that another key takeaway from partnering with O has been that it is crucial to identify at what specific use your solution is the very best alternative. In this case this was identified as what type of input water the breweries use, and Q can make a significant impact due to the fact that they can take from other water sources than ground water and consequently O's operations are not affecting the already fragile water table. As O uses water throughout their entire supply chain it would have been natural to think that Q's solution could be applied elsewhere as well, but they understand that in other parts of the supply chain there are solutions working better for those specific use cases than their own. Q expresses that this is how you eventually manage to convince someone, with a lot of alternatives to choose from, of the unique complementarity your partnership would provide. When it comes to more case-specific learnings, Q expresses that the energy and motivation a new venture can bring to an established company is inspiring and believe this is the greatest learning element which they could provide to O. On the other side, Q has learned about reporting on sustainability and clarity in brand communication.

There are other significant learning effects of collaboration, which is more related to collaboration experience and the new ventures' ability to find partners with whom they are mission aligned and create collaborations which will actually have an impact. The new ventures are in different stages and it might therefore be distinctive findings in terms of inter-organizational learning and experience. New

venture Y and Q explains differences between established ventures, where some wish to drive change and take action for co-development and clearly commit to the collaboration, while others say they commit to being sustainable but don't really allocate resources to support the external solutions internally. Thus, we have identified a significant difference between what a new venture may expect in terms of a perception of the opportunities an established venture can provide before and after gaining collaboration experience. We see that X is still trying to figure out how they fit with potential partners, and finds it challenging to identify the ones who are truly looking for change. In contrast, Y and Q, who have more partnering experience, seem more strategic in their selection of potential partners and can tell if they are mission aligned very early in the dialogue. Furthermore, they see far more potential in opportunities for a valuable co-development or procurement collaboration with established ventures. Thus, we conclude that it could be difficult to figure out which partners are aligned with you before gaining learning on this from collaboration experience. A clear illustration of this learning effect is presented in the contrasting answers of our informants when asked about how fast they can identify whether the potential partner is aligned with their expectations and visions for the collaboration. Y and Q state that they are able to identify this almost immediately, often within the first meeting, while X believes this is more challenging.

5.5 Sustainability

Q: "It was very encouraging to see genuine interest in transitioning towards the best level of sustainability that you can reach as a corporate, and seeing that it is possible. Not only is it possible, but it actually benefits you financially as an organization to do things more sustainably. And I think that being able to prove that as a business case will be the biggest game changer for the industry."

All informants express a belief that their perspective and take on sustainability has not changed during the collaboration, which might be due to the well aligned motivation between the partners when entering the collaboration. The main similarity between the partners of Q and Y is that these are both well established, stock listed companies that are looking to do things differently and sustainably, and amongst their means to doing so is working with impact startups. Y informs us that V actually puts sustainability over profitability, and Q expresses that O is concerned

with proving that sustainability and profit can in fact go hand in hand. They are also unambiguous when stating that they believe that their collaboration will be of importance to prove that it is possible to do things differently and potentially open new markets. Further, they argue that by doing this together with V and O, they will be able to skip steps, do it at a larger scale and thus more easily influence the industry overall. Consequently they aspire and believe that these collaborations with important industry players can potentially influence policy and create new industry standards.

Y: "Our collaboration allows for new applications of solar technology, which further stimulates the energy transition." Similar to Q, informant Y believes that they have managed to spark engagement within V through the people in the company that they are directly engaged with, and believes that will open opportunities to utilize V's extensive resources and expertise in the industry to further stimulate the transition towards renewables. Y is already seeing interest in their solution and believes that by proving the possibilities for new applications of solar they will stimulate the renewable energy field and see more companies progressing into it.

X informs us, similar to the others, that an important criteria for them when looking for partners, is a desire to support and drive a new and sustainable industry, but expresses that it currently seems challenging to find someone who is genuinely focused on sustainability to that extent. They express that by growing their business they would support the seaweed industry which ultimately is helping the planet, and thus they imagine that partnering with established companies would create significant impact as they would then be able to do it on a greater scale.

Q: "The way that we look at impact more generally with O is taking a higher perspective of what it means for a big corporation to engage in water stewardship. And that's obviously the impact that it can have across all of their operations. But imagine if you could take that impact and then they start talking about it on public platforms and that can potentially have an impact to inspire other corporates to do the same, form a ripple effect that could then start to change policy that could then create a new standard for what it means to be a corporation working in areas of

water stress, or even what it means to be a corporation in the 21st century." When it comes to sustainability, Q is mainly concerned with the effect that their partnership with O can have due to the ability it creates to apply their solution at scale. Furthermore they believe that company O's ability to clearly communicate this impact will influence other industry players and drive change. They distinguish between this broader impact based on their collaboration and the direct impact they have in the area of the project, from engaging local designers when building the plant, limiting negative environmental impact in water stressed areas using Q's product and employment of locals.

5.6 Accelerators

Informants Y and X believed their sustainability strategy was not necessarily changed, but definitely refined after participating at the K program. As a result, letting the participants measure their products on carbon footprint and receive essential data to measure teaches them a better perspective on strategies and profitable solutions, where impact is integrated. According to the informants the accelerator is making the right connections at the right time, and making sure to follow up after the programme, so that this is always true. Thus, their connection with K is still strong and they are still engaging in each other's activities. Even though informant X and Q have not developed any formal collaborations from introductions made through accelerator K, they believe that they have gained a lot of essential experience and connection from the entrance into their ecosystem.

New venture Y did not have any impact strategy on paper before entering the accelerator program. Additionally, in terms of strategy, it didn't alter the way they do things, but it altered the way they exemplify things, that new venture Y put it on paper and measured it. That was something the informants learned from the program, similarly to X. Before new venture X entered the accelerator program they knew they wanted to have an impact, create jobs and replace plant-based foods, but did not have a tool to measure it. Together they developed a theory of change that they are currently using. Thus, informant X would not say that the strategy changed, but the tools to measure and report were developed because of the program. Contrary, according to informant Q their sustainability story did not change after

the program. They believed they had a pretty good idea around the impact before, but the strategy may have become clearer after the program.

According to informant Y, the role of the accelerator program is more profound than people may believe, and company X said the same. Company Y are now in conversations with Accelerator K about scaling up the company and how they should do that even though the program is finished. Company X praises accelerator K to whoever and mentions how amazing and incredibly helpful they are. However, the close collaboration on impact did not continue after the program but they helped startup X open more doors for further opportunities. Nonetheless, the new ventures seem to have grown after the program, due to embeddedness in a wider ecosystem. Their idea of running a new venture was something completely different, and informant Y is pleased to realize through the K programme practical learnings on how you find a company to work with and different pitfalls. Their connection with accelerator K is still very much engaging with each other. Actually, the informant invited accelerator K to be one of the guests participating in their launch programme for the project of this case. All informants share the same belief that participation in the accelerator is an important validation for future opportunities, due to their position in the global industry ecosystem.

The program was fantastic for new venture X in introducing them to investors as well as to other stakeholders in the environmental space, for example World Economic Forum, has been great for new venture X and the collaboration gained from the program and in terms of access to mentors. Similar to Q, they found it essential to gain insight on multiple third-party perspectives that may have led to developing their sustainability story and strategy even better. Even though they didn't get any concrete partnership from the program, the funding part from multiple accelerator programs was extremely helpful and the community that accelerator K provides is an important part, to be connected to an ecosystem. Q: "Being part of a network is crucial, because otherwise you are just an outsider operating independently, and that has never proven successful."

5.7 Findings Comparison

5.7.1 Key Similarities

New ventures believe their collaboration with established ventures will enable industry change and sustainability

Informants believe learning outcomes about sustainability are limited, but we still identify significant learning effects related to sustainability

5.7.2 Key Differences

Partnering experience clearly impacts the new ventures' potential to identify aligned partners

Past successful partnerships will influence the new ventures' perception of their ability to form partnerships which results in significant impact

5.7.3 Primary and Secondary Data Comparison

Below you will find a comparison of findings from primary data from interviews and secondary data from document analysis. The purpose of this comparison is to firstly present similarities between our primary findings and other resources to strengthen the external validity of our findings. Secondly, we wish to highlight findings from our data which contrasts with previous research and assumptions. We highlight the key similarities between our findings and the secondary data in **bold** and the key differences in *cursive*.

Resource type and name					
Report: Mind the	Winning Together:	Report:	White Paper:	Primary data:	
Gap // Andersson,	A guide to	Corporate-Startup	Collaboration	Interview Findings	
Benonisen,	successful	Collaboration //	between		
Timmermans &	corporate-startup	Oxford Research	Start-ups and		
Gan (2021)	collaboration //	(2019)	Corporates // World		
	Mocker, Bielli &		Economic Forum		
	Haley (2015)		(2018)		

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	Goal misalignment	Startups should	Successful	"For collaboration,	Q: "You need a
Mission	is the main reason	prioritise corporates	collaboration	the following points	cheerleader, and they
	why fifty percent of	who are serious	with startups	are crucial: strategic	need to be a decision
alignment	startup corporate	about making	requires	alignment: If it is	maker."
	collaborations fail.	deals happen and	commitment	just a "nice to have"	
		are set up to make	from the	for the corporation, it	Y: "I am pretty
	While corporations	decisions quickly.	organization as a	will not work.	amazed with how
	believe that		whole.		
	collaboration with	X		0 1	much bigger
	start-ups is	New ventures who	w	Second, upper	corporations will do
	important (90	can solve real	It is necessary to	management	for you as a startup
	percent), this	pain-points for	align all parts of	commitment on	once they believe in
	importance is not	established	the organization,	both sides.	the mission."
	always integrated	organisations are	when		
	in their strategy. In	highly valuable.	collaborating	Third, expectation	Q: "The difference
	our study, 33		with startups.	management on	with O is that they see
	percent of	Set clear		9	-
	corporations do not	expectations and		both sides.	partnerships with
	consider start-up	invest for the long			startups as
	collaborations as a	term, not for a		When new and	opportunities and
	vital part of their	quick sale.		established ventures	possibilities, not risk."
	overall strategy.			get aligned on the	
	0,7			highest possible	Y: "Yes, I believe they
	Corporates prefer	For corporations,		level, both sides can	have been very
	low-risk	it's far more		benefit – and Europe	intentional in their
	engagement.	valuable to figure		(the industries) as a	involvement with us."
		out how to leverage			mvorvement with us.
	Only 25 percent of	the innovation that		whole can prosper.	
	start-ups say that	startups have			Q: "O have been very
	the other party has	accomplished			intentional and it has
	a clear plan for	through mutually -			been a good
	their interaction	beneficial			progression at how we
	and 40 percent say	partnerships			have become more
	they have a clear				ingrained in their
	value proposition.				company."
	value proposition.	Never run startup			company.
		programmes as a			
	There is an	CSR activity but			Q: "We have been
	absence of	link them to your			aligned 100 percent."
	strategic focus	core business.			
	from top				
	management on	Corporates need			Y: "I knew what to
	start-up	appropriate			expect when we
	collaboration.	organizational			started collaborating
		structure			with O."
		internally to have			
		the right			
		commitment and			V. W.
		workflow with			Y: We are passionate
		startups. Otherwise			about what we do and
					we believe in our tech
		you don't get			
		anywhere.			
		<u> </u>		1	

Partner	Corporates find it	Corporates need to	It is recommended	When corporates and	Y: I absolutely think
selection	hard to gain access	think hard about	that one should	start-ups choose	you should be
	and choose the	how to approach	take a strategic	their partners	selective with whom
	right start-ups to	innovation	approach to	wisely, both sides	you collaborate as a
	collaborate with.	partnerships	finding a partner	can benefit	startup.
		systematically,	and define the		
		rather than relying	strategic direction		
		on individuals to	of the partnership.	If a company has	
		take the initiative.		under 50-100	Q: We would not say
				people, it is hard to	that we are the most
				work with more	sustainable solution
		Decide what your		than five partners.	full stop. We are the
		strategic intent is			most sustainable
		before starting to		Many	solution for specific
		work with startups.		entrepreneurs start	case uses.
		Working with a		their companies	
		range of early-		with the intention	O WII
		stage companies		of disrupting the	Q: When we select
		before you have		status quo, and are	partners, we look for
		clearly identified		challenged by the	the ones who have a
		your own long-		idea of working	real pain point about
		term strategy can		with the players	water and see it as a
		end up being a		they set out to	fundamental risk to
		distraction for both		topple.	their operations. Then
		you and them.			it is about
					understanding where
					we can add the most
		Carefully consider			value, and at what
		your objectives to			stage in their value
		engage with			chain we fit in.
		startups. These			
		should be based on			
		real needs.			
	Corporations tend	88 per cent of	Collaborations	Challenged by the	Q: From the beginning
	to explore while	corporate	with the startups	idea of working with	(of a partnership) it is
Collaboration	startups exploit.	respondents believe	have helped	the players they set	important that one is
experience		that collaboration	many	out to topple.	navigated and finds
		with startups was	corporations to		someone who is
	Start-ups look for	essential for their	either		cheering for you and
	increased	own innovation	explore/create	Allows the start-up	really wants this to
	transparency and	strategy.	industry trends.	to achieve	happen, and this
	openness to build		(52 pct.).	sustainable growth,	person needs to be a
	more trust, and	You need to have		independently from	decision maker.
	encourage	people internally		scarce venture	
	corporates to	who really want to	Startups learn a	capital.	
	ensure better	move forward	lot from working		Y: "I am pretty
	knowledge about	working with	with us, they		amazed with how
	the start-ups'	startups.	increase their		much bigger
	motivation.		understanding of		corporations will do
			what is required to		for you as a startup
			meet their market		once they believe in
			needs.		the mission."

Collaboration	Project	Procurement from a	Most (91 pct.) of	More than half of the	X: We can grow as
Collaboration	engagements are	corporate partner	collaborations are	attempts to	they grow
	the most	can help startups	centered around	collaborate fail due	andy grow
	successful, but the	scale up their	co-development	to a clash of mind-	
	least widespread.	operations	such as pilots and	sets between	
		o F	common	passionate,	X: Partnerships are
			procurement.	entrepreneurial start-	crucial, and mutual
		Startups and large	F	ups, and more	benefits are crucial
		companies bring		process oriented and	
		each other	The challenge is	risk-averse	
		immense	often about	corporates.	Q: I think it's more the
		opportunities.	finding a balance	corporates	enjoyment and
			between the needs		mentality that they get
			of the startup to	Corporates have	from working with
			develop a product	the market access,	startups. Very fast
		Startups are a	for a certain	resources, power,	pace, very dynamic
		source of fresh	market	and credibility that	and different because
		talent and ideas that		startups admire,	of the passion and
		can help		whereas startups	mission led people. So
		rejuvenate	Taking all the	have the agility,	I think that the
		corporate cultures	costs and risks	innovative and in	spiritual and personal
			into consideration,	many cases	level can contribute.
		Big companies	the corporates	disruptive mindsets,	
		have learnt how	generally find it	business models, and	Or Von hove two types
		important	rewarding to	technologies that	Q: You have two types of corporations and we
		collaboration with	collaborate with	corporations cannot	have partnered with
			startups (the	ignore, especially if	both (who looked
		young companies could be.	benefits are	they want to remain	similar on the surface);
		could be.	greater than the	competitive in the	One wants to be
			costs).	rapidly changing	innovative and
		Procurement from a		business landscape.	
		corporate partner			sustainable, but do not
		can help startups			have the structure or
		scale up their			budget prioritizations
		operations			to support it. The other is the one who truly
					wants to work with
					you and bring forward
					the technology in a
					more innovative way.
					They set aside money
					in their budget
					specifically for
					investing in this
					project, which made it
					physically possible to
					work with them.
					Q: What corporations
					like O have is the
					ability to scale
					something small, very
					quickly.
					•
					Y: The collaboration
					allows us to skip steps
					quicker.
					-

6 Discussion

In this chapter, the research questions will be discussed in relation to previous research presented in our literature review and our findings presented in the previous chapter. This chapter will be discussed in two parts. Firstly, discussing the first research question where we relate outcomes of collaboration to interorganisational learning and industrial sustainability. Lastly, discussing the second research question where we will be discussing if accelerators are important contributors in building and strengthening industrial ecosystems, which may spark collaboration between actors within it. The matter that underlies our study is as mentioned in Chapter 1:

What is the role of inter-organizational learning in new ventures following collaboration with established ventures, and how can it contribute to enhancing sustainable value creation in an industry?

What is the mitigating role of accelerators in enabling collaboration between new and established ventures?

6.1 Collaboration

We find that collaboration has multiple outcomes when it comes to industrial sustainability and inter-organizational learning. Additionally, new venture experience with collaboration triggers potential preferences on future alignments with established ventures, which increases industrial sustainability, due to a more effective learning and co-development process.

6.1.1 Effective collaborations pose impact on industrial sustainability

We find past partnering experience to be of great importance for forming valuable inter-organizational relationships, in line with the findings of Mitsuhashi & Greve (2009), who highlights complementarity and compatibility as important determinants of whom to partner with. Dzhengiz (2020) explains optimal distance as being related to the interorganizational fit between the players in inter-

organizational relationships, and is a result of outcomes from learning on a partnership level. This indicates that past experiences with partnerships will impact a company's ability to approach an optimal distance in future inter-organizational relationships. This is also supported by Sampson (2005) and Gulati, Lavie & Singh (2009), who find that partnering experience does not only increase the chances to form alliances in the future, but further affects organizations' effective future coordination of partnerships. Coordination mechanisms for the recognition and integration of complementary differences in resources and knowledge poses opportunities for creating solutions and value frames to sustainability challenges (Blome, Paulraj & Schuetz, 2014; Olsen, Sofka & Grimpe, 2017; Dzhengiz, 2020).

We expected that the established ventures partnered with new ventures to become more sustainable, and thus that such collaborations would impact the overall sustainability of the particular industry. However, we see that it is those who already have a strong focus on this area and are existing advocates for industry sustainability who enter into collaborations with successful learning outcomes and will have an actual impact on the industry's sustainability. Precisely because these players make room for the innovation that new ventures bring forward and see it as an important part of their business, which has been uncovered to be crucial for the outcome of the collaborations. The fact that it is exactly these established ventures that manage to execute successful co-development with new ventures is in line with the findings of Teece (2012) and the emphasized importance of alignment of internal and external resources as a determinant of when partnerships with other organizations are formed. These organizations have acquired an understanding of developments in their external environments and thus understand the true value of the collaboration, and prioritize it.

We find that collaboration experience makes the new ventures better at identifying which potential established partners they will align with, based on past negative and positive experiences with collaboration. These experiences further make them able to effectively coordinate, by knowing their strengths and identifying where they fit best within the partners' operations. The result of lacking partnering experience seems to be that it is more challenging to be precise enough to truly convince potential partners of where your innovation is the best alternative, which we find is

a significant difference in our research. In our comparative analysis we identify that mission alignment is presented as particularly challenging in collaborations between new and established ventures, which is also extensively highlighted in research (De Rond and Bouchikhi 2004; Katila, Rosenberger & Eisenhardt, 2008; Lechner, Soppe, & Dowling, 2016; Larkin & O'Halloran, 2018; Hora et al, 2018). However, in our findings we see that this is not necessarily always the case. This challenge might be the norm for these types of collaboration, but our findings indicate that if you are strategic and selective in the partner selection process, and clearly identify and communicate alignment and direction for the collaboration, as suggested by Hora et al (2018), it will deem successful for both parties.

Tether (2002), as well as Pfeffer and Salanick (1978), have suggested that in contexts characterized by high uncertainty, risk and innovativeness, the degree of collaboration with external partners increases. In our research, the new ventures are all creating or changing markets, which is a mission naturally exposed to great risk. We find that they recognize their dependence on established partners to firstly validate their solution, and secondly scale it. We can imagine that the reason why the established ventures are looking outward to partner with the ones who develop the radical innovations, rather than developing it themselves internally, due to the involved risk. Additionally, we find that established ventures are interested in knowing about and taking part in the developments happening in the industry and are thus engaging with the new ventures in deeper or more high levels of commitment, in order to stay up to date and don't get disrupted. We thus relate this to the tendency appointed in literature that established ventures tend to exploit, while new ventures explore (March, J, 1991; Ubeda-Garcia et al., 2019; Andersson, et al., 2021). The collaboration makes it possible for both to be ambidextrous, by supporting each other on the capabilities that the other is usually not pursuing as actively. Our research shows that the collaboration is more an alliance for either sustainable improvements on an area or to grow in a new market together. Thus, the established ventures are gaining success after the partnerships and the startups achieve sustainable growth and become more independent.

Finding an optimal distance as an outcome of partnering experience will impact new ventures' ability to more effectively learn from the collaborations and increase their ability to pose a significant impact on a system level (Dzhengiz, 2020), which we relate to industrial sustainability. We also find from our research that this is ultimately the aim of new ventures who are looking for partners to contribute on their journey towards creating an entirely new market, or when aiming to scale innovations through partnerships to an extent that significantly shapes the industry standards and policies for sustainability. Our informants all share the same perception that established industry partners are crucial for their ability to scale both their solution and their sustainability story and believe that through a successful collaboration with a larger and more visible player they will be able to show the remaining industry that it is possible to implement sustainable solutions and grow at the same time. Benefits of collaboration indicates the potential for increased longterm survival for the new venture (Larkin & O'Halloran, 2018). Hence, by simply being a venture with positive impact who are able to scale their solution and be an attractive alternative to more traditional and unsustainable solutions, they can ultimately contribute to industrial sustainability (Paramanathan, et al., 2004; Elkington, 1998).

6.1.2 Learning about sustainability

When informants are asked directly about learning outcomes from the collaboration we see a significant distinction between the learning which occurs from an established venture to the new venture. Here, learning is more explicit and technical, and learning transferred from a new to an established venture which our informants believe is more implicit and tacit, such as energy, passion and the sustainability story of their company. The new ventures believe that their perception on sustainability has not changed after the collaboration, which we interpret to be a result of the fact that they were highly aligned on this from the beginning and that the established ventures understood their motivation, in line with findings highlighted by Andersson et al. (2021).

When it comes to the new ventures learning about sustainability from the established ones, new ventures express that due to resourcefulness the established ventures are often better at reporting and measuring their impact, as well as having a broad overview of their impact across the entire value chain. We see that this learning outcome is very similar for the ventures who have experience with

collaboration. The resourcefulness of established ventures betters their ability to apply systems for sustainability measurement and we see that the future oriented ones are taking this seriously, and are thus often more skilled at it than the new ventures. For example, they have resources to hire the top experts within the field, naturally improving their performance in the area as well. The resourcefulness of established ventures is also highlighted in research as an incentive for new ventures to collaborate with them (Stevenson, Roberts & Grousbeck, 1989; Chesbrough, 2006; Gray & Stites, 2013; Hora, et al., 2018; Valuer, 2020), and we find, contrary to initial expectations, that this is also the case when it comes to learning about sustainability from them. We see that the established venture had a strategic approach to sustainability before entering the alliance with the new ventures, and both parties had the same mindset while collaborating.

All of the startups want to be part of the bigger picture and the established ventures are creating room and helping the new venture achieve their goal by guiding the new ventures with essential solutions and orientation in the market. Because of the alliance it makes it easier for the new venture to tell their sustainability story and show the industry that it is actually possible to be both sustainable and profitable. Additionally, the completion of their products may not have happened if the collaboration never took place. The collaborations are means to test and potentially scale environmentally friendly innovations, and will according to literature be important measures to promote additional actions towards industrial sustainability (Paramanathan, et al., 2004; Smart et al., 2017). Developing partnerships in an early stage may trigger a better collaboration when it comes to understanding each other's goals and taking the same approach to issues such as company and project sustainability, how to learn from each other and co-development of more sustainable solutions.

The trade-off between partnering up with someone to get access to markets or resources and the risk to diminish their unique innovation and impact by being part of a large system is an expressed concern by the new ventures, in particular the one with no formal partnering experience. However, we see that the ones with partnering experience, who have now found a partner who is both complementary and compatible with them (Mitsuhashi & Greve, 2009) and prioritize the

achievement of common objectives as a means to set the standards for an industry, rather than their own interest in accessing the innovation, have managed to implement efficient learning processes. This is in line with the interpretation of double-loop learning presented by Larsson et al. (1998), suggesting that the entire collaboration, and its external and internal impact, will be empowered by their joint learning. We suggest that this further will promote outcomes on a system-level and enhance industrial sustainability, in line with Dzhengiz (2020) and Paramanathan, et al. (2004).

Studies show that most established ventures prefer low-risk engagement (Ryan, Mitchell & Daskou, 2012; Andersson, Benonisen, Timmermans & Gan, 2021), but this proved wrong in the case of our research. New ventures were actually amazed with how the partners were engaged and intentional in their collaboration and how both sides could benefit. They see partnerships with new ventures as opportunities and possibilities, not risk. Previous research shows that there is often a lack of strategic focus from top management on collaboration with new ventures (Mocker, Bielli & Haley, 2015; Hora, et al. 2018; Oxford Research, 2019). Our research indicates that involvement of top management and prioritization in operational budgets is not only beneficial, but actually crucial. It is highly beneficial if the decision maker is also passionate about bringing the new venture on. However, we also find that making these priorities requires that they see the new venture and their innovation as a core part of their business and perceive the partnership as mutually beneficial. Additionally, it proves important to manage expectations in advance of the collaboration and set goals that both parties are comfortable with and will create value for both, in line with the recommendations of Larkin & O'Halloran (2018) and Hora et al. (2018).

6.2 Accelerators

The interest for new ventures to join an accelerator program in this case has been for various reasons. An accelerator program engages possibilities for new ventures to increase the effect on sustainability and interorganizational learning on sustainable value creation. Additionally, they are important in enabling collaboration between new and established ventures.

6.3.1 The role of accelerators in enabling collaboration

Accelerators aim to accelerate early-stage ventures through cohort-based programmes (Kohler, 2016; Richter, Jackson & Schildhauer, 2017). Additionally, they are aiming at bridging the gap between new and established ventures, by strengthening and activating the ecosystem (Miller & Bound, 2011; Goswami, Mitchell & Bhagavatula, 2018; Bliemel, Flores, De Klerk, & Miles, 2019; Brown, Mawson, Lee & Peterson, 2019; Pustovrh, Rangus & Drnovšek, 2020). They support the development process of new ventures with environmental innovations. We find, in line with past research, that the role of accelerators is to make sure that new ventures within a defined industry grow sustainably and enable a large network that could potentially provide collaboration opportunities for new and established ventures.

Our research found that accelerators are strengthening a relevant ecosystem in the sustainable field, connecting new and established ventures together to connect and share the same beliefs and values. Even if the outcome is not to collaborate immediately, it could trigger networking and learning about industrial sustainability and directly rethink the value proposition and implement potential changes on sustainability (Smart, et al. 2017). Significant literature found it to be difficult for ventures to take the first step into industrial sustainability and it is therefore important to ensure their business case (Paramanathan, et al., 2004). Accelerator programs help new ventures with the issues the literature presents as the difficult parts in the first step towards industrial sustainability. Such as a financial plan, measurements, sustainable strategies and structure. The program also gives the new venture scaling opportunities that are related to strengthening the balance between environmental, social and economical bottom lines (Elkington, 1998; Paramanathan, et al., 2004; Smart, et al., 2017), by emphasizing that impact can be profitable, and by growing the business the impact grows accordingly.

Currently, no partnerships have been formally formed as a direct result of introductions made during the accelerator programme, which is likely due to the limited time since accelerator participation and maturity of the new ventures. Our research does, however, indicate that for new ventures, the access to a highly relevant and strong industry network is one of the main motivations for them to

enter an accelerator programme. Additionally, we find that accelerators are a great platform for new ventures to get the right connections at the right time, including corporate or industry partnership opportunities. Industry focused accelerators, with connections to the established industry network, should thus represent a valuable opportunity for new ventures to firstly become embedded in this network, which ultimately provides a pipeline of potential collaborative opportunities. Since accelerators seem to be important in strengthening industrial ecosystems (Miller & Bound, 2011; Goswami, Mitchell & Bhagavatula, 2018; Bliemel, Flores, De Klerk, & Miles, 2019), we assume that this is partly an effect of bringing strong new ventures in, as well as enabling value creating collaborations, and ultimately contribute to industrial sustainability.

6.3.2 Accelerator participation and interorganizational learning

Accelerators have posed as an important intermediary between the new ventures participating in the programmes and the external environment. We believe that participating in an accelerator program has made the new ventures learn more about themselves, how to interact, understand their own market, the profitable solutions and create a better sustainability story (Gupta and Govindarajan, 2000). As a result of preparing the participants to better measure their impact, they have gained an understanding that they need to concretesize their impact strategy, in order to better understand and measure it, but also to better communicate it. Going into the program with a passion and going out with an understanding is an important learning, which can improve their ability to identify optimal distance and compatibility (Dzhengiz, 2020; Mitsuhashi & Greve, 2009). Here, we refer to optimal distance as alignment in sustainability strategy and overall goals, including posing an impact on industry standards for sustainability. We cannot say that the effect on interorganizational learning between the partnerships is a direct result of accelerator participation, however the program has taught the informants the ability to attract aligned partners and coordinate the collaboration effectively to achieve its goals and gain additional learning outcomes.

7 Conclusion

7.1 Selective startups and ecosystem embeddedness

This thesis deals with a qualitative case study on how collaboration can enhance sustainability as a result of collaboration between new and established ventures. We look into the effect of open innovation and interorganizational learning between a new and an established venture in partnership with each other. Collaboration between new and established ventures has increased within the marine industry, and the interest for new ventures to join an accelerator program is in focus when numerous opportunities may flourish. This often includes receiving tailored strategies, financial support and networking within the same industry that could encourage possible partnerships. A strategic sustainability strategy embedded within the startups as a result of learning during accelerator participation enables them to firstly attract aligned partners and be selective to ensure alignment in partnerships. This alignment determines whether there is a significant value creation on sustainability in the industry caused by the collaboration.

For a collaboration to be successful and impact the sustainability of an industry, we see that both parties firstly need to be committed to actually create a change and know about how to work with sustainability already. If not, they will not be aligned enough to accomplish additional value creation from the collaboration, nor influence policy or industry standards. We see that for new ventures, previous partnering experience influences their ability to identify and target partners who understand the value of the innovation they bring, and that the ability to do so, as well as understanding their own value and the ability to identify at exactly which area of the established ventures operations their solution is unique and bring value. Thus, we conclude that partnering experience might be the most significant learning outcome for new ventures from this type of collaboration, as it influences the partner selection process significantly for future projects, and ultimately their ability to form collaborations which has a positive impact on industry sustainability.

We find that none of the new ventures has managed to establish any formal partnerships from introductions happening during the accelerator program yet. Our research indicates that it is important that the accelerator team knows both the new ventures and potential partners very well, to be able to give the right introductions at the right time, and therefore it is not natural that this happens before the end, or after the program. Thus, it is also difficult to see the effect on collaboration in the two companies we have spoken to when they participated only six months after the program. We do, however, see that all informants believe introductions to be of importance to embeddedness in the ecosystem and that certain introductions will be of great value at a later stage. In fact, the access to the network is expressed as one of the main reasons for participating in the accelerator programme. Additionally, we see that learning from independent contributors, which new ventures can access through accelerator participation, has influenced the concreteness of their sustainability strategy and ability to communicate it externally, which is expected to be of importance for their ability to attract aligned partners.

7.1.1 Managerial Implications

We recommend management in both new and established ventures to prioritize resources and make room for co-development projects as a core to their businesses, if they decide to pursue this innovation strategy. It is crucial to identify at what part of their operations they need contribution and add value for the other party in order to know how they are complementary, which is easier if they align on firstly, goals for the collaboration and second, overall sustainability strategy.

Further, we argue that it could be essential for an accelerator program to focus on reducing the process of gaining partnering experience by knowing both parties well and putting findings with the importance of alignment. Additionally, accelerators manage to shape the startups and their sustainability strategy to find the right partners and could therefore concentrate on facilitating an effective process for selection and value creating partnerships.

Our research contributes to existing literature by bridging several topics relevant for inter-organizational learning. By identifying partnering experience as a crucial learning effect from inter-organizational relationships between new and established ventures for ensuring inter-organizational fit in future collaborations, we highlight the importance of new ventures being selective when it comes to partnerships. Ensuring inter-organizational fit and alignment will to a greater extent provide valuable industry contributions, including sustainability. Even though the norm seems to be that such partnerships deem unsuccessful in most cases, we have identified an important step of the learning process, which our research indicates will increase the chance of a successful collaboration. In accelerator literature, our research provides indications that accelerator participation increases embeddedness in relevant ecosystems, which ultimately can provide access to partnerships with inter-organizational fit.

7.2 Limitations

Our study has significant limitations that could affect our overall research approach. The time and timing of our research process have influenced the results and scope of our research. Unpredicted limitations occurred while researching our thesis that made our study to perform only digitally based interviews and communications, both in preparation and execution of interviews. The informants occasionally perceived some of the questions differently, which potentially affected the outcome of their answers, despite our attempts at clarifying by asking follow-up questions or confirming their stance. The limitations to do only digital interviews initially contributed positively to our research due to the natural approach of interviewing informants in other geographical areas, who provided valuable contributions, who could have been naturally perceived as unavailable under other circumstances. However, the consequences of this during interviews posed great limitations in our ability to observe their body language, tone of voice, which may not be as clear in video meetings, and the general atmosphere in the room. Additionally, the ability to make them trust our intentions may have been more difficult to achieve through digitalization. Despite the fact that the collaborations in our two cases were at similar stages, the new ventures were not. We uncovered that one of our informants would in a few months initiate several new and exciting commercial partnerships on a larger scale, which could have been more similar to the one of the other new venture, which is currently more mature.

Our initial plan for the research process was to interview representatives from new ventures and established ventures involved in the collaboration which our cases are based upon. Due to time and capacity limitations, as well as crisis management in one of the projects, we unfortunately had to cancel the plans for interviews with established ventures. Consequently, our qualitative study is based on the new ventures perspective of the collaboration only. Thus, the results could have been different if we had the opportunity to interview their partner representatives, who potentially could provide another perspective to the importance of different topics in interviews, as well as on the success and outcomes of each collaboration. The absence of partner insight also weakens our research overall, as it would strengthen the insight to each case and ultimately our research findings, which are currently limited to insight from three new ventures only. If our focus initially had been on only learning outcomes in new ventures, we would have targeted a larger number of new ventures for a broader base of comparative insight We do, however, believe that our research still contributes with insight into the foundations for a successful collaboration between new and established ventures in the sustainability perspective, and provide a valuable bridged theoretical framework and interesting direction for further research.

In regards to accelerator participation and its effect on network embeddedness, we believe our findings are limited in terms of true credibility due to the limited number of new ventures interviewed and the absence of control groups. However, it highlights an interesting trend that accelerators, in the new ventures' perception, certainly provides valuable connectedness in relevant networks. Taking these limitations into consideration, we suggest directions for further research below.

7.3 Recommendations for further research

By approaching not only similar maturity in partnerships, but also the new ventures, we believe we would have been able to tap into more comprehensive partnerships with all new ventures and draw even deeper insight from all their partnering experience. An identified limitation in our research is the lack of informants from

the partnering venture, resulting in our research being limited to learning effects on new ventures from collaborations. We still believe there are highly interesting findings related to learning effects in established ventures as well and would encourage further research to combine research on learning from collaboration in both new and established ventures, as was our initial plan for the research. We further encourage future research to investigate the effect of partnering experience on future partner selection processes in both types of ventures. We believe it could provide valuable managerial and theoretical implications to gain insight into how partnering experience might impact the ability to form partnerships that yield value for both parties and the industry overall, where the partner selection process is researched in depth based on past experiences, and its effect on the outcome of the final collaboration.

We suggest that an area of further research with regards to additional contributions to the accelerator literature is outcomes of accelerator participation, in particular for connectedness. What limited our ability to research this more in depth was our ability to apply a control group of new ventures that had not participated in accelerators to find significant differences. Hence, this is recommended if taking this research approach. Additionally, we recommend the selection of new ventures to be more mature, and at a later stage after accelerator participation, where it is imagined to be easier to identify the value of introductions made during the programme, as these will be more formalized.

8 References

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8.1 Other resources

Part of this thesis is based on the authors' own work from previous submissions.