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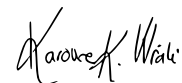
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Karoline Kjelbotn Wråli

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Table of Content

1.0 INTRODUCTION	2
2.0 LITERATURE REVIEW	4
2.1 SUSTAINABILITY	5
2.1.1 Corporate Sustainability and the Triple Bottom Line (TBL).....	5
2.2 SUSTAINABLE-ORIENTED INNOVATION (SOI).....	9
2.2.1.1 Key drivers for SOI.....	11
2.2.1.2 Idea Generation	11
2.2.1.3 Screening and Selecting.....	13
2.2.1.4 Diffusion	14
3.0 METHODOLOGY	19
3.1 RESEARCH DESIGN	19
3.2.1 Company Description	20
3.2.2 Sampling of Projects.....	21
3.2.2.1 Project A	23
3.2.2.2 Project B	23
3.2.2.3 Project C	24
3.2.2.4 Project D.....	24
3.2 DATA COLLECTION.....	24
3.2.1 Primary Data - Interviews	25
3.2.1.1 Sampling of Respondents	25
3.2.2 Secondary Data - Internal Documents.....	27
3.3 DATA ANALYSIS.....	27
3.3.1 Data Coding.....	28
3.4 METHODOLOGICAL STRENGTHS AND WEAKNESSES	29
3.4.1 Reliability and Validity.....	29
3.4.2 Interview Biases	30
4.0 ETHICAL CONSIDERATIONS	31
5.0 FINDINGS.....	32
5.1 INNOVATION PROCESS: A GENERAL OVERVIEW ACROSS THE DIFFERENT CASES/PROJECTS	34
5.1.1 Key Drivers and Motivation	34
5.1.1.1 Sustainable Driven Projects.....	36
5.1.1.2 Non-Sustainable Driven Projects.....	37
5.1.2 Innovation Project Phases.....	38
5.1.2.1 Idea Generation	38

5.1.2.1.1 Sustainability-Driven Projects.....	41
5.1.2.1.2 Non-Sustainability Driven Projects	42
5.1.2.2 <i>Selection</i>	44
5.1.2.2.1 Sustainability-Driven Projects.....	47
5.1.2.2.2 Non-Sustainability Driven Projects	50
5.1.2.3 <i>Diffusion</i>	51
5.1.2.3.1 Sustainability-Driven Projects.....	54
5.1.2.3.2 Non-Sustainable Driven Projects	55
5.2 OVERALL SUCCESS FACTORS FOR A COOPERATIVE ORGANIZATION	56
5.2.1 Strategic Focus	59
5.2.2 Cooperative Involvement	60
5.2.3 Culture and Change Management	61
5.3.4 Agile Innovation Process	63
5.3 CHALLENGES OVERALL COOPERATIVE ORGANIZATIONS	64
5.3.1 Organizational Structure	67
5.3.2 Processes and Routines	68
5.3.3 Resources	70
5.3.4 Knowledge Transfer	71
5.3.5 Balancing TBL	72
6.0 DISCUSSION	74
6.1 KEY DRIVERS.....	74
6.1.1 Triple Bottom Line (TBL)	74
6.1.2 Competitiveness	76
6.1.3 Knowledge Creation	76
6.2 IDEA GENERATION	77
6.2.1 Innovation Scope	77
6.2.2 External Involvement	78
6.3 SELECTION	78
6.3.1 Screening and Selection Process	78
6.4 DIFFUSION.....	79
6.4.1 Project Evaluation	80
6.4.2 Reputation	81
6.5 SOI IN COOPERATIVE ORGANIZATIONS.....	81
6.5.1 Strategic Focus and Internal Support	81
6.5.2 Innovation Processes and Clear Learning Structures	83
6.5.3 Knowledge and Resources	85
6.5.4 Balancing TBL	85
7.0 CONCLUSION	87
7.1 MANAGERIAL IMPLICATIONS	88

7.2 LIMITATIONS AND FUTURE RESEARCH	89
7.3 FUTURE RESEARCH	90
8.0 REFERENCES	91
9.0 APPENDIX.....	104
APPENDIX 1: INTERVIEW GUIDE SUSTAINABILITY DEPARTMENT	104
APPENDIX 2: INTERVIEW GUIDE FIRST ROUND	104
APPENDIX 3: INTERVIEW GUIDE SECOND ROUND.....	106

List of tables and figures

TABLE 1: THEORETICAL OVERVIEW OF PREVIOUS RESEARCH ON INNOVATION PROCESSES, SOI-PROCESS AND RELATED CHALLENGES AND SUCCESS FACTORS	16
TABLE 2: CASES/PROJECTS OVERVIEW	22
TABLE 3: OVERVIEW OF CONDUCTED INTERVIEWS	26
TABLE 4: OVERVIEW OF FINDINGS ON THE PROJECT'S KEY DRIVERS AND MOTIVATIONS.....	35
TABLE 5: OVERVIEW OF ACTIVITIES, SUCCESS FACTORS AND CHALLENGES IN EACH PROJECT OF THE IDEA GENERATION PHASE.....	39
TABLE 6: OVERVIEW OF ACTIVITIES, SUCCESS FACTORS AND CHALLENGES IN EACH PROJECT OF THE SELECTION PHASE.....	45
TABLE 7: OVERVIEW OF ACTIVITIES, SUCCESS FACTORS AND CHALLENGES IN EACH PROJECT OF THE DIFFUSION PHASE.....	52
TABLE 8: OVERVIEW OF SUCCESS FACTORS FOR A COOPERATIVE ORGANIZATION WHEN WORKING WITH INNOVATION AND SUSTAINABILITY	57
TABLE 9: OVERVIEW OF CHALLENGES FOR A COOPERATIVE ORGANIZATION WHEN WORKING WITH INNOVATION AND SUSTAINABILITY	65
FIGURE 1: HOLISTIC REPRESENTATION OF THE TBL (FISK, 2010, P.8).....	7
FIGURE 2: ILLUSTRATION OF THE THREE PHASES IN THE INNOVATION PROCESS	10
FIGURE 3: OVERVIEW OF SUCCESS FACTORS AND CHALLENGES IN THE INNOVATION PROCESS OF THE FOUR PROJECTS.....	33
FIGURE 4: OVERVIEW OF WHEN SUSTAINABILITY BECAME AN IMPORTANT ELEMENT IN THE PROJECTS	34

Abstract

Previous research on sustainability and innovation has received increased attention from researchers over the past years. However, the literature on sustainable-oriented innovation (SOI) still is at an early stage and lacks in-depth research on how it can be embedded in organizations as a dynamic process. Moreover, previous literature has mainly regarded sustainability in a dichotomous way, with projects being either sustainable or not rather than understanding SOI as a dynamic, unfolding process that is realized over time. This thesis aims to contribute to this gap by conducting a comparative study on four pilot projects in a Norwegian cooperative in the food retail industry where we investigate SOI processes and whether it makes a difference if sustainability is the project's main driver or if it subsequently becomes an important element. We examined four distinct pilot projects, where two were mainly driven by sustainability, and the two others had other drivers. We found several challenges related to incorporating sustainability later in the process, including issues with resources of competence when this was not included at the beginning of the project. Moreover, our findings indicate that large corporations must consider the triple bottom line holistically to succeed with SOI. Large firms are facing pressure from various stakeholders to take responsibility for business activities' environmental and social impacts. Even more so, cooperatives have strong community ties, thus, researchers argue that cooperatives have more substantial incentives to engage in sustainable development. Our findings indicate that even though they desire to contribute to sustainable development, it is challenging due to the complexity of the organizational structure.

Key words: triple bottom line, sustainable-oriented innovation, innovation process, cooperative

1.0 Introduction

In the past decade, resource over-consumption, social injustice, and depletion of natural resources have had a significant influence on how corporations incorporate and address sustainable concerns (Adams et al., 2016). As a result of the growing awareness, businesses are under a great deal of external pressure to incorporate sustainability into every aspect of the organization (Luthra et al., 2017; Mousa & Othman, 2020; Shahzad et al., 2020), and this is becoming a means to maintain a competitive advantage (Hermundsdottir & Aspelund, 2021; Tan et al., 2015). The rising demand has also resulted in an emphasis on how sustainability may be included and adapted through innovation, giving rise to the term sustainable-oriented innovation (SOI) (Adams et al., 2016; Geradts & Bocken, 2019). Despite the fact that SOI has been regarded as an essential aspect of businesses and is viewed as an important element of incorporating a sustainable business strategy, firms continue to struggle to develop appropriate processes for working with innovation and realize the long-term benefits of sustainability (Dougherty & Hardy, 1996; Teece et al., 1994; Buysse & Verbeke, 2003; Slawinski & Bansal, 2012). Even though the literature on sustainability and innovation has received considerable attention over the past decade (Adams et al., 2016; Hermundsdottir & Aspelund, 2021; Klewitz & Hansen, 2014), research on SOI is still at an early stage (Doherty et al. 2014).

Existing studies in the field have focused mainly on the theoretical concept of SOI and on managerial practices (Bos-Brouwers, 2009; Carroll & Shabana, 2010), while the literature on SOI still lacks in-depth research on how this can be embedded into the organization as a dynamic process (Adams et al., 2016). Particularly, we observe a lack of emphasis on how firms can fully implement successful innovations related to sustainability into the organization through the incorporation of appropriate processes and methodologies both within the organization or in collaboration with others (Hermundsdottir & Aspelund, 2021). We believe this gap may be consistent with a tendency of past research to regard sustainability in a dichotomous way, with projects being either sustainable or not rather than understanding SOI as a dynamic, unfolding process that is realized over time (Adams et al., 2016).

Our study aims to contribute to this gap by conducting a cross-sectional case-based analysis of innovation projects within a single cooperative examining the

similarities and differences between innovation processes of projects that are primarily driven by sustainability, and innovation processes in which sustainability was not the key driver of the project. By applying the comparative logic through a multiple case study, we gain an in-depth multidimensional examination of the related mechanisms of the SOI process. This sets the context for our research question:

"What are the differences between innovation processes that are driven by sustainability and those in which sustainability becomes an important factor subsequently?"

Additionally, we believe that analyzing commitment to SOI processes in the setting of *cooperative* organizations provides a particularly interesting setting for our research due to the closer engagement of the organization members (Hansmann, 2000). We analyze our research question by examining a Norwegian cooperative organization in the food retail industry. The food retail industry is a particularly interesting context since it is currently facing sustainability challenges due to the need to reduce energy and water usage. Additionally, consumers are increasingly demanding higher quality eco-friendly products (Garnett, 2011; Kesidou & Demirel, 2012). Moreover, this is a dynamic industry that is intimately tied to consumers with a growing awareness of sustainability's characteristics, hence increasing the pressure on companies to meet the sustainable expectations of its stakeholders (Beske et al., 2014). However, the food industry is traditionally considered a laggard regarding the adoption of innovation and cooperation strategies (González-Moreno et al., 2019), and it is therefore increasingly important that organizations take concrete actions to minimize their impact.

Since our chosen company is a large cooperative organization, our theoretical foundation is based on both literature related to corporate sustainability and literature on sustainability in relation to cooperative organizations. We discuss this in connection to SOI processes. Our aim is to contribute to the research area by identifying specific challenges and success factors in relation to the implementation of sustainability when this is not necessarily seen as a primary driver but is incorporated in the process at later stages. While we aim to contribute in particular to the discussion on incorporating sustainability in cooperative organizations, we discuss potential for generalizability of our findings.

The rest of the thesis proceeds as follows. Next session provides the theoretical foundation for our research. After the theoretical foundation, we describe the research setting and method. We chose a multiple-case study approach employing the comparative research logic to compare the distinct mechanisms of sustainable-driven and non-sustainable-driven innovation processes. Our aim is to gain in-depth knowledge, thereby focusing on qualitative data. The primary data source is semi-structured interviews, and our secondary data source consists of internal documents and news articles. Using several data sources enables us to better understand sustainability work and the sustainable strategy. Further, we provide an overview of the results.

Our findings show that it becomes challenging to implement the triple bottom line holistically when sustainability is incorporated later in the process. In addition, we discovered that dealing with SOI was complicated by the common short-term perspective of businesses in competitive markets. Therefore, it is advantageous when SOI is the main driver since the innovation scope is narrow, and the project must have a long-term perspective from the beginning. Additionally, we found the importance of including knowledgeable resources with experience regarding sustainability in SOI projects. When sustainability is the driver of the project, sustainability resources are incorporated in an early phase, which is a success factor because it sets the strategic direction and helps the project team avoid errors. Lastly, our findings show that it is challenging to work with SOI in a large cooperative due to the owner structure. We conclude with valuable managerial implications of our study, its limitations and avenues for future research.

2.0 Literature Review

In this section of the thesis we develop a theoretical foundation that we can later use to analyze the empirical data. This chapter aims in particular to contextualize our research area and introduce key concepts related to SOI and the innovation process in established businesses. Our presentation of background theory is divided into two sections. The first section reviews the literature on corporate sustainability, focusing specifically on the triple bottom line (TBL) approach of people, planet, and profit. Secondly, explain which definition of SOI we use for this thesis and describe how SOI should be an integral part of established businesses as this is one

of the most challenging aspects today. Further, we present key drivers, and the three most common innovation phases; idea generation, selection, and diffusion. Throughout each phase of the innovation process, we review some known challenges and success factors related to SOI.

2.1 Sustainability

Sustainable initiatives have become important in many businesses and corporations today and are seen as a means of overcoming the challenges of climate change (Fisk, 2010). Lenox and Chatterji (2018) showed that large corporates are arguably best positioned to generate and commercialize new sustainable initiatives due to their strong financial resources and position to influence the market. However, the concept of sustainability has often been viewed as complex and ambiguous with several definitions, thus arguably making it more challenging to implement and successfully commercialize (Engert et al., 2016). Therefore, in this thesis, we will use one of the most widely used and accepted definitions developed by Brundtland (1987, p.292), arguing that sustainable development is "meeting the needs and aspirations of the present generation without compromising the ability of future generation to meet their needs." The following section will review the literature on corporate sustainability in the food retail industry by focusing on the TBL, and the most imposed challenges businesses face in implementing sustainable initiatives.

2.1.1 Corporate Sustainability and the Triple Bottom Line (TBL)

The concept of corporate responsibility in connection to sustainability has generally centered around the significant role large firms have in engaging in sustainable initiatives (Engert et al.,2016). They play a major role in minimizing their environmental footprint, positively contributing to societal changes, and providing purposeful employment (Dyllick & Hockerts, 2002; Fisk, 2010). There are numerous reasons why firms engage in sustainable efforts, including brand image, increased legitimacy, competitiveness, and enhancing profits (Searcy, 2012; Aragón-Correa et al., 2008; Busch & Hoffmann, 2011; Schaltegger & Hörisch, 2017). In addition, external stakeholders and governmental regulations are increasingly pressuring firms to retain a social and environmental focus (Luthra et al., 2017; Mousa & Othman, 2020; Shahzad et al., 2020). Therefore, incorporating

sustainability at a strategic and operational level has become increasingly important (Ortiz-de-Mandojana, & Bansal, 2016; Suryaningtyas et al., 2019).

In the food industry, which is our focus area, retailers play a crucial role, as their impact on sustainability ranges from the food production life cycle, energy usage, land use, waste generation to transportation (Iles, 2007). Thus, they must understand that their operations extend beyond the pursuit of profit and continuously evaluate their operations to maximize their value (Beske et al., 2014). However, due to the ambiguity of the concept of sustainability, managers today struggle to fully act on and have a clear perception of all the underlying mechanisms of the environmental impact and therefore miss opportunities for new solutions and increased competitiveness (Broman & Robèrt, 2017; Maon et al., 2008).

There are several barriers that explain why organizations struggle with implementing sustainability. Firstly, investment in sustainable measures is often associated with high complexity and costs and usually requires knowledge and capabilities not obtained by the company (Aragón-Correa & Rubio-Lopez, 2007; Engert et al., 2016). These initiatives affect numerous stakeholders making it more challenging and complicated to gain support for long-term objectives (Delgado-Ceballos et al., 2012; Lee, 2008). Moreover, focal firms are required to take responsibility for their suppliers, ensuring that the actions of their supply chain are made in a sustainable manner (Leat & Revoredo-Giha, 2013). Any party in the supply chain not complying with the focal firm's corporate sustainability standards can damage corporate reputation and have implications for how they create and commercialize ideas (Adner & Kapoor, 2010; Grimm et al., 2014).

In addition, many organizations struggle to maintain a clear strategic approach to sustainable integration (Hahn, 2013) due to a lack of internal communication and transparency caused by inefficient organizational processes and structures (Siebenhüner & Arnold, 2007). Therefore, companies must create a shared knowledge of what sustainability means, define clear and quantifiable targets for effective implementation, and establish a well-formulated company strategy for sustainability (Aragón-Correa et al., 2008; Noci & Verganti, 1999).

Elkinton (1994) introduced the TBL, also known as "Profit, People, and Planet," to describe how organizations should operationalize sustainability. The concept

entails that for an organization to create shared value for society and its financial performance, all three aspects must be addressed and managed holistically (Fisk, 2010; Kramer & Porter, 2011), as illustrated in Figure 1.

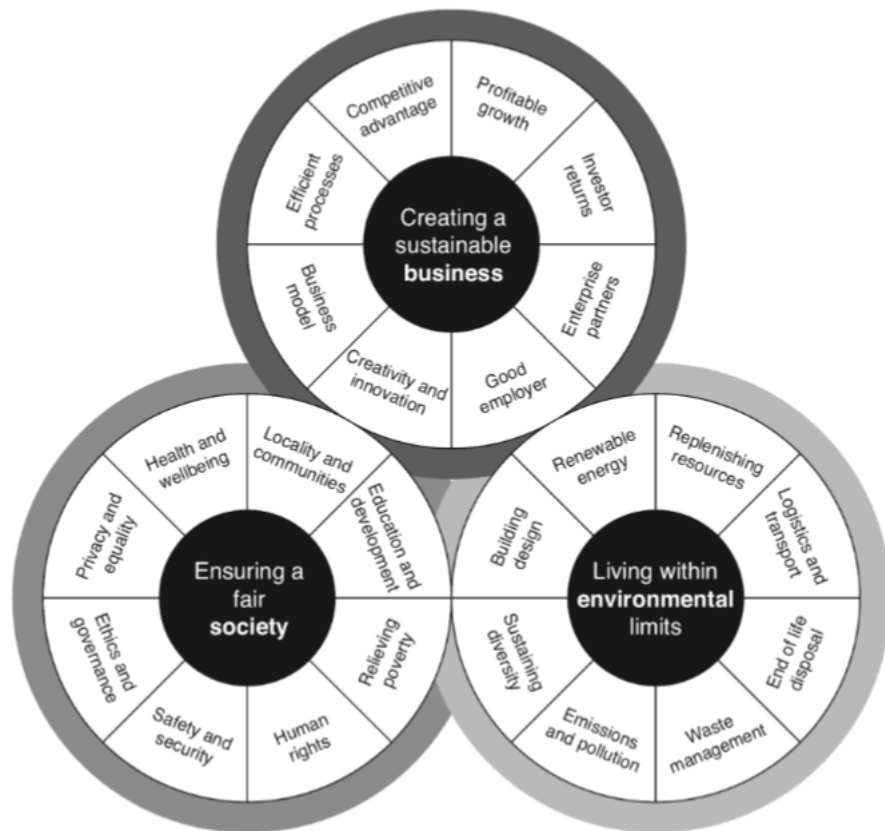


Figure 1: Holistic representation of the TBL (Fisk, 2010, p.8)

The economic part of TBL refers to the impact of business activities on the financial system and future generations (Elkington, 1997). The second aspect focuses on the interaction between the organization and the community by examining the social impact of business on human capital. This could be related to healthcare benefits, fair wages, and employee relations. Lastly, the aspect planet focuses on ensuring that the company's practices and operations do not endanger the environmental resources of future generations by improving energy efficiency, reducing CO2 emissions, and minimizing ecological footprints (Willard, 2012). In the context of the food industry and TBL, this implies several measures retailers could focus on, such as ensuring sustainable initiatives through professional CSR management teams and defining clear suppliers' policies. Moreover, promoting sustainable energy technologies, product quality, and animal welfare are examples of initiatives (Usmani et al., 2022).

Earlier studies show that businesses often prioritize the financial aspect of the TBL since the social and environmental components may not articulate benefits for the

organization in a short-term perspective (Ortiz-De-Mandojana & Bansal, 2016; Slawinski & Bansal, 2012). However, by emphasizing short-term gains, the organization is incapable of creating resilience and thus loses its ability to be agile and adapt to the environment's constant changes (Laverty, 1996; Slawinski & Bansal, 2012). Agility refers to an organization's capacity to respond to internal and external changes, necessitating a structure that allows for proactive, flexible, and adaptive behavior (Shakhour et al., 2021). Ortiz-De-Mandojana and Bansal (2016) show that a trade-off between short-term profitability and long-term resiliency by focusing on the social and environmental aspects results in increased financial stability, stronger growth, and long-term survival rates. In management decision-making, this implies that organizations need to be willing to risk short-term financial losses to realize the long-term benefits of engaging in sustainable initiatives.

Buyse and Verbeke (2003) highlight that for organizations to realize the long-term benefits of sustainability, they must establish a proactive environmental strategy. For firms to realize a proactive environmental strategy, the organization must strive to incorporate sustainability into all the organizational activities and decision-making processes (Buchanan et al., 2005; Byggeth & Hochschorner, 2006; Miller & Friesen, 1983). This requires establishing clear learning structures and fundamental change processes that allow the organization to cope with uncertainty and change (Bonn & Fisher, 2011; Senge et al., 1999). However, Kotter (1995) argues that for organizations to succeed with change, it is essential that this becomes anchored within the organization. Therefore, a clear commitment must be visualized through the management styles and competence among the employees.

Regarding our focus type of organization, researchers have argued that a cooperative organizational structure is beneficial for contributing to sustainable development (Seguí-Mas et al., 2015). A cooperative organization is often characterized as a non-profit or socially oriented organizational structure (Ayayia & Wijesiri, 2018; Gupta & Mirchandani, 2020). Furthermore, this organizational structure is owned by its members and has a democratic control system in which its members actively engage in decision-making and governance (Hansmann, 2000). Cooperative organizations necessitate greater collaborative engagement from their members (Silva et al., 2021) and are therefore aligned to promote more sustainable

ways to ensure their members' social welfare (Benos et al., 2018). In addition to their strong community ties, it is suggested that cooperative organizations have a stronger incentive to engage in sustainable development due to their values and principles (Wanyama, 2016).

Innovation is an important aspect of realizing proactive environmental strategies (Teece, 2007). According to Garcia and Calantone (2002, p.112), the OECD definition from 1991 captures the essence of innovation by describing it as "an iterative process initiated by the perception of a new market and/or new service opportunity for a technology-based invention which leads to development, production, and marketing tasks striving for the commercial success of the invention." Therefore, initiating sustainability through innovations and incorporating it into the organizational strategy is essential to realizing a long-term competitive advantage and sustainable growth (Eiadat et al., 2008; Fisk, 2010; Hull & Rothenberg, 2008).

2.2 Sustainable-Oriented Innovation (SOI)

Many large multinational corporations are paying increasing attention to SOI (Adams et al., 2016). Adams et al. (2016, p.181) define SOI as "making intentional changes to an organization's philosophy and values, as well as to its products, processes or practices to serve the specific purpose of creating and realizing social and environmental value in addition to economic returns." Faced with pressure from governments and other stakeholders to be more aware of business activities' environmental and social impacts, companies are searching for growth opportunities through innovation. As a result, many encourage their employees to develop new products, services, or business models that create value for the company and society, following the TBL approach (Fisk, 2010). Researchers argue that sustainability has become more deeply embedded in the firm's culture through the effective adoption of product lifecycle thinking and integrated environmental strategies (Del Brío & Junquera, 2003; Klewitz and Hansen 2014; Schiederig et al. 2012).

2.2.1 Innovation Process

Several researchers have focused on innovation processes over the last decade and presented frameworks and techniques for incorporating innovation into the daily work environment (Dziallas & Blind, 2019). Previous work tends to treat sustainability as either sustainable or not sustainable rather than embedding SOI as a dynamic, unfolding process in the organization (Adams et al., 2016). The literature on innovation processes does not emphasize a single best model for working with SOI. The model most appropriate for any business is determined by its sector, size, industry, and the degree of complexity of the invention (Dziallas & Blind, 2019). Moreover, it will vary according to internal and contextual factors, how well innovation is integrated into the firms' daily work environments, and their prior experience and relationship with other stakeholders (Becheikh et al., 2006). The primary distinction between these processes is the number of stages included. A common way of working with innovation in large companies is through pilot projects. Pilot projects are defined as an innovative working form where a team participates in a collective learning process, where they work on problems in a specific area and eventually reach an innovative solution (Van Buuren & Loorbach, 2009).

For this thesis, we have used three of the most common phases in the innovation process. The model is adapted from Hansen and Birkinshaw (2007) to illustrate the three phases we use for this thesis. We combine several innovation processes from the viewpoint of the three phases and review key drivers of SOI, as illustrated in Figure 2. The first phase is for generating ideas; this can happen inside a unit, across units in a company, or by outside the firm. The second phase is to convert ideas, or, more specifically, select ideas for funding and develop them into products or practices. The third is the diffusion phase, which entails testing and evaluating.



Figure 2: Illustration of the three phases in the innovation process¹

¹ (Adapted from "The innovation value chain" by Hansen, M. T., & Birkinshaw, J., 2007. Harvard business review, 85(6), 121 [Page 10](https://dl1wqtxts1xze7.cloudfront.net/58832667/Aula04_-_Hansen.Birkinshaw.2007_-_The_innovation_value_chain-with-cover-page-v2.pdf?Expires=1656326609&Signature=VoHHBjpv-XhlJelAIPUZseGYSgchKgektDnLQ9aCICPPSNYhQpR9L3rNQD9uVzcfS7M7OyPPsgSzn-5cqQlmKwhTFYzJzHMPLo02Yndn9ixHApTEmXGjZn9xNFAMkdRm4dVNQh2XcNHIThqCR8a875nscnoFyfWYqGjlpCG2rs0IA4MnIM3PBWGUUVYpbm0toVG0-WJMN4Fz4i0XK6NesPobKsT6bCuBYxMjINLFrU4I2094oEBAowJrPlvejGD7osz-tTWgJw8QKwboEfrKIm4LeI9rGg6GGXIT0BYDnEsbGaffPbeyTX3i88hf3dDo9FI TFJrzh3-NCQI7CBfuQxA_&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA. Copyright 2007 Harvard Business School Publishing Corporation.)</p>
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2.2.1.1 Key drivers for SOI

Innovation drivers and capabilities have received significant attention from academics and practitioners, providing interesting business insights. Several drivers for innovation have been explored during the last decade, such as technology, strategic partnership, competitive advantages, and first-mover advantage (Caiazza & Stanton, 2016; Giget, 1997; Lieberman & Montgomery, 1988). For retailers, technological innovations have increased their ability to predict trends, which is a key factor for success (Pantano, 2014). The development of advanced technologies, products, services, and business models are drivers to solve sustainability concerns (Boons et al., 2013). The main driver of SOI in businesses is to have a joint and long-term outlook by society that integrates social, economic, and environmental objectives (Fisk, 2010).

2.2.1.2 Idea Generation

The idea generation phase entails searching for new ideas that have commercial potential. The phase involves brainstorming and searching for various ideas connected to a specific problem. The ideas can be found within the business and in partnership with external partners (Hansen & Birkinshaw, 2007). Amabile (1998) proposes that for an organization to be creative and capable of developing novel ideas, the three components expertise, motivation, and creative-thinking skills need to be embedded into the organization. However, the reason that most businesses fail with innovation is not due to a lack of creativity, but that the creativity within an organization is frequently damaged by managers unintentionally in the daily working environment as a result of the goal to optimize business obligations through coordination, productivity, and control (Amabile, 1998). Additionally, the more a firm invests in developing its technological capabilities and knowledge, the more receptive they become to SOI (Zahra and George, 2002). This leads to the creation of new products and services that extend outside of the organizational and technological boundaries, resulting in a greater innovation impact (Rosenkopf & Nerkar, 2001).

Sources of ideas can also be found in the connections between companies, universities, suppliers, and customers, known as open innovation. Open innovation is defined as "the use of purposive inflows and out-flows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively" (Chesbrough, 2006, p.1). The benefit of open innovation is that it

allows companies to move beyond their existing knowledge to access and absorb external knowledge (Cohen & Levinthal, 1990). Further, open innovation allows for greater flexibility and pooled resources (Laursen & Salter, 2006; Teece, 2007; West et al., 2014), thus reducing the bottlenecks of innovating (Masucci et al., 2020).

Another approach in this phase is following the method of Design Thinking (DT), which has the consumers' needs in focus (Simon, 1969). The company must understand and learn about the users through observation, engagement, and empathizing (Brown, 2019), where the goal is to understand the consumers' interests and solve concrete problems. After defining and collecting data to make sense of the underlying core problem, the company must think divergently to generate ideas. Moreover, a different approach that also has an external focus is strategic planning (Bouhali et al., 2015). In this process, the company tries to predict future market trends, which is used to define the project objectives. Further, the company generates ideas for realizing innovative products and services aligned with the company strategy.

A challenge in the first phase regarding SOI concerns the innovation scope, defined as "the space in which innovation teams can search for possible solutions" (Buhl et al., 2019, p. 1250). Since the notion of SOI emphasizes social, environmental, and economic impact, it is difficult to reduce the scope of innovation and determine focus areas. One of the most challenging aspects of SOI is that technical improvements to products and practices are frequently carried out in isolation within the company, often resulting in a too narrow innovation scope. On the other hand, SOI with a broader scope considers many external stakeholders, thus increasing the risk of the solutions being too abstract for the situation. One of the benefits of using the DT process is that it is very beneficial for complex problems because it involves exploring a holistic approach to the problem context before mapping out the scope of innovation (Kolko, 2015).

Another challenge is related to integrating the proper user behaviors and situations when developing new products or services. Businesses rely heavily on the product's perceived value by users to develop SOI successfully (Lindahl et al., 2014). Thus, working systematically with DT may help address these issues, as it aims to gain a

deeper understanding and knowledge of the users' consumption patterns, personal lives, and social environment, thereby limiting the cognitive biases that may emerge (Liedtka, 2015). By employing open-ended questions and interacting with the users in their natural context, organizations may deduce hidden interests or requirements inherent in the users' behavior and routines (Buhl et al., 2019).

Lastly, a challenge in this phase is connected to stakeholder involvement and the importance of tight collaboration to succeed with SOI (Goodman et al., 2017). Businesses rely heavily on absorbing external knowledge and complementary resources (Goodman et al., 2017), which is directly tied to the primary and secondary stakeholders. One of the primary issues associated with stakeholder engagement is that many organizations often overlook the interests of secondary stakeholders (Hall & Vredenburg, 2003) due to the complexity of developing solutions that complements everyone. The advantage of DT is that it promotes engagement of stakeholders' demands and interests while concentrating on a collaborative approach that allows the company to benefit from its tacit knowledge and value ideation (Brown & Martin, 2015; Geissdoerfer et al., 2016). Additionally, collaborating during SOI may sometimes be problematic since team members may have different interpretations of what constitutes environmental issues (Berchicci & Bodewes, 2005). The DT process may help overcome these obstacles by using visual aids to help participants make sense of the addressed problem and effectively convey their ideas (Carlgren et al., 2016; Kannan-Narasimhan & Lawrence, 2018; Liedtka, 2015).

2.2.1.3 Screening and Selecting

The second phase entails screening and selecting the most promising ideas from the generation phase and continually developing these ideas into commercial products or services (Hansen & Birkinshaw, 2007). Ørjasæter (2005) emphasizes the importance that the people in charge of selecting ideas have commercial responsibility and an in-depth understanding of the company and its industry. Further, in this phase the company needs to identify the most critical factors and narrow down the options, to separate ideas most likely to succeed.

Hansen & Birkinshaw (2007) argue that various obstacles prevent businesses from developing good ideas, including tight budgets and conventional thinking, which

could result in rejecting the most prominent ideas. On the other hand, the authors also emphasize that companies that lack strict and good screening processes could end up with an overflow of projects with no clear purpose or relation to the corporate strategy, thus resulting in failure. During the screening of ideas, firms must have a set of evaluation criteria (Hallstedt, 2017). In SOI, these criteria should holistically consider TBL (Fisk, 2010). The selection phase in large firms is subject to a series of resource allocation decisions guided by a set of criteria, which are based on shared beliefs of the decision-makers across the organization (Vinokurova & Kapoor, 2020). These criteria can have roots in the organization's past success, its prevailing business model, and the background and experience of its senior managers (Benner & Tripsas, 2012; Christensen & Bower, 1996; Tripsas & Gavetti, 2000). The selection criteria could potentially be affected negatively by the decision-makers biased opinion, resulting in selecting the ideas they are most familiar with, instead of the most promising ideas (Leiponen & Helfat, 2010).

A challenge in this phase related to SOI is the assurance of positive sustainability effects, concerning the risk connected to financial returns and determining a long-term positive effect (Hansen et al., 2009; Buhl et al., 2019). Therefore, SOI criteria must be included in the early screening process (Buhl et al., 2019) to verify and test assumptions (Berchicci & Bodewes, 2005). Following the DT approach, the team at this stage develop simple prototypes to provide a representation that will engage consumers in creating the features they desire without high costs (Brown, 2019).

2.2.1.4 Diffusion

In the last phase, the products or services will be tested and evaluated for scaling. The ideas need to gain market acceptance from the customers and gain the relevant approval within the organization to support and spread the new products, businesses, and practices across desirable geographic locations, channels, and customer groups (Hansen & Birkinshaw, 2007). Rindova & Petkova (2007) developed a framework to help organizations enhance their customers' interpretations of the value of a certain innovation. The authors argue that by strategically presenting the product characteristics using cognitions and emotions, the value will be viewed as much higher than an attribute-to-attribute comparison.

Ørjasæter (2005) highlight this as the phase where the company must show the innovation's ability to survive in the industry and plan their long-term strategy. When the innovation is tested and verified, the next step in the innovation process is growth and up-scaling. The characteristic of this stage is that the management and different functions are professionalized, and production is increased significantly. Furthermore, this results in new capital inflows, and strategic alliances can be created, especially alliances strengthening the distribution system, market size, and customer relations.

One of the most critical external challenges to SOI is the lack of involvement of consumers (Dewulf, 2013). If the consumers are unwilling to pay for the environmentally friendly product or service, the innovation will not succeed. In general, market demand steers the companies on whether to choose a sustainable design. If the demand for environmental products rises in a product sector, the entire sector will develop toward these kinds of products. Consequently, companies will hesitate to implement sustainable design if the market lacks interest in these products. While this is the final step of the process, it is critical to remember that it is interactive so that the information acquired through this phase frequently redefines issues and solutions (Brown, 2019).

To gain a greater understanding of corporate sustainability and SOI and to provide a better discernment of our contributions to the literature in the field, we have summarized the theoretical foundation in Table 1 as the basis for our empirical study.

Table 1: Theoretical overview of previous research on innovation processes, SOI-process and related challenges and success factors

	SOI	General Innovation Process	Activities
Key Driver	<ul style="list-style-type: none"> - Enhance profits (Searcy, 2011; Aragón-Correa et al., 2008) - Increase competitiveness (Aragon-correa et al. 2008) - Comply with new Governmental regulations (Luthra et al., 2017; Mousa & Othman, 2020; Shahzad et al., 2020) 	<ul style="list-style-type: none"> - Participate in strategic partnerships (Giget, 1997; Caiazza & Stanton, 2016; Hansen & Birkinshaw, 2007) - Gain a competitive advantage (Lieberman & Montgomery, 1988; Hull & Rothenberg, 2008) - Predict market trends through new technologies (Pantano, 2014). 	
Innovation Process			
Idea Generation	<p><u>Challenges</u></p> <ul style="list-style-type: none"> - Lack of stakeholder involvement (Goodman et al., 2017; Hall & Vredenburg, 2003) - Different interpretations of sustainability (Berchicci & Bodewes, 2005) - Keeping a narrow innovation scope (Buhl et al. (2019) <p><u>Success factors</u></p> <ul style="list-style-type: none"> - Involvement of stakeholder in defining innovation scope (Kolko, 2015; Brown & Martin, 2015; Geissdoerfer et al., 2016) 	<p><u>Success factors</u></p> <ul style="list-style-type: none"> - Expertise, motivation, and creative-thinking skills (Amabile, 1998) - Understanding the concepts' perceived value of end users (Lindahl et al., 2014) - Understanding consumer needs (Brown, 2019; Simon, 1969) 	<ul style="list-style-type: none"> - Predict market trends to define project objectives in line with the company strategy, following strategic planning approach (Bouhuali et al., 2015) - External collaboration to generate ideas (Cohen & Levinthal, 1990; Chesbrough, 2006) - Understanding user demands, following the design thinking approach (Simon, 1969; Brown, 2019)

Table 1, Cont

<p>Selection</p>	<p><u>Challenges</u></p> <ul style="list-style-type: none"> - Get assurance of positive sustainability effects (Hansen et al., 2009; Buhl et al., 2019) <p><u>Success factors</u></p> <ul style="list-style-type: none"> - Knowledge of sustainability (source) - Identify long-term effects through evaluation and visual tools (Buhl et al. 2019). - Define criteria related to TBL holistically (Fisk, 2010; Buhl et al., 2019) 	<p><u>Challenges</u></p> <ul style="list-style-type: none"> - Lack of strict and good screening process (Hansen & Birkinshaw, 2007) - Criteria based on management experience (Tripsas & Gavetti, 2000) - Tight budgets and conventional thinking (Hansen & Birkinshaw, 2007). <p><u>Success factors</u></p> <ul style="list-style-type: none"> - Knowledge of company and industry (Ørjasæter, 2005) - Set of evaluation criteria (Benner & Tripsas, 2012; Christensen & Bower, 1996; Tripsas & Gavetti, 2000) 	<ul style="list-style-type: none"> - Screening and selecting ideas (Hansen & Birkinshaw, 2007; Ørjasæter, 2005). - Verify test assumptions (Berchicci & Bodewes, 2005) - Creating simple visualizations of the concept (Brown, 2019)
<p>Diffusion</p>	<p><u>Challenges</u></p> <ul style="list-style-type: none"> - Consumer willingness (Dewulf, 2013) - Complex concept (Engert et al., 2016) 	<p><u>Success factors</u></p> <ul style="list-style-type: none"> - Use cognitions and emotions strategically (Rindova & Petkova, 2007) - Internal approval (Hansen & Birkinshaw, 2007) 	<ul style="list-style-type: none"> - Test and evaluate products (Brown, 2019) - Prove value (Ørjasæter, 2005) - Growth and scaling (Ørjasæter, 2005; Hansen & Birkinshaw, 2007)

Table 1, Cont

Overall Factors for innovation a Cooperative Organization		
	SOI	General Innovation Process
Success Factors	<ul style="list-style-type: none"> - Common understanding of sustainability (Aragón-Correa et al., 2008; Noci & Verganti, 1999). - Proactive sustainable strategy (Aragón-Correa et al., 2008; Noci & Verganti, 1999; Buysse & Verbeke, 2003) - Holistic focus of TBL (Porter & Kramer, 2011) 	<ul style="list-style-type: none"> - Investment in new capabilities and knowledge (Zahra & George, 2002) - Interactive and dynamic process (Brown, 2019)
Challenges	<ul style="list-style-type: none"> - Ambiguous (Broman & Robèrt, 2017; Maon et al., 2008) - High investment cost and complexity (Aragón-Correa & Rubio-Lopez, 2007; Engert et al., 2016) - Internal knowledge and capabilities (Aragón-Correa & Rubio-Lopez, 2007; Engert et al., 2016). - Inadequate processes (Siebenhüner & Arnold, 2007). 	<ul style="list-style-type: none"> - Complex value chains (Kapoor & Rahul, 2010)

3.0 Methodology

As illustrated above, our research strategy is to investigate differences and similarities between innovation processes where sustainability is the main *driver* and innovation processes in which sustainability *subsequently* becomes an important element. The empirical basis consists of a comparative multiple case study of four distinct projects within a single organization. The benefit of applying a comparative multiple case study is that it allows us to gain a more in-depth examination of our research question and theoretical development. In this section, we present the approach of our research design, the sampling strategy, our data collection, and the plan for our analysis. We also reflect on the strengths and weaknesses of our choices and the ethical considerations.

3.1 Research Design

To compare the distinct mechanisms of sustainable-driven and non-sustainable-driven innovation processes, an inductive multiple-case study approach employing comparative research logic is chosen. The advantage of conducting a case study is that it supplies the researcher with rich data and various perspectives for explaining the phenomenon, thus allowing for a better comprehension of the underlying mechanisms (Eisenhardt & Grabner, 2007). Since we aim to gain in-depth knowledge of the relationship between innovation and sustainability, two complex concepts difficult to fully explain quantitatively, we focus on collecting primary qualitative data, complemented with secondary sources. Using qualitative data will also allow us to obtain more extensive data and information about the phenomenon.

Comparative case study analysis follows the logic of treating research cases as independent experiences to validate emerging theoretical insight (Eisenhardt, 1989). A comparative study can allow for an in-depth, multidimensional examination of the research phenomenon and related mechanisms (Fremeth et al., 2016). Furthermore, a multiple-case study is preferable to a single-case study because it permits a more comprehensive examination of the research question and collects data within and across dimensions of different settings (Yin, 2009). It, therefore, allows for the development of a more rigorous and generalizable theory (Eisenhardt, 1989)

When selecting the case for our study, we employed the logic of theoretical sampling, which entails selecting a case ideal for replicating or extending current theory in the context of our research topic (Eisenhart, 1989). Since we wanted to conduct a multiple-case study of several projects within one single organization, we first needed to choose a highly relevant company for our research setting. Using the revelatory logic, the company was selected based on its potential to develop new insight into a rare or uncommon phenomenon (Siggelkow, 2007; Yin, 1994).

The organization was chosen for two primary reasons. Firstly, we wanted to examine a company's innovation processes, which necessitated examining a corporation with one or more innovation projects. In addition, as we desired to obtain a deeper understanding of SOI-driven processes, it was essential that the selected company was currently engaged in sustainable initiatives and strived to become more sustainable. We found the food industry particularly intriguing, as it is undergoing a transition due to environmental regulations and the high engagement of stakeholders. Further, it is highly competitive and homogeneous, which offers a substantial opportunity for distinction through innovation. Secondly, we wanted to examine a cooperative organization in the context of sustainability, given that these organizations are not founded for profit but rather to safeguard the interests of their members. We found this particularly interesting in the context of sustainability, especially in light of climate-related shifts in customer demands and consumption habits.

3.2.1 Company Description

The chosen company, which will be called Company X, is a cooperative owned by 66 local cooperatives. The local cooperatives are independent legal entities owned by 2 million co-owners and are managed locally. Company X is the holding company and takes care of joint tasks for the local cooperatives, such as purchasing, logistics, chain operations, and marketing. The organization consists of ten different chains, of which four are grocery chains. Each chain has its individual strategy and branding. The food retail industry is characterized by a high turnover rate and low margins. There is intense competition, where the focus is the improvement of routines to increase efficiency (Nielsen IQ, 2021). The food retail industry is rapidly changing due to many factors, including changes in consumer behavior, digitalization, climate change that affect production, and increased focus on the

environment and sustainability among stakeholders. This leads to the possibility of differentiating and taking a larger market share through innovation.

The corporate management of Company X is working to develop a more holistic approach to innovation, with a close link between strategy and innovation. There has been an ongoing process to structure the innovation work, including developing a standard for the innovation processes for the company. The ambition is to create processes to accelerate the organization's pace of innovation. The company states that innovation is essential to succeed with future growth and profitability and is necessary for realizing the corporate strategy. Further, sustainability is one of the main pillars of their corporate strategy. Since Company X is a cooperative, the company is expected by its co-owners to take corporate responsibility regarding environmental issues, including health, circular economy, diversity, and a sustainable value chain, to a higher degree than other businesses. In addition, the food retail business has high levels of customer participation concerning sustainability, and consumer knowledge has improved in recent years. This implies that the cooperative must take a comprehensive approach to the TBL in its innovation activities to accomplish its sustainable strategy, making it a suitable case for our research question.

3.2.2 Sampling of Projects

Since we wanted to conduct a multiple-case study by comparing several projects, we needed to ensure that we identified those that were highly pertinent to address our research question at the chosen company. In multiple-case studies, projects are often selected based on whether they provide contradicting or similar results (Yin, 2009). Since we lacked a comprehensive understanding of the innovative projects within the chosen organization, we were required to employ a dynamic strategy and collect data from multiple sources (Bell et al., 2022). Through in-depth interviews and discussions with our supervisor in the organization, we utilized a snowball sampling technique to pick our sample. The technique entails that project are selected based on insight obtained from interviews personal networks to get in touch with and gain more insight about other projects (Bell et al., 2022).

Considering that we desired to gain as much information as possible on projects driven by sustainability and those in which sustainability became an important

aspect subsequently, we utilized maximum variation sampling. Maximum variation sampling entails gathering data from the widest possible range of perspectives on a particular research issue (Eisenhart & Grabner, 2007). Through our data collection, we discovered that the company did not have a shared defined innovation process, and thereby was presently striving to create one for the entire organization. In addition, during our interactions, we learned that the organization worked on both business to consumers (B2C) and business to business (B2B) projects.

We determined that four distinct projects were necessary to conduct a more in-depth examination of our research phenomenon. The selected projects were chosen based on the innovation's *drivers* to analyze and evaluate if there were substantial differences between the innovation processes. Secondly, we needed to determine if there were any significant differences between B2C- and B2B-driven SOI processes. Table 2 highlights the four selected project cases and their project features.

Table 2: Cases/Projects Overview

	Project C	Project A
B2C	<ul style="list-style-type: none"> • Concept store • Focus on consumer-oriented sustainable innovation 	<ul style="list-style-type: none"> • Concept store • Focus on testing new consumer-oriented technologies
	Project B	Project D
B2B	<ul style="list-style-type: none"> • Building of a new store • Substituting existing technology with more sustainable solutions 	<ul style="list-style-type: none"> • Building a new optimizing logistics center • New combinations of technology to automatize processes
	Sustainability-Driven	Non-Sustainable-Driven

The first two projects, Project A and B, were selected in the early stages of the discussions with our supervisor in the company. The last two projects, Project C and D, were selected based on insights obtained from the interviewees. The initial driver for Projects B and C was sustainability. Both projects were initiated to implement the sustainable strategy. In contrast, Projects A and D were initiated for reasons other than sustainability and were focused on strategic partnership, technology, and cost-reduction. However, sustainability was incorporated into the

projects at later stages. Both Project A and C were initiated due to the company's ambition to include its co-owners in the innovation process. On the other hand, Project B and D resulted from the company's efforts to become more sustainable and increase efficiency in logistics. In the following section, we will describe the features of each project in more detail.

3.2.2.1 Project A

Project A is a consumer-focused pilot project where the main objective is to create concepts for the future grocery stores. The project was initiated to develop a strategic partnership with one of Norway's largest industrial building owner organizations, meaning that the main driver was not sustainability. Further, the project also aims to test technology for a 24/7 open self-service store. Project A desires to be an arena to test new concepts and allow the co-owners to influence decision-making and innovation development. The intention is to evaluate if innovations should be scaled to other chains or parts of the country and develop valuable partnerships with suppliers. The specific chain was chosen due to having complementary values with the collaborative partner (Company Y). When developing the project mandate, four themes of retail innovation were identified as relevant to the chain, where sustainability was one of them. The project aimed to work sprint-based and use the store to work agile with testing concepts through prototyping and direct consumer feedback.

3.2.2.2 Project B

Project B is a pilot project initiated by one of the local cooperatives. It is a collaboration between the real estate subsidiary of Company X, the local cooperative, and Company X. The project was initiated to create a new standard in Company X for sustainable stores, meaning that the main driver was sustainability. The project's main objective is to reduce emissions from the building by 40%, which aligns with the company's sustainable strategy. The project's two main pillars are reducing climate footprint through emissions and reducing electrical power usage. The pillars will be realized with the use of sustainable materials in the construction process and innovative technology in the store.

The goal of the technological solutions is that the store will be certified as "Very Good" in accordance with the environmental certification called BREEAM. BREEAM is an international scheme that provides independent third-party certification for assessing the sustainability performance of individual buildings, communities, and infrastructure projects (Grønn Byggallianse, n.d.). Assessment

and certification can occur at several stages in the building process, from design and construction to operation and refurbishment.

3.2.2.3 Project C

Project C is also a consumer-focused pilot project where the main objective is to develop a system for co-owner-driven SOI. The project was initiated by one of the local cooperatives and has been executed in collaboration with Company X. Further, the project aims to test innovative solutions to reduce food waste and plastic usage and increase recycling. The chain's strategic position is known for the best selection of brands and quality food, which is why this chain was chosen for the project. The project collected useful insight through social media groups and direct customer conversations in stores. The project focused on developing simple tests and prototypes for fast testing with feedback from co-owners.

3.2.2.4 Project D

Project D was initiated internally in Company X with the objective of using new technology to make logistics more efficient and reduce operational costs, meaning that the main driver was not sustainability. The project was initiated in 2006 but did not have the letter of intent established until 2010. The project group spent a lot of time investigating other countries and industries to get inspiration. Additionally, the group had to convince the management and the local cooperatives to centralize the logistics. There was a prolonged process of negotiating with suppliers on the price and quality of the technology.

3.2 Data collection

Due to our research question's exploratory nature and complexity, a qualitative research design was chosen for this project. We utilized primary and secondary data sources to conduct a more in-depth examination of the organization (Stensaker & Falkenberg, 2007). Using multiple data sources allowed us to triangulate our data and thereby gain a more rigorous validation and gain a more comprehensive understanding of our research phenomenon (Eisenhardt, 1989). Our primary data were collected through in-depth interviews on all four projects, while the secondary data was mainly qualitative and obtained through internal documents. The following section will describe our approach to gathering data.

3.2.1 Primary Data - Interviews

Through in-depth interviews, we obtained precise information from informants and their opinions, which served as our primary data source (Straits & Singleton, 2018). The interviews were semi-structured, enabling us to interact with the respondents flexibly while following a predefined interview guide (Saunders et al., 2009). The primary purpose of the interviews was to collect detailed and exhaustive information to enhance our literature review. Therefore, the interview guide was structured openly, allowing the respondent to influence the direction of the questions while simultaneously being open to follow-up questions (Bell et al., 2022). This also ensured that the respondents were not steered in any direction and allowed them to openly discuss the topic and share what they believed to be the most important factors (Straits & Singleton, 2018). The interview guide was prepared in advance of the interviews. However, we chose not to send it in prior to the interviews to ensure that the interviewees did not prepare predefined answers but instead talked more freely about the topic. This enables other concepts and topics to emerge which we might have missed otherwise.

Additionally, since we did not know much about the organization's projects beforehand, we conducted first and second-order interviews (Appendix 1-3). The purpose of the initial round of interviews was to acquire a broader understanding of how the organization addresses sustainability through its innovation processes. In addition, we utilized the interviews to obtain a deeper understanding of the project. The first set of interviews was conducted to determine whether we could use the acquired information to identify any distinctions between sustainability-driven and non-sustainability-driven projects. The second round of interviews aimed to go more in-depth into the challenges and success factors encountered by the interviewees during the innovation processes. Representatives from all four projects participated in the second round of interviews.

3.2.1.1 Sampling of Respondents

With the assistance from our supervisor in Company X, we utilized the method of purposive sampling to ensure that we obtained a representative sample of participants for addressing our research question (Saunders et al., 2009). By using this method, we were able to select interview candidates based on their capacity to provide us with the most pertinent project-related information and materials

(Saunders et al., 2009). A total sample of five interviewees was selected for the first round of interviews on Project A and B, in addition to a representative from the sustainability department. We had nine interviews for the second round, including representatives from all projects. Two interviewees participated in both Project A and C, allowing us to ask additional questions regarding their perceptions of the differences between the two projects. A total of fifteen interviews were conducted in total.

The sampling size of the interview objects was selected using the snowball sampling technique (Bell et al., 2022). Respondents from each interview recommended individuals who were highly relevant to our study objectives and had relevant information about the projects. We followed the snowball technique until we reached theoretical saturation (Noy, 2008), at which point we received identical responses from representatives from the same projects. The interviews were scheduled to last between 30-60 minutes, allowing us to acquire sufficient information on the subject. In addition, since this is a Norwegian cooperative, the interviews were conducted in the candidates' native tongue. By allowing the interviewees to talk freely in their native language, the participants were able to provide more precise and insightful responses to our questions.

Table 2 illustrates the interviews in the different pilot projects. To ensure the anonymity of each interview object, we will not list their role in the project. However, we ensured that the representatives in our sample held key roles in the project, including project managers, relevant collaboration partners, and project initiators.

Table 3: Overview of Conducted Interviews

Interview object	Project	1st or 2nd round	Duration
Object 1	Sustainability Department	1 st	25 min
Object 2	Project A	1 st	58 min
Object 3	Project A	1 st	44 min
Object 4	Project B	1 st	41 min
Object 5	Project A	1 st	59 min
Object 6	Project B	1 st	59 min
Object 7	Project C	2 nd	44 min

Object 8	Project D	2 nd	53 min
Object 9	Project A and C	2 nd	53 min
Object 10	Project A and C	2 nd	39 min
Object 11	Project B	2 nd	47 min
Object 12	Project C	2 nd	40min
Object 13	Project D	2 nd	37 min
Object 14	Project B	2 nd	52 min
Object 15	Project D	2 nd	45 min

3.2.2 Secondary Data - Internal Documents

For the secondary data sources, we used internal documents from the company on the different projects, including project descriptions and evaluations. We used news articles and the company's sustainability report to better understand its presentation of the sustainability work and its sustainable strategy. Additionally, we acquired information regarding the company's innovation framework for future projects, which is a work-in-progress report. As indicated earlier in the study, the organization is currently attempting to determine the most effective way to manage innovations, and therefore this was highly relevant for us to assess. Due to the possibility of organizational bias, we needed to evaluate the legitimacy of the company's documentation with a critical mindset (Bell et al., 2022). Therefore, the documents were assessed based on their legitimacy, validity, and relevance to our issue (Scott, 2014).

3.3 Data analysis

For our data analysis, we applied the central approach of grounded theory for analyzing qualitative data, which is an iterative and structured approach (Corbin & Strauss, 1990; Miles & Huberman, 1994). The qualitative approach allows us to categorize the data before identifying relationships between the identified concepts (Saunders et al., 2009). As our research aims to extend on establish theories on innovation processes and sustainability, we had an inductive approach when analyzing the data. The process was highly iterative, involving a continuous back-and-forth process between data and theory (Locke, 2007).

3.3.1 Data Coding

The data was coded in three steps, following the procedure suggested by Corbin and Strauss (1990), where we first conducted a case analysis of each pilot project before we started comparing them. A cross-analysis of the four cases was completed at all stages of the process.

Step 1 Open Coding: In the first step, we applied the open coding method to separate our data into independent parts. Since we conducted semi-structured interviews, we obtained a large amount of data, which required appropriate categorization. The first step was to transcribe the interviews. During the interviews, we used recordings to ensure we did not overlook any crucial information. The transcripts of the interviews were completed within 48 hours, and no changes were made to guarantee that we did not miss the context. Secondly, when we had transcribed the interviews, both of us individually began to code the interviews into an exile file, where we compiled all pieces of our data, such as the quotes and added conceptual labels that we found highly relevant. The identification of the various concepts was motivated by the goal of our research question (Saunders et al., 2009), which became apparent as we began to compare text units (Glaser & Strauss, 1967).

Both group members transcribed the interviews and assigned individual codes to our data to guarantee that we did not overlook critical information. Consequently, both group members may interpret the findings differently (Bell et al., 2022). After independently coding the interviews, we began to compare our findings. This led to the development of our first-order concepts, where we grouped statements regarding each phase of the innovation processes described by the interviews.

Step 2 Axial Coding: When we had completed the open coding, we moved over to axial coding. The axial coding phase involves relating categories to their subcategories. At this stage, we began categorizing our first-order codes into theoretical codes previously described in the literature on innovation processes and sustainability (Faems et al., 2008). For example, we started to group the statements regarding resistance towards high costs on sustainability, lack of support for sustainable initiatives, and technological difficulties into the category of short-term sustainability perspective.

Step 3 Selective Coding: When we had completed coding the 1st and 2nd order dimensions, we had the basis for building our data structure. At this stage, we started consolidating our findings from the data collection into aggregated dimensions. The aggregated dimensions are supposed to represent the essence of our research. This resulted in 7 aggregated dimensions: *Key drivers and motivation, idea generation, selection, diffusion, learning points, challenges in cooperative organizations, and success factors in cooperative organizations.*

3.4 Methodological Strengths and Weaknesses

In the following section, we will assess the methodological strengths and weaknesses of our master thesis and outline the limitations of our selected research design. We will also reflect upon the measures we have taken to avoid some of the most common biases related to qualitative data to assure the reliability and validity of our study.

3.4.1 Reliability and Validity

One of the most common criticisms concerning qualitative data is that it is not generalizable due to a lack of rigor in terms of validity and reliability (Burgelman, 1983). The term reliability refers to the consistency of measurement and the ability of the findings to be replicated under the same conditions (Bell et al., 2022; Straits & Singleton, 2018). Reliability is confirmed if we demonstrate that our study's process can be repeated with the same findings (Denizen & Lincoln, 2017). To assure the transparency of our research, we have therefore made detailed documentation of our actions and the progress of our research procedure to guarantee that it can be replicated (Yin, 2018).

The term validity relates to a measure's accuracy and if the findings properly reflect what the results are designed to measure (Campbell, 1975; Straits & Singleton, 2018). Gibbert et al., (2008) emphasize the importance of assuring internal validity when conducting case studies, where three measures have been proposed to enhance this. Firstly, case study researchers must formulate a clear research framework explicitly derived from literature, which we ensured by applying an inductive research method. Secondly, through pattern matching, researchers must compare empirically observed patterns to those reported by other authors. Our theoretical foundation is based on previous literature on SOI and innovation

processes. By matching our findings with our theoretical foundation, we ensured internal validity. The last approach to assessing the internal validity of research is to ensure the use of triangulation (Jick, 1979; Yin, 1994). To cross-check our data, we have utilized interviews and internal documents from the company, in addition to annual reports and news articles. News articles are beneficial as data sources since they represent how external actors perceive the company and the projects.

Moreover, case studies often raise concerns regarding external validity since they cannot be generalizable due to the sample size (Yin, 1994). Since our case study is limited to a specific industry, it could raise external validity questions. However, it is important to note that the main goal is not to develop a generalizable theory but to build on and extend the current theory. Further, since the case study involves a cross-analysis of four pilot projects, it could, according to Eisenhardt (1989), provide a good basis for analytical generalization. Additionally, since our multiple-case study is conducted on pilot projects within one single company, our sample size is collected from the same cohort (Yin, 1994). Furthermore, we followed the snowballing strategy when we selected our sample size, which according to Bell et al. (2022), provides more robust and reliable data for our analysis.

3.4.2 Interview Biases

During the interview process, there are also several biases that we had to be aware of, which can be attributed to both the interviewer and the interviewee (Bell et al., 2022). During their interviews, biases may occur if the interviewers have preconceived notions of what they believe is the proper answer. Therefore, we used indirect questions during the interviews to avoid preconceived notions and avoided using theoretical topics. This was done to avoid steering the interviewer in any specific direction, thus allowing them to speak more freely. We recorded and transcribed the interviews without making modifications to avoid losing the main context. Moreover, we were two people who conducted the research, which has two key advantages according to Eisenhardt (1989). The first advantage is that team members regularly bring complementary and unique perspectives, thus improving the likelihood of optimizing the data insights. Secondly, multiple team members' interpretations of the findings increase the assurance. Lastly, one of the most prevalent biases among interviews is social desirability, motivated by the interview object's desire to provide socially acceptable replies (Bell et al., 2022). This was

avoided by not sending the interview questions beforehand and ensuring interviewees through the consent form that their responses and statements would remain anonymous.

4.0 Ethical Considerations

When gathering data for our study, it was important to protect the ethics of business research. According to Bell et al. (2022), four ethical considerations must be contemplated when collecting research data: risk of harm, invasion of privacy, informed consent, and deception.

The risk of harm is related to maintaining the confidentiality of records and the participants' anonymity. To assure their confidentiality, we made a consent form in line with Norsk Senter for Forskningsdata (NSD) guidelines. The participants were informed about our research through the consent form prior to the interviews. This also complies with the principle of informed consent since the participants have a right to a thorough explanation of the research purpose and procedures before participating (Bell et al., 2022). It was made clear that their identities would be kept anonymous and that we would not use information that could be directly traced back to the respondent. We also assigned identification numbers to all participants to anonymize the data in the analysis.

The principle of invasion of privacy implies the right of participants to withdraw or decline to answer certain questions (Bell et al., 2022). The participant was therefore permitted to withdraw at any time from the case study (Kvale & Brinkmann, 2009). Additionally, to ensure the respondents' confidentiality, we treated each interview separately and avoided asking personal questions that may intrude on the interview object's privacy. We also reassured participants that the information acquired would be used solely for this study and that their data would be managed with sensitivity in line with the consent form. Prior to the interviews, we obtained permission from the participants to record the interviews and informed them that these recordings would be deleted after the thesis deadline.

Finally, *the principle of deception* relates to the possibility that researchers can present their findings inconsistent with what was expressed during the interviews (Bell et al., 2022). To guarantee compliance with this principle, both team member

translated the transcribed interviews into English, ensuring an accurate representation of the participants' statements and perspectives.

5.0 Findings

In the following section, we outline our research findings based on our investigation of differences and similarities between innovation processes *driven* by sustainability and those in which sustainability becomes an important factor *subsequently*. In the first part, in particular, we provide an overview of our findings concerning the project's innovation process. As highlighted in our theoretical framework, each of the four distinct projects involved indeed a different number of phases. Therefore, to examine similarities and differences among the four pilot projects, we have separated them into four categories: *key drives and motivations, idea generation, selection, and diffusion*. The categories enable us to see differences and similarities between the four selected projects' innovation processes. In each category, we begin by identifying activities, challenges, and success factors in each phase of the innovation process. Lastly, we describe our findings on general challenges and success factors for cooperative organizations that engage in SOI. A general overview of findings regarding challenges and success factors in each phase is presented in Figure 3. The figure is adapted from Hansen and Birkinshaw (2007)'s three phases of the innovation process. The specific challenges and success factors for each type of projects are presented in more details in Tables in each section.

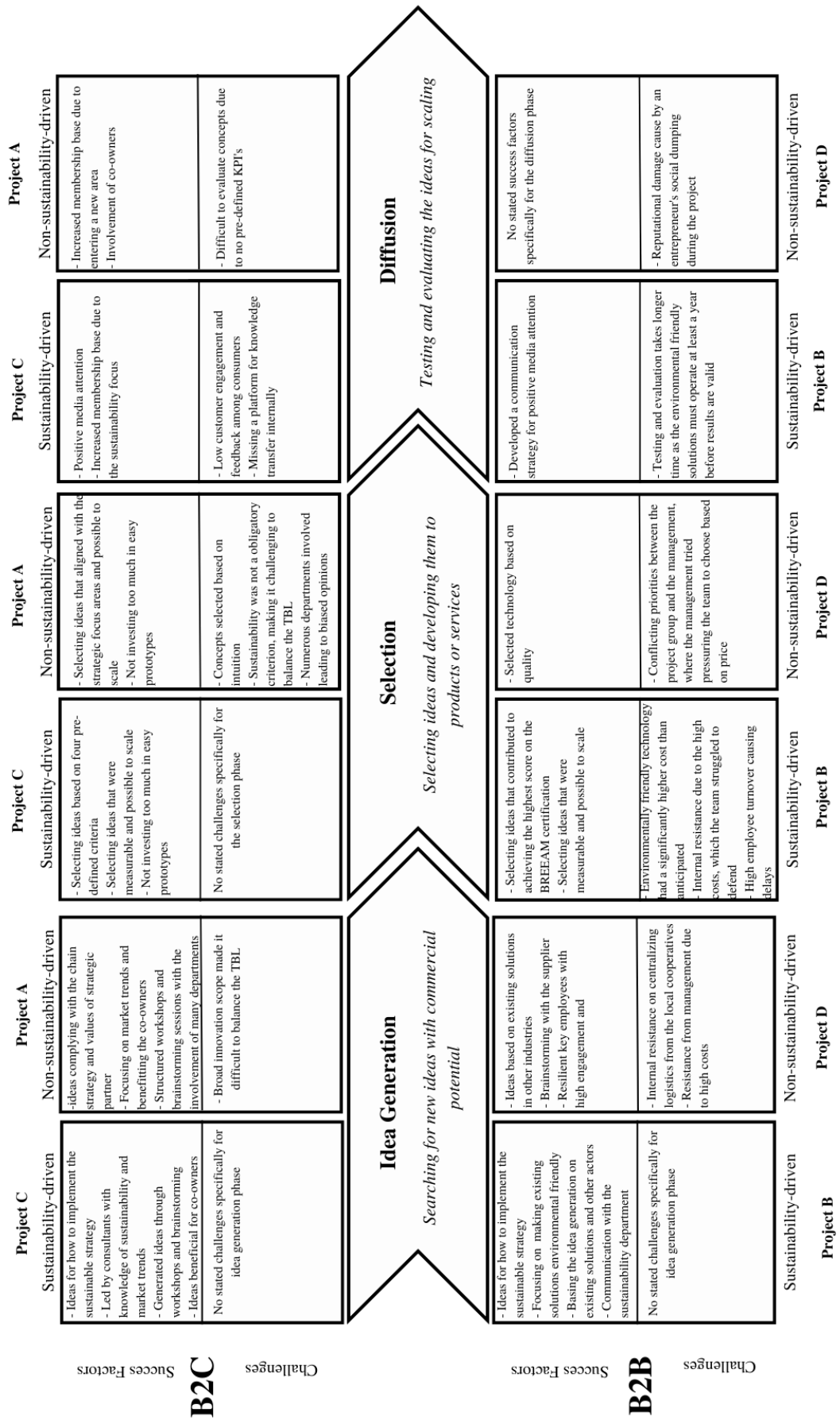


Figure 3: Overview of success factors and challenges in the innovation process of the four projects

5.1 Innovation Process: A General Overview Across the Different Cases/Projects

From the interviews, it appears that both *Projects A* and *C* had a B2C focus and defined innovation processes from the beginning. Both projects had implemented an agile and dynamic process adapted from consulting houses. The processes were characterized by high customer involvement and small-scale testing of incremental innovations with a focus on testing hypotheses and theory. These projects were less capital intensive compared to the others and involved fewer external resources.

In contrast, neither *Project B* nor *D* had a clear and defined innovation methodology but followed the common stages of building processes. Both projects were based on three main stages: pre-project planning, building the store and then evaluating and testing the effect of the new solutions and concepts. Consequently, both these projects required the involvement of numerous stakeholders. Figure 4 presents an overview of when sustainability became an important element in each of the four projects.

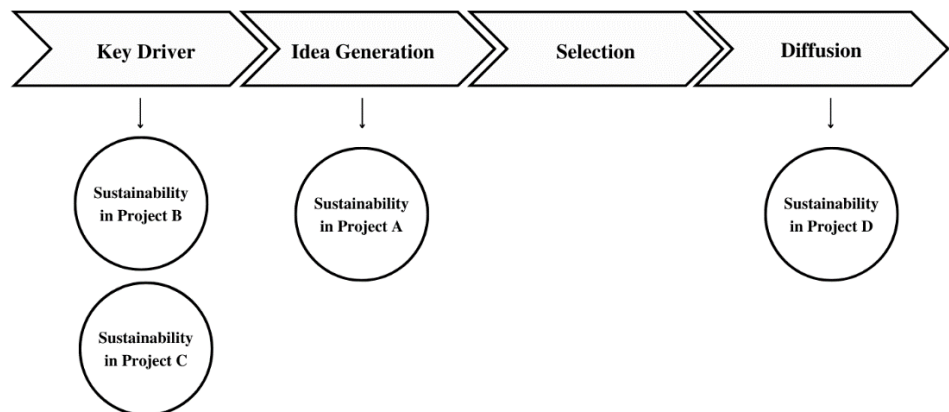


Figure 4: Overview of when sustainability became an important element in the projects

5.1.1 Key Drivers and Motivation

As stated in section 3.2.2, our primary objective was to identify two projects primarily driven by sustainability and two projects in which sustainability became an important factor subsequently. The following section will cover the primary *drivers* and *motivations* for each of the four projects. An overview of our findings on the projects key drivers and motivations is presented in Table 4.

Table 4: Overview of findings on the project's key drivers and motivations

	Main Driver	Key Quotes	Other Drivers	Key Quotes
Project A (B2C)	Establish a strategic partnership with one of the largest building cooperatives in Norway	"This was an opportunity that arose in one of Company Y building areas, where they were seeking a grocery store owner to collaborate with. We have previously not collaborated with them in the past, but there has always been a strong desire to establish a long-term strategic alliance with Company Y." (Interview Object 5)	Establish an arena for consumer-related innovations	"It is often common for businesses to have concept stores, where innovative solutions are constantly tested. We also wanted to establish a place to test innovations that are more complex in typically larger stores." (Interview Object 10)
Project B (B2B)	Develop a store with sustainable initiatives to reduce CO2 emissions and energy consumption	"We wanted to develop a store that actually contributes positively to the environment, and not just a greenwashing project." (Interview Object 4)	Gain more knowledge and experience with sustainable initiatives to strengthen the divisions strategic position	
Project C (B2C)	Develop sustainable initiatives for their co-owners to increase the store's strategic position towards a sustainable image	"Develop a system for co-owner-driven sustainable innovation" (Internal document)		
Project D (B2B)	Increase Company C's strategic position and profitability in logistics	"I did an extensive evaluation and discovered that our manual logistic processes were less efficient than those of our competitors. Therefore, the choice was between attempting to change something internally within the organization or trying to automate our processes. I, therefore, concluded that the latter is probably easier to begin with." (Interview Object 8)		

5.1.1.1 Sustainable Driven Projects

From our findings, we can observe that *Project B and C's* main drivers were to create a more sustainable profile in line with the company's overall sustainability strategy. *Project C* was a pilot project initiated by one of the local cooperatives and their desire to implement more sustainable activities in their own stores to benefit their co-owners.

"This project was actually initiated by one of the local cooperatives, and not within Company X. This is a bit unique since it's outside their mandate. However, I think this is positive, as it demonstrates that sustainable ideas can originate from anywhere in an organization." (Interview Object 12)

It was stated from internal documents that *Project C's* main objective was to develop a system for co-owner-driven sustainable innovation. Therefore, the primary driver was to create and implement initiatives within sustainable choices for consumers, to increase the market competitiveness and the store's strategic position towards a sustainable image.

Project B, like *Project C*, was established as a pilot project in response to a local cooperative's aim to build a more sustainable profile consistent with its strategic position. The real estate subsidiary and Company X worked together to complete *Project B*. The main objective was to develop a store with sustainable initiatives to reduce CO2 emissions and energy consumption.

"We wanted to develop a store that actually contributes positively to the environment, and not just a greenwashing project." (Interview Object 4)

In addition, the real estate division was under pressure from its board to increase its involvement in sustainable activities. Therefore, this became a serious commitment with support from several organizational divisions.

"They had also been challenged by their own board and their parent company on how they could contribute in relation to sustainability. So, in addition to having pressure from above, they also had an internal desire to enter the market, and an interested customer." (Interview Object 6)

Furthermore, *Project B* was also aimed at providing the project team with more knowledge and experience with sustainability to further strengthen the divisions strategic position. The division had previously discussed similar pilot projects. However, they were not realized due to the timing and complexity of the projects. Another factor was that the organization was not internally prepared for this change, and therefore sustainability needed to become more anchored within.

"Before this project was initiated, we had tried to realize several pilot projects earlier, where one of them was extremely similar to this one, except that it was larger and more complex. We went to great lengths to realize it, but it was ultimately rejected. So, we had in many ways started preparing the organization for this project." (Interview Object 6)

5.1.1.2 Non-Sustainable Driven Projects

Compared to the other projects, *Projects A* and *D* had other drivers than realizing the sustainable strategy. *Project A* was a pilot project mainly driven by the department's desire to establish a strategic partnership with one of the largest building cooperatives in Norway, Company Y.

"This was an opportunity that arose in one of Company Y building areas, where they were seeking a grocery store owner to collaborate with. We have previously not collaborated with them in the past, but there has always been a strong desire to establish a long-term strategic alliance with Company Y." (Interview Object 5)

The company had not previously had any operations in this specific area. However, since this is an area under development with rapid population growth, they saw this as a strategic base for further growing their membership base and market share.

"Firstly, this concerns our store operations, specifically that we are essentially non-existent here. Gaining a presence has been important for a long time since this is a growth area, and an area where our market share is low." (Interview Object 10)

Since the project would start as a container store for the first ten years, the department saw the opportunity to establish an arena for testing Company X's consumer-related innovations. The company had seen that concept stores are a common practice among other retailers and an effective way to innovate on a smaller scale.

"It is often common for businesses to have concept stores, where innovative solutions are constantly tested. We also wanted to establish a place to test innovations that are more complex in typically larger stores." (Interview Object 10)

Similarly, *Project D* was initiated to increase Company X's strategic position and profitability. The project resulted from evaluating the company's profitability compared to its competitors, which revealed the need to optimize its logistics.

"I did an extensive evaluation and discovered that our manual logistic processes were less efficient than those of our competitors. Therefore, the choice was between attempting to change something internally within the organization or trying to automate our processes. I, therefore, concluded that the latter is probably easier to begin with." (Interview Object 8)

The interviews reveal that the primary motivation for the project was to reduce costs and increase efficiency to achieve a competitive advantage. Consequently, based on our findings, it appears that the organization lacked defined metrics for evaluating its operations and, as a result, needed to make substantial adjustments to improve its logistics.

5.1.2 Innovation Project Phases

5.1.2.1 Idea Generation

From our findings, we see that the B2C projects worked with brainstorming and workshops in the idea generation phase, with the involvement of several departments. The phase focused on market trends and customer insight to solve consumer-specific problems. The B2B projects also had an external focus in this phase, looking at what other actors had done in similar industries. All projects had external help during this phase, including consultants and suppliers. An overview of our findings in the idea generation phase for each project is presented in Table 5.

Table 5: Overview of activities, success factors and challenges in each project of the idea generation phase

Activities	Key Quotes	Success Factors	Key Quotes	Challenges	Key Quotes
<p>Project A (B2C)</p> <ul style="list-style-type: none"> Brainstorming and workshops with the involvement of many departments 	<p>"We started with brainstorming sessions internally in the organization in which everyone was invited and posted a request for ideas on the intranet. What should future grocery stores look like? This ensured that we collected as many ideas as possible from the entire company. We got a lot of input that we used in the next stages." (Interview Object 2)</p>	<ul style="list-style-type: none"> Focused on market trends and concepts that could benefit their co-owners Ideas complied with the chain's strategies and values of their strategic partner 	<p>"In the company, we have a zero vision, which is really good since it focuses on reducing food waste. This is also one of our biggest challenges. Therefore, we need to do everything we can from an environmental, ethical, and customer perspective to focus on reducing this". (Interview Object 12)</p>	<ul style="list-style-type: none"> Broad innovation scope made it difficult to balance the TBL 	
<p>Project B (B2B)</p> <ul style="list-style-type: none"> Brainstorming with the sustainability department 	<p>"I had continuous dialogues with the sustainability department to learn about the upcoming objectives and how we should relate to them. So, then we understood that a climate ambition of 40% is something we should be able to achieve in this project." (Interview Object 6)</p>	<ul style="list-style-type: none"> Hired consultants with technical solutions for energy efficiency Ideas based on how they could implement the sustainable strategy Focus on making existing solutions environmental friendly 	<p>"In the company, we have a zero vision, which is really good since it focuses on reducing food waste. This is also one of our biggest challenges. Therefore, we need to do everything we can from an environmental, ethical, and customer perspective to focus on reducing this". (Interview Object 12)</p>	<ul style="list-style-type: none"> No stated challenges specifically for the idea generation phase 	

Table 5, Cont

<p>Project C (B2C)</p> <ul style="list-style-type: none"> Brainstorming and workshops 	<ul style="list-style-type: none"> Ideas for how to implement the sustainable strategy Focused on ideas that would benefit their co-owners Led by consultants with experience on sustainability and market trends 	<p>"In the company, we have a zero vision, which is really good since it focuses on reducing food waste. This is also one of our biggest challenges. Therefore, we need to do everything we can from an environmental, ethical, and customer perspective to focus on reducing this". (Interview Object 12)</p>	<ul style="list-style-type: none"> No stated challenges specifically for the idea generation phase
<p>Project D (B2B)</p> <ul style="list-style-type: none"> Brainstorming with supplier 	<p>"We started by establishing several different alternatives, where we looked at the different automizing levels and combinations of several components. After that, we started calculating and sketching all the alternatives and compared them to each other to find the best alternative. One important aspect here was to not settle on one solution early on but be open to other alternatives." (Interview Object 8)</p>	<p>"Copying other actors was certainly our mindset here. We were not going to be the first mover and sit down at our desk to find out how we could automate the logistics center. Instead, we focused on copying existing solutions and adapting them to our business model, products, and operations." (Interview Object 8)</p>	<ul style="list-style-type: none"> Internal resistance on centralizing logistics from the local cooperatives Resistance from managers due to high costs

5.1.2.1.1 Sustainability-Driven Projects

From our findings, the idea generation phase for *Project C* focused on brainstorming and workshops to create a long list of simple, sustainable concepts centered around their customers. This phase was influenced by research and theory of sustainability in the food industry. The idea generation was mainly driven by consultants that presented existing solutions and market trends, which built the basis for the evaluation and selection criteria.

"The consultants were mainly responsible for the idea generation. There was a lot of focus on micro trends in the market, user trends, and their effects on the environment. And then in a way you have a set of ideas based on research."

(Interview Object 9)

Project B was also based on research and existing solutions in the market. In the idea generation phase, they hired consultants with experience in technical solutions for energy efficiency. This was mainly due to the project's complexity, and lack of expertise in the field. No tools or brainstorming sessions were used to develop the concepts. Instead, they generated ideas on how to replace the current solutions with more sustainable alternatives, with a particular emphasis on energy-efficiency and reducing CO₂ emission. These measurements were derived from the company's climate accounts in order to prioritize activities more effectively.

"I have previously worked with Company X's climate accounts, so I understand where the pressure is and what measures we need to take in order to reduce the climate impact." (Interview Object 6)

A success factor for both projects in the idea generation phase was that they were based on Company's X strategic position, and focused on how they could contribute to implementing the sustainable strategy. *Project C* concentrated on how they could contribute to zero waste, as this is one of the company's biggest challenges today. Additionally, the chain's strategic position is known for its sustainable focus. This was advantageous when interacting with co-owners, as they are already aware of the store's emphasis on sustainability and are more focused on making sustainable choices.

"In the company, we have a zero vision, which is really good since it focuses on reducing food waste. This is also one of our biggest challenges. Therefore, we need to do everything we can from an environmental, ethical, and customer perspective to focus on reducing this". (Interview Object 12)

Project B was centered around the climate ambition of the company and how they could contribute to its ambitions of reducing Co2 emissions by 40%. In the idea generation phase, they frequently communicated with the company's sustainability department to ensure that they made feasible goals aligned with the sustainability strategy.

"I had continuous dialogues with the sustainability department to learn about the upcoming objectives and how we should relate to them. So, then we understood that a climate ambition of 40% is something we should be able to achieve in this project." (Interview Object 6)

5.1.2.1.2 Non-Sustainability Driven Projects

Comparable with *Project C*, *Project A's* idea generation phase also centered around brainstorming and workshop sessions to establish a long list of feasible concepts. The idea generation involved many people internally from different departments to ensure the development of ideas based on various aspects. The co-owner department was included in the idea generation phase to ensure that the co-owners' interests were represented in the project. They used QR codes at the end of meetings and presentations to gain more input and used gifts and rewards to incentivize people to participate in the idea generation.

"We started with brainstorming sessions internally in the organization in which everyone was invited and posted a request for ideas on the intranet, where we asked the question "What should future grocery stores look like?" This ensured that we collected as many ideas as possible from the entire company. We got a lot of input that we used in the next stages." (Interview Object 2)

The idea generation phase focused on four key areas that combined the values of Companies X and Y, resulting in a broad innovation scope. Collectively with Company Y, it was determined that two of these priorities should be oriented on

sustainability and cooperative engagement, two elements of great value to both parties. Additionally, the last two focus areas are effective trade and contributing to the community, as this is the strategic focus area for the chain.

To further build on the four focus areas and the input obtained from different departments in the organization, the team facilitated their own workshops where they divided their discussions into two phases, the green, and the red. In the green phase, the main goal was to be as open as possible and not be critical of any ideas or have a critical mindset toward the cost. This phase focused on developing each other's ideas to create new solutions and concepts. In the red phase, the team had a more realistic mind and considered each concept's practical implications and costs.

"We began with the green phase, which is very open, and here you should not think critically about costs etc. You should think "yes," and you should think "and" to build on other people's ideas. It was not allowed to say no. In retrospect, we have also emphasized the red phase, where we have analyzed things more deeply and examined the cost and whether or not this is practically doable."

(Interview Object 5)

Compared to Project A, *Project D* did not require the same amount of resources to generate concept ideas. Instead, the focus was on examining other sectors and similar solutions in the market and identifying novel methods to combine diverse solutions to optimize its logistics center.

"Copying other actors was certainly our mindset here. We were not going to be the first mover and find out how we could automate the logistics center. Instead, we focused on copying existing solutions and adapting them to our business model, products, and operations." (Interview Object 8)

Similar to Project A, *Project D* also had an open approach in the idea generation phase. The project team brainstormed with one supplier where they drew the final solutions and began incorporating extra components. The idea generation was based on processes in the logistic center they knew needed improvement, where they looked at which proven technology in the market could advance the existing

solutions. In addition, the project team did many calculations to analyze and test several alternatives.

“We started by establishing several different alternatives, where we looked at the different automizing levels and combinations of several components. After that, we started calculating and sketching all the alternatives and compared them to each other to find the best alternative. One important aspect here was to not settle on one solution early on but be open to other alternatives.” (Interview Object 8)

The main challenge in the idea generation phase of *Project D* was resistance internally in the organization and a lack of acceptance to proceed with the project. The resistance was mainly caused by large cost structures, failed attempts from other market players, regional affiliation, and skepticism in centralizing the organization's logistic functions.

5.1.2.2 Selection

From our findings, we can see that the B2C driven *Projects A* and *C* had a set of pre-defined criteria when selecting ideas from the previous phase. These criteria were fulfilled based on the project group experience and own intuition. What was distinctive from *Project C* was that *Project A's* concept could include sustainability, but it was not required. The other criteria for both projects were related to the chain's strategy, vision, and cooperative organization. Consultants assisted both projects in selecting ideas in this phase, due to the project teams lacking knowledge and experience with similar projects.

In *Projects B* and *D*, with a B2B focus, the team selected ideas based on the project's objective, but they had not specified a list of certain criteria. Both projects selected concepts based on what other actors had done in the market and validated technologies. In *Projects B* and *D*, the project team made the selection in collaboration with the suppliers. An overview of our findings in the selection phase for each project is presented in Table 6.

Table 6: Overview of activities, success factors and challenges in each project of the selection phase

Activities	Key Quotes	Success Factors	Key Quotes	Challenges	Key Quotes
Project A (B2C)	Selection based on four criteria, where the ideas had to have at least one. Sustainability was one of the criteria the ideas could have, but it was not obligatory.	<p>"We decided that the four themes are important to us and that the concepts should deliver on at least one of them. Sustainability is one of the four possible themes the concepts could deliver on." (Interview Object 5)</p> <ul style="list-style-type: none"> • Selecting ideas that were aligned with the strategic focus areas • Selecting ideas that were possible to scale • Not investing too much in easy prototypes 	<p>"One of the objectives in this project is to make experiences that are easy to copy and use further on. This is a pilot project, after all." (Interview Object 4)</p>	<ul style="list-style-type: none"> • Concepts selected based on intuition • Sustainability was not a obligatory criterion, making it challenging to balance the TBL • Numerous departments involved leading to biased opinions 	<p>There has been a challenge selecting what to do and not, often influenced by subjective opinions." (Interview Object 9)</p>
Project B (B2B)	Selecting ideas based on the BREEAM certification.	<p>"We wanted to have a building with the highest possible classification according to class A. It is a classification in relation to energy consumption. So, we must constantly think about materials, CO2 emissions, and what footprint you have." (Interview Object 11)</p> <ul style="list-style-type: none"> • Selecting ideas that contributed to achieving the highest score on the BREEAM certification • Selecting ideas that were measurable and possible to scale 	<p>"One of the objectives in this project is to make experiences that are easy to copy and use further on. This is a pilot project, after all." (Interview Object 4)</p>	<ul style="list-style-type: none"> • Environmentally friendly technology had a significantly higher cost than anticipated • Internal resistance due to the high investment costs, which the team struggled to defend • High employee turnover causing delays 	<p>"There were a number of employees that left the department at that time, which led to replacements. There was also a lot of illness in the department. New employees had to settle into the project, so it was held back for 2-3 quarters of the year." (Interview Object 11)</p>

Table 6, Cont

<p>Project C (B2C)</p>	<p>Selection based on four criteria, where the ideas had to have all four. Meaning sustainability was obligatory in all ideas.</p>	<p><i>"We followed four criteria: profitability, customer value, technology, and sustainability. Sustainability was the most important factor. But we are also completely dependent on the other three to ensure that the customers actually used it and that it is profitable since we are a commercial company."</i> (Interview Object 9)</p> <ul style="list-style-type: none"> • Selecting ideas based on four pre-defined criteria that were aligned with the strategic focus • Selecting ideas that were measurable and possible to scale • Not investing too much in easy prototypes 	<p><i>"We worked with easy prototypes. These were not the scalable options, but they ramped up the testing pace."</i> (Interview Object 9)</p> <ul style="list-style-type: none"> • No stated challenges specific for this phase
<p>Project D (B2B)</p>	<p>Selection based on available solutions in the market from suppliers</p>	<ul style="list-style-type: none"> • Selected technology based on quality 	<p><i>"During the final price negotiations, the CEO came along and was kind of a bully, which saved us 12 million. However, I would like to point out that in many cases, it is essential to negotiate price, but in the case of a project that is so vital to the core of our company operations, sometimes quality is more important, and you can save more money by prioritizing right."</i> (Interview Object 8)</p> <ul style="list-style-type: none"> • Conflicting priorities between the project group and management team, where the management team tried to pressure the team to choose based on price

5.1.2.2.1 Sustainability-Driven Projects

In *Project C*, the concept for the selection phase had to deliver on four criteria: profitability, customer value, the technical solution, and sustainability. Concerning the sustainability criteria, a critical feature of this project was that sustainability had to give measurable results regarding the people or planet part of the TBL. The perception of sustainability was not enough as a selection criterion. This included that sustainability had to be measurable.

"We followed four criteria: profitability, customer value, technology, and sustainability. Sustainability was the most important factor. But we are also completely dependent on the other three to ensure that the customers actually used it and that it is profitable since we are a commercial company." (Interview Object 9)

During the selection phase for *Project C*, it was also crucial that the concepts they wanted to test were simple and small-scale, allowing for rapid testing and gathering of customer feedback.

"We worked with easy prototypes. It was also a component of the test's profile and resembled cardboard backgrounds, etc. These were not the scalable options, but they ramped up the testing pace. It was also an essential instrument that allowed us to have an appearance where we showed the customers that we did not have all the answers and solutions, which matched very well with the profile we desired at that time." (Interview Object 9)

In contrast, the selection criteria for *Project B* were highly dependent on the BREEM certification. The technology chosen by the project team had to fulfill certification requirements. Similar to *Project C*, this project also included measurable sustainability requirements.

"We wanted to have a building with the highest possible classification according to class A. It is a classification in relation to energy consumption. So, we must constantly think about materials, CO2 emissions, and what footprint you have." (Interview Object 11)

In addition, our findings showed that one of the selection criteria for *Project B* was that the solutions had to be scalable. They desired the project's technology and solutions to be easily replicable and applicable to other cooperative stores.

"One of the objectives in this project is to make experiences that are easy to copy and use further on. This is a pilot project, after all." (Interview Object 4)

Project B, compared to *Project C*, selected only previously tested technologies. The store's technologies combined had never been tested, but each part had been demonstrated to operate individually. The concepts and technologies were based on what is quantifiable, sustainable, and independently demonstrated to work by other actors.

"So, we made several innovations in the solutions that we have tested, which we know work in other contexts. That store will have a combination of technology that may not exist, but parts of the solution we are trying to create here have been tested in a number of other stores." (Interview Object 6)

From our findings, we also saw that costs were a part of the selection criteria for *Project B*. The technology the project group wanted to implement in the store was expensive, so they were obliged to establish priorities. They were required to analyze the long-term value of the proposed solutions and select the one that would be most beneficial to the cooperative.

"We had several different alternatives, for example we included as possibilities that you have standard delivery for refrigeration technology, as well as numerous other things as a supplement, what is the alternative b, and alternative c, which one do we prefer. Then, we examine the market to determine how much these solutions cost and who can provide them. Then we may determine the energy efficiency provided by each alternative." (Interview Object 6)

In *Project B*, the project group had not specified the budget with the suppliers at the beginning of the project, which posed a challenge during this phase because the costs associated with environmentally friendly technology were significantly higher

than anticipated. This challenge caused further delays in the project because the budget had to be revisited and approved internally.

"The process stopped a bit when we had finished the pre-project and gave the total price for the project, including design, building, and full package. I think it was a bit too expensive for them." (Interview Object 11)

The team struggled with defending the high costs of the project. To gain approval, they had to defend investing in long-term sustainable solutions that acquired more resources than other building projects. They argued for the long term-profitability, and that the company had to take a short-term risk to realize the benefits of sustainability.

"It has been difficult to get approval. We spent a lot of time convincing the management to prioritize the high investment costs in this project." (Interview Object 4)

One of the arguments the project team used was that a portfolio of sustainable stores in a long-term perspective provides a higher value for the company. Moreover, sustainability is becoming one essential criterion for portfolio investments, thus making the building more attractive.

"If you are a property owner with a portfolio of sustainable buildings, then that portfolio will be more valuable in the future." (Interview Object 4)

Another challenge was high employee turnover at in this phase. The new employees had to become familiar with the project's objectives and activities, causing further delays. In addition, several of these resources did not have sufficient time to focus on the project due to their other work responsibilities.

"There were a number of employees that left the department at that time, which led to replacements. There was also a lot of illness in the department. New employees had to settle into the project, so it was held back for 2-3 quarters of the year." (Interview Object 11)

5.1.2.2.2 Non-Sustainability Driven Projects

Like Project C, *Project A's* selection phase was based on customer requirements. Additionally, the selection of ideas was affected by Company Y's objectives for the area. The selection criteria for *Project A* included sustainability as one of the four criteria. In this project, the concept was not required to match all criteria. One or two were sufficient, meaning the concept did not need to match the sustainability requirements to be chosen for further testing.

"We decided that the four themes are important to us and that the concepts should deliver on at least one of them. Sustainability is one of the four possible themes the concepts could deliver on." (Interview Object 5)

According to the interviews, *Project A* did not have a precise method for measuring the four selected criteria. Instead, the concepts were selected based on intuition and each person's perspectives.

"We selected based on their perceived scores on the sustainability criteria we specified. The criterion for selection was how effectively we perceived the concepts presented in relation to the themes. We may not have any measurable results, but we have gained more experience and a better understanding of how sustainability works." (Interview Object 2)

One of the main challenges was that the department spent too much time discussing subjective ideas. The reason for this is related to the cooperative structure, and the involvement of many departments. This resulted in several biased opinions which influenced the selection phase and slowed down the process.

"There has been a challenge selecting what to do and not, often influenced by subjective opinions." (Interview Object 9)

The main criterion in *Project D's* selection phase was quality. Since the project was complex and required a high amount of resources, the project group wanted to minimize the risks by choosing technologies that had been proven in the market by other actors. The management wanted to prioritize low investment costs and tried to pressure the project team to choose suppliers and technologies based on costs.

The project group continued with the supplier of the highest quality, which led to cost negotiations, where the management pressured the supplier.

"During the final price negotiations, the CEO came along and was kind of a bully, which saved us 12 million. However, I would like to point out that in many cases, it is essential to negotiate price, but in the case of a project that is so vital to the core of our company operations, sometimes quality is more important, and you can save more money by prioritizing right." (Interview Object 8)

5.1.2.3 Diffusion

The diffusion phase is based on testing simple solutions to avoid unnecessary investments in cost and time. All the projects are currently in this phase, where *Project A* is currently working on evaluating the different concepts that is being tested, *Project B* is currently executing the building of the store, *Project C* have scaled the testing to several stores and *Project D* is working on the expansion of the logistic center. An overview of our findings in the diffusion phase for each project is presented in Table 7.

Table 7: Overview of activities, success factors and challenges in each project of the diffusion phase

	<i>Activities</i>	<i>Key Quotes</i>	<i>Success Factors</i>	<i>Key Quotes</i>	<i>Challenges</i>	<i>Key Quotes</i>
Project A	In this phase the concepts and technology are currently being tested and continuously evaluated		<ul style="list-style-type: none"> Increased membership base due to entering a new area Involvement of co-owners 	<p>"We have seen the importance of having customer input in our innovation work. It is an important part of the process to get input from the co-owners on how to develop and adjust concepts." (Interview Object 2)</p>	<ul style="list-style-type: none"> Difficult to evaluate concepts due to no pre-defined KPI's 	
Project B	The team have not yet finished the development, but they plan to test and measure the technology continuously for scaling.	<p>"We have to test the solution to ensure that it is effective. It is a pilot, so therefore it will be continuously tested and measured." (Interview Object 4)</p>	<ul style="list-style-type: none"> Developed a communication strategy for positive media attention 	<p>"It is very important for us to use this for the market effect it has. We need to show that our company thinks about sustainability and that we are in the process of building the store in Norway that currently has the best sustainable solutions." (Interview Object 4)</p>	<ul style="list-style-type: none"> Testing and evaluating takes longer time as the environmentally friendly solution must operate at least a year before results are valid 	
B2C						
B2B						

Table 7, Cont

<p>Project C</p>	<p>Have tested the concepts in one store, evaluated, and are currently testing concepts in several stores</p>	<p><i>"The plan is to get the concept rolled out in several stores in the first place and continue learning from it. Then we will roll it out in the rest of the cooperation's chains and get volume and effect. These are some necessary steps for that."</i></p>	<ul style="list-style-type: none"> • Positive media attention • Increased membership base due to the sustainability focus 	<ul style="list-style-type: none"> • Low engagement and feedback among consumers • Missing a platform for knowledge transfer internally 	<p><i>"I believe elements of what our project has developed and will continue to develop will be included into other chains. We are a multi-chain business, but we belong to the same cooperative, therefore most of our consumer engagement takes place on a local level through our co-owner network. Therefore, we have a somewhat different expectation to be able to learn from one another." (Interview Object 12)</i></p>
<p>Project D</p>	<p>The technology in the new logistic center was tested and evaluated. The project is currently expanding. In connection with the expansion, sustainability has become an important element</p>	<p><i>"Sustainability came into the project in relation to the expansion. Sustainability is something we have considered for the last two years." (Interview Object 8)</i></p>	<ul style="list-style-type: none"> • No stated success factors for the diffusion phase 	<ul style="list-style-type: none"> • Reputational damage caused by an entrepreneur's social dumping during the project 	<p><i>"We had huge problems with the entrepreneur. There was a case of social dumping, which became a media case reflecting Company X badly. We did not have control. We have learned a lot from this case, and we have much more control in the expansion" (Interview Object 8)</i></p>

5.1.2.3.1 Sustainability-Driven Projects

In *Project C*, we found that consumers' feedback and perception were critical in the diffusion phase. Before deciding whether to scale the concepts, the project team planned to test the concepts in several of the chains' stores to obtain consumer feedback.

"The plan is to get the concept rolled out in several stores in the first place and continue learning from it. Then we will roll it out in the rest of the cooperation's chains and get volume and effect. These are some necessary steps for that."

(Interview Object 9)

Knowledge sharing is also an integral part of this phase. The respondents emphasize the necessity of sharing experience and knowledge internally in the cooperative, particularly concerning sustainability and innovation. However, several interviewees desire a more effective platform for sharing information.

"I believe elements of what our project has developed and will continue to develop will be included into other chains, especially when people can say "Wow, this is great, we can adopt it straight in". We are a multi-chain business, but we belong to the same cooperative, therefore most of our consumer engagement takes place on a local level through our co-owner network. Therefore, we have a somewhat different expectation to be able to learn from one another." (Interview Object 12)

In the diffusion phase of *Project B*, concepts are also tested, but unlike *Project C*, the purpose is not to collect consumer feedback, since the local cooperative is their main customer. Moreover, they are unable to adjust the technology based on the testing results. Instead, they must measure the outcomes and then decide whether to retain, scale, or remove the technology.

"We have to test the solution to ensure that it is effective. It is a pilot, so therefore it will be continuously tested and measured." (Interview Object 4)

In addition, *Project B* intended to share the sustainability efforts with the public and enhance the cooperative's reputation. The project team collaborated closely with the communication department to create a communication plan for the project. The

respondents stated that they must communicate this initiative effectively to exploit the project for its positive market effects.

"It is very important for us to use this for the market effect it has. We need to show that our company thinks about sustainability and that we are in the process of building the store in Norway that currently has the best sustainable solutions."

(Interview Object 4)

5.1.2.3.2 Non-Sustainable Driven Projects

Through our interviews, it became clear that it was not until the end of this phase sustainability became an element in *Project D*. After the technology had been tested and evaluated, they decided to expand the capacities and solutions of the logistic center. At this point the project group considered several sustainable components that they decided to implement into the project.

"Sustainability came into the project in relation to the expansion. Sustainability is something we have considered for the last two years." (Interview Object 8)

Similar to Project B, *Project D's* initial objective in the diffusion phase was to test the technology and the combination to investigate whether it works in the given conditions. Further, *Project D* did not rely on consumer feedback but measurements of the technology.

"We are evaluating the project. It is relatively difficult to make the big changes now, but there has been a lot of fine-tuning certainly." (Interview Object 15)

In *Project A*, the diffusion phase was based on simple solutions for testing to gather feedback from customers and adjust accordingly. The interviewees highlighted the importance of consumer feedback in this phase, and how it has contributed to adjustments of the concepts.

"We have seen the importance of having customer input in our innovation work. It is an important part of the process to get input from the co-owners on how to develop and adjust concepts." (Interview Object 2)

Further, the interviewees highlighted the suppliers' role in this phase. The project team was dependent on suppliers and collaborative partners to develop the selected ideas and implement them in the store.

"We often contacted our suppliers to help us develop the concepts. Collaborating partners that both produced digital content and physical content. So that's how we worked with the development. We have a pretty good system of partners and suppliers." (Interview Object 10)

A challenge during this phase for *Project D* was related to the building process, where the chosen entrepreneur conducted social dumping, which caused reputational damage. The project had a small group of employees managing the complex project without a defined process, thus making it difficult to control and assure the quality of the entrepreneur.

"We had huge problems with the entrepreneur. There was a case of social dumping, which became a media case reflecting Company X badly. We did not have control. We have learned a lot from this case, and we have much more control in the expansion" (Interview Object 8)

5.2 Overall Success Factors for a Cooperative Organization

Throughout our findings, the respondents identified several success criteria and learning points for each project. In the following section, we will highlight our findings from the five key areas of *strategic focus, cooperative involvement, culture and change management, resources, and agile innovation process*. An overview of our findings of overall success factors for a cooperative organization is presented in Table 8.

Table 8: Overview of success factors for a cooperative organization when working with innovation and sustainability

Strategic Focus	Key Quotes	Cooperative Involvement	Key Quotes	Culture and Change Management	Key Quotes	Agile Innovation Process	Key Quotes
Clear objectives related to the strategy	"You may say that sustainability is vital, but economic sustainability is typically more prevalent, and that is not what I have in mind here. I believe there should be a significant shift in how we think about sustainability and how we should behave and care for it as a starting point and a direction for our work." (Interview Object 12)	Gaining internal approval	"Company X has a reversed ownership structure, which implies that getting approval from the local comparatives on strategic objectives is significantly more important compared to conventional organizations" (Interview Object 8)	Sustainability must be acknowledged within the organization to provide understanding	"When employees are not measure on their innovation work, and it is not applauded in the management team, nor are people made visible for what they put in by extra effort. It costs more in an organization to bring about a change than to just carry on as before." (Interview Object 6)	Simple and agile innovation process was a success in the B2C projects	We used an agile and lean innovation methodology, which was very customer oriented and focused on rapid learning, testing, and adjustments of the concepts. By using this process, we were able to test on a small scale without high costs, which has been very successful in this project. It also allowed us to work more freely without the organization's conventional constraints." (Interview Object 9)
Defined strategic focus areas	"When you have a particular focus area, such as Project C, it is easier to stay on track because you have a clear red thread, and it is simpler to compare your thoughts and ideas to what is truly essential." (Interview Object 10)	Engage in sustainable initiatives to benefit co-owners	"I think we should do more than our competitors because the people own us, which entails greater responsibility for society." (Interview Object 9)	Innovation and sustainability must be embedded into the whole organization	"Things will stop if employees are overworked and unmotivated to contribute to innovative initiatives. Therefore, innovation may need to be incorporated into the objectives of a greater number of people." (Interview Object 5)	Including consumers, suppliers, and other external partners in open innovation	"An important factor is to be able to work systematically with open innovation and explore outside of the organization. We need to collaborate with external partners, including startups when it comes to innovation." (Interview Object 3)

Table 8, Cont

Need a cultural change	<p><i>"So, I think that will change completely and is a cultural change that needs to happen naturally with new employees and customers coming out of there to really change the whole culture, and that puts new focus then into the way you work."</i> (Interview Object 12)</p>
Create a diverged organizational culture to foster creative thinking	<p><i>"I think one success factor is that you need people who understand the customer and have a long-term perspective. I think there's a lot about human quality, and people who see more opportunities than limitations. Having people with different perspectives is a success factor."</i> (Interview Object 12)</p>

5.2.1 Strategic Focus

One common success factor of all the projects was that it is essential to have clear objectives related to the strategy from the beginning of the process. This ensures that everyone has a common understanding of the project's activities. This appeared especially important regarding sustainability-driven projects to ensure that sustainability not only becomes an add-on among several other dimensions but that the organization has the time and the proper strategic focus to succeed with these initiatives. Furthermore, some respondents also highlighted that an important success factor for sustainable innovations moving forward is to set clear KPIs for measuring sustainability. It must become an integrated part of all initiatives.

"I still believe that sustainability is a dimension that is more of a checkpoint than a starting point, despite the fact that we see numerous opportunities centered on sustainability. We are probably a little reserved because we have the mindset that retail is more about cash flow, and then sustainability becomes more like a part where we think, oh yes, we need to include sustainability as well." (Interview

Object 12)

In particular, the outcomes of *Projects A* and *C* highlighted the importance of a strategic emphasis on sustainability. The respondents who participated in both projects agreed that *Project C* had a more strategic focus on sustainability, making it easier to gain support for the initiative. Additionally, it provided a more precise thread in which sustainability was the primary emphasis of the pilot project in terms of ideas, impact, and participation. For *Project A*, where sustainability was one of the multiple characteristics, they lacked defined principles and a strategic emphasis on sustainability, which made working with sustainability more difficult and dispersed.

"When you have a particular focus area, such as Project C, it is easier to stay on track because you have a clear red thread, and it is simpler to compare your thoughts and ideas to what is truly essential." (Interview Object 10)

Our findings showed that sustainable initiatives do not have to be on a large scale. Especially for a cooperative like Company X, it was even more important to contribute through small initiatives and instead break these down to measurable

goals as a starting point towards becoming more sustainable. Moreover, the findings suggested that for the company to successfully implement its sustainability strategy, it was vital that the cooperative includes sustainability across several divisions and that everyone participates in more sustainable activities.

"We're going to need more people in the system to hold that sustainability banner up." (Interview Object 4)

The respondents highlighted that the project's initiatives must align with the company's overall strategy to ensure that the project objectives and activities are measures of what the company desires to achieve. This is especially important in cooperative organizations that have several departments and local cooperatives with different strategies. Several respondents indicated that for sustainable-driven innovations to be successful, a long-term economic perspective on sustainability and an understanding of the market's prospects, demands, and potential are necessary.

"You may say that sustainability is vital, but economic sustainability is typically more prevalent, and that is not what I have in mind here. I believe there should be a significant shift in how we think about sustainability and how we should behave and care for it as a starting point and a direction for our work." (Interview Object 12)

From the interviews, it also appeared that it was necessary to establish a clear strategic focus on sustainability to facilitate better collaboration with external partners. This is essential for ensuring that everyone has a shared understanding of what they are delivering on, thus increasing the communication flow and trust among the parties involved.

5.2.2 Cooperative Involvement

A critical aspect in the cooperative organization is the approval and involvement from the local cooperatives in Company X's strategic activities. All four projects were involved with the local cooperatives. An essential success factor in *Project A*, *B*, and *C* was the involvement of the local cooperatives in the innovation process.

In *Project C*, they needed the acceptance from the local cooperatives to execute the project, since centralizing the logistics center affected the operations in the local warehouses. Thus, we can see that Company X's organizational structure necessitates the participation of their local cooperatives in the organization's strategic focus areas and implementation activities.

“Company X has a reversed ownership structure, which implies that getting approval from the local cooperatives on strategic objectives is significantly more important compared to conventional organizations” (Interview Object 8)

Furthermore, another important aspect of cooperative structures is the involvement of the co-owners in market-oriented activities and the development of a company's values and strategies. One of the main reasons Company X engage in innovations is to create a sustainable advantage, and it is therefore important, that they innovate towards their co-owners and stakeholders. Several respondents highlighted that it was important for the company to engage in sustainable initiatives and contribute positively to society due to their owner structure.

"I think we really should do it more than our competitors because the people own us, which entails greater responsibility for society. Corporate social responsibility, I would say. So, I think it's only natural that we prioritize these types of things and are preferably the best in class at it". (Interview Object 9)

One success factor of the sustainable-driven projects was that they received a lot of positive media attention due to their increased focus on the environmental aspects. The findings showed that several customers had joined the cooperative due to the focus on sustainability in *Project C*. This was a critical success factor as it allowed them to test concepts that were of high importance and relevance to their co-owners while at the same time fostering a culture of engagement.

5.2.3 Culture and Change Management

Another finding from our interviews was that for an organization to succeed with sustainable initiatives, it firstly needs to be acknowledged within the organization to provide an understanding of why the organization should work with

sustainability. One respondent highlighted that sustainability measures usually break with business as usual, where everyone is very effective and comfortable. When things start to change, people typically get very uncomfortable and therefore decide to proceed with small initiatives to avoid big changes.

"When employees are not measure on their innovation work, and it is not applauded in the management team, nor are people made visible for what they put in by extra effort. It costs more in an organization to bring about a change than to just carry on as before." (Interview Object 6)

A good management team capable of motivating employees to restructure towards more sustainability is a success factor. The management should set an example and help their employees understand that they should be proud of their contributions to sustainability projects and that there is more to it than just focusing on the bottom line. Consequently, our findings also revealed that for sustainability to be successful, it must be embedded into the management team early on in order to have the appropriate central support.

"Things will stop if employees are overworked and unmotivated to contribute to innovative initiatives. Therefore, innovation may need to be incorporated into the objectives of a greater number of people. It should become part of the development of managers and employees." (Interview Object 5)

Moreover, our findings showed that it was not only essential to foster a culture of sustainability but also an innovative culture. Creating a culture of creativity enables employees to think differently and provides additional incentives for risk-taking and adaptability inside the firm.

"So, I think that will change completely and is a cultural change that needs to happen naturally with new employees and customers coming out of there to really change the whole culture, and that puts new focus then into the way you work." (Interview Object 12)

Our findings showed that it was essential to create a diverged organizational culture, both in terms of gender and age, with individuals who are capable of seeing new prospects for innovation and sustainability.

"I think one success factor is that you need people who understand the customer and have a long-term perspective. I think there's a lot about human quality, and people who see more opportunities than limitations. Having people with different perspectives is a success factor." (Interview Object 12)

5.3.4 Agile Innovation Process

Our findings showed that using a simple and flexible innovation model was a success factor in the B2C projects. This allowed the employees to work more agilely on a smaller scale, thus fostering more creative thinking and a faster process for testing different solutions without high-cost structures.

"We used an agile and lean innovation methodology, which was very customer oriented and focused on rapid learning, testing, and adjustments of the concepts. By using this process, we were able to test on a small scale without high costs, which has been very successful in this project. It also allowed us to work more freely without the organization's conventional constraints." (Interview Object 9)

Additionally, from our findings, several interview objects also highlighted the importance of open innovation. This is important for large and non-dynamic organizations because they are incapable of doing everything themselves and therefore need to find other ways to innovate through collaboration. From all the four different projects, the inclusion of external partners was essential to obtain the knowledge and competence that was lacking within the organization.

"An important factor is to be able to work systematically with open innovation and explore outside of the organization. We need to collaborate with external partners, including startups when it comes to innovation." (Interview Object 3)

5.3 Challenges Overall Cooperative Organizations

When analyzing if any challenges appeared in the four projects, our findings were generally conclusive: seemingly all projects experienced challenges. Some challenges were related to sustainable-oriented innovation, and some were rooted in the organizational structure. In the following section we will discuss our findings from the areas of *organizational structure, processes and routines, resources, knowledge transfer and balancing the TBL*. An overview of the main challenges related to the innovation and sustainability work in the cooperative is presented in Table 9.

Table 9: Overview of challenges for a cooperative organization when working with innovation and sustainability

Organizational Structure	Key Quotes	Process and Routines	Key Quotes	Resources	Key Quotes	Knowledge Transfer	Key Quotes	Balancing the TBL	Key Quotes
All decisions and initiatives must be anchored with management	"The organizational structure is definitely the number one challenge for doing innovations. Everything we do must be anchored with the top management, and we had so many rounds, it's crazy. We are not agile at all". (Interview Object 5)	No clear guidelines and processes for working with innovation	"The company needs to facilitate more courses on innovation work and adopt templates. There must be implemented a process and explicated innovation is important on our company." (Interview Object 5)	Lack of resources on innovation-related activities	"I think there have not been enough resources allocated to work effectively with sustainability. It has been from hand to mouth, and what has been done is a bit random and not coordinated." (Interview Object 6)	No platform for sharing experiences and learning points	"A system where we actually could share everything related to sustainability and innovations with our colleagues." (Interview Object 4)	Difficult to work with sustainability when it becomes one of several aspects later on in the projects	"I find it difficult in everyday life to balance doing what is most appropriate from a health perspective to balance it with us making money." (Interview Object 5)
Lack of efficiency	"From an organizational point of view, it is not an effective organization to implement sustainability ambitions in. I think the company's biggest challenge is to be agile and lean and have an efficient implementation because of how we make decisions, and the organization is built up." (Interview Object 6)	Lack of clear roles and ownership	"A lot is about early ownership, who should have the responsibility. Who should be responsible for running it? We often saw in many cases that things should be under the sustainability department when it comes to communication and things like that, but it was not done". (Interview Object 2).	Lack of resources with competence regarding sustainability	"I think there have not been enough resources allocated to work effectively with sustainability. It has been from hand to mouth, and what has been done is a bit random and not coordinated." (Interview Object 6)	Lack of a common understanding of sustainability	"In our organization, the definition of the term "sustainability" is initially somewhat distinct, and opinions on how we should employ sustainability differ." (Interview Object 1)	Justify long-term investments in sustainability	"Sustainability has been viewed by many as an added expense, but this does not have to be the case. We must get better at recognizing its benefits." (Interview Object 4)

Table 9, Cont

<p>Security measures required for all projects, including small pilots</p>	<p><i>" But all that is required of safety evaluations, for example, to pilot a small thing in one place, is much more comprehensive than I had ever imagined before, and it is very demotivating for all parties involved."</i> (Interview Object 5)</p>	<p>Including enough resources early in the projects</p>	<p><i>"So, there is a big similarity between projects, large or small, no matter what it comes down to, it is important that you bring the right resources with you from the beginning."</i> (Interview Object 7)</p>
<p>Challenges regarding mandate when innovation is initiated by the local cooperatives</p>	<p><i>" Some have thought it could be a problem that the local cooperatives initiated the project since it is outside their mandate."</i> (Interview Object 12)</p>		

5.3.1 Organizational Structure

In each of the four projects, the organizational structure posed a challenge for innovation and piloting-related activities. One example was *Project A*, where it was mentioned that the cooperative is too complex, thus making it difficult to work agile. One of the reasons is that all the decisions and initiatives, including small tests, must be anchored with management.

"The organizational structure is definitely the number one challenge for doing innovations. Everything we do must be anchored with the top management, and we had so many rounds, it's crazy. We are not agile at all". (Interview Object 5)

The organizational structure was also mentioned as a factor that could inhibit the sustainability work in *Project B*. The respondents highlighted that it was necessary to work agile with sustainability, but due to the organizational structure it was difficult to have an efficient implementation of sustainable solutions.

"From an organizational point of view, it is not an effective organization to implement sustainability ambitions in. I think the company's biggest challenge is to be agile and lean and have an efficient implementation because of how we make decisions, and the organization is built up." (Interview Object 6)

Another challenge linked with the cooperative was the necessity to evaluate security measures prior to testing, particularly for *Project A*. Respondents were very clear that they recognized the necessity for security measures to prevent errors and that they understand why the cooperative must be cautious in areas of reputation, security, and food safety. However, it was questioned whether or not all security measures were necessary in all projects. Consequently, the respondents thought the company lacked a clear structure for how to continue working with low-risk concepts and simple testing.

"Just let me say it first, that safety is important. It is essential, and if something goes wrong there, it can affect a large number of stores, so you should take it seriously. But all that is required of safety evaluations, for example, to pilot a

small thing in one place, is much more comprehensive than I had ever imagined before, and it is very demotivating for all parties involved." (Interview Object 5)

Another challenge regarding the organizational structure was indicated by respondents from *Project C*. When one of the local cooperatives initiates innovative projects related to the whole organization, which is outside of their mandate, there can be confusion concerning ownership. One respondent from *Project C* noted that it is essential to have a clearly assigned project owner from the beginning and that it might be damaging if innovation is restricted to a single part of the cooperative.

"One case is the mandate part, who has ownership of what? However, if you become too preoccupied with ownership, you can limit other parts of the organization, and innovative thoughts and opportunities. Some have thought it could be a problem that the local cooperative's initiated the project since it is outside their mandate. But I think everyone should come up with innovative ideas and thoughts, and we must have that curiosity." (Interview Object 12)

5.3.2 Processes and Routines

Even though the chosen innovation processes were a success factor in *Project A* and *C*, several of the interviewees highlighted the lack of routines and a shared process as a challenge for working with innovation in Company X. One example is from *Project A*, where the team highlighted a desire for clear guidelines on how to proceed with innovations in the cooperative. The respondents stressed that if the organization had a standardized innovation process or set of standards prior to the project, the team would not have had to spend time developing one before the project began.

"The company needs to facilitate more courses on innovation work and adopt templates. There must be implemented a process and explicated innovation is important on our company." (Interview Object 5)

One important finding from our interviews was that for the organization to succeed with pilot projects, it is essential to have clear and defined innovation processes from the beginning. This ensures that everyone understands who's responsible for

what and who has the authority to make different decisions. Furthermore, a clear and defined innovation process allows for fewer complications along the way and facilitates more creative thinking, which is critical in dynamic markets.

"More defined processes around who can decide on things, without it going like a ping pong ball throughout the organization, and without, call it subjective opinions, from those with the highest rank in the company. Then it is easier to gain acceptance. I think it's important that we get a little more defined and established innovation processes." (Interview Object 9)

From our interviews, it was evident that several employees had no knowledge of how the innovation work is executed in the company. This was not only a challenge in the project groups, but also on a general level in the company.

"I have no idea how we work with innovation. What we are doing, how we are doing it, who is involved and who it affects is a bit diffused." (Interview Object 1)

Another challenge common for both sustainable and non-sustainable driven projects was the absence of clear roles and ownership for innovative projects within the organization. Respondents from *Project A* noted that it was difficult to work with innovations where no one had main responsibility, particularly when sustainability was added to the project at a later stage. This was primarily because the project team considered that aspects of the sustainability-related tasks should have been placed under the responsibility of the sustainability department, and that they should have coordinated earlier in the project.

"A lot is about early ownership, who should have the responsibility. Who should be responsible for running it? We often saw in many cases that things should be under the sustainability department when it comes to communication and things like that, but it was not done. So having clear ownership and dedicating time is something I think is important". (Interview Object 2).

5.3.3 Resources

Our findings reveal that some interviewees noted a lack of resources for innovation-related activities. One of the reasons is that the cooperative's resources are shared among the local cooperatives. Thus, the cooperative is strict about where the resources are allocated so that it is justified among the local cooperatives. Consequently, another challenge related to resources was the short-term priorities of the cooperative. According to interviewees from Project D, the cooperative frequently favored short-term revenues, and as a consequence did not prioritize long-term investments. It was hard to convince management to undertake high-risk projects because they typically devoted resources to the operations' market side.

"But I must say that I did not quite think I would be able to shake off one and a half billion from an organization that does not make money. And if they have some money, they usually think with a very short-term perspective and spend it on marketing and stores that can give top-line growth." (Interview Object 8)

Moreover, our findings revealed that employees who participated in sustainability-driven projects faced even greater resource challenges. Respondents indicated a desire for a greater number of employees with sustainability knowledge and a commitment to adopting sustainable initiatives.

"We do not have our own sustainability manager in our department now, so I work with the sustainability project we have already decided on. It is hard, especially when we are also missing two other positions." (Interview Object 7)

These findings were consistent in several of the projects. Respondents highlighted the lack of sustainability resources in *Project A*, in which sustainability was included in the idea generation. One respondent noted that the sustainability department was understaffed and that the employees desired more resources in that department.

"It has been an under-prioritized department. We have received more resources, but it was limited when the project started. The department hasn't been able to take on own projects but instead acted more as advisory" (Interview Object 2)

Further, the respondents highlighted the inclusion of enough employees at the beginning of the projects. This was a challenge that several projects experienced due to a lack of time due to their own day-to-day operations. Having enough resources is essential to avoid any unexpected changes or obstacles in later stages and to ensure that the organization has the required competence and knowledge.

"So, there is a big similarity between projects, large or small, no matter what it comes down to, it is important that you bring the right resources with you from the beginning." (Interview Object 7)

In *Project B*, respondents also emphasized the same challenges, and that this resulted in a lack of structure and limited understanding of the sustainability work.

"It is also a bit challenging with resources. I think there have not been enough resources allocated to work effectively with sustainability. It has been from hand to mouth, and what has been done is a bit random and not coordinated." (Interview Object 6)

In addition, our research revealed that a lack of comprehension of sustainability measures was a problem not just for project teams, but also for cooperatives. The respondents emphasized that the cooperatives desired to be more sustainable but that they lacked the proper knowledge regarding sustainability and the associated costs, posing a challenge for *Project B*.

"Even in the largest local cooperatives, there is no awareness of what it costs for sustainability. We need to set aside some money for it in this year's budget and understand what this has to do with sustainability, and we make decisions now which deal with or exclude sustainability. I do not think there has been awareness around this." (Interview Object 6)

5.3.4 Knowledge Transfer

From our findings, all projects appeared to have sustainability challenges, whether it was the main driver or came in later, which could be linked to knowledge transfer within the cooperative. An example appeared in *Project B*, where one challenge

mentioned by all respondents was that they missed a platform for sharing their experiences and learning points.

"The biggest challenge is to share knowledge and experiences and find a system where we actually could share everything related to sustainability and innovations with our colleagues." (Interview Object 4)

Project C also highlighted this, where the interviewee felt that knowledge sharing was complex and difficult in the large cooperative. This was mostly due to the fact that gaining acceptance and internal engagement required a lot of time, especially when the organization lacks the proper processes and platforms for sharing experiences and initiatives.

"I have presented this project like 50 times now already, and still there are too many people who have not heard of it, since our organization is too complex without a specific place to share these things." (Interview Object 7)

Furthermore, from a sustainability perspective, we can see that a challenge in the organization was that employees struggled with fully comprehending sustainability, due to the complexity and lack of knowledge. This could possibly be related to the lack of processes for sharing knowledge, as the employees experienced that there was no common understanding of sustainability in the organization and that this varied across the organization.

"In our organization, the definition of the term "sustainability" is initially somewhat distinct, and opinions on how we should employ sustainability differ. Some individuals believe that sustainability is only a communication concept, but others see that we must do something but are unsure of what, and there may be the ones that see the potential. But there is a huge disparity between how they interpret sustainability." (Interview Object 1)

5.3.5 Balancing TBL

Our findings revealed that some of the employees had a hard time balancing people, planet, and profit when sustainability became a part of the project subsequently.

One example is from *Project A*, where respondents highlighted that since the organization is a cooperative, they need to take care of the co-owners' interest, earn profits for the co-owners, and do good for society. However, since sustainability became a part of the project later on without a clear objective and understanding of how the project team could contribute to sustainability, the sustainability work also became more complex and diverse.

"I find it difficult in everyday life to balance doing what is most appropriate from a health perspective to balance it with us making money. And we should not be too correct, and we should not make choices on behalf of people, etc. And that applies not only to health but also to the balance between the right thing for the environment, health, and the economic part of making money." (Interview Object

5)

Furthermore, we could observe from the B2B projects that the project teams struggled to justify the substantial investment costs in sustainability. This was mostly due to the fact that it was difficult to get acceptance without evaluating the long-term return on sustainability and, as a result, it took longer to persuade management to make the investments. One of the primary reasons for this is that the company is still in development when it comes to sustainability, thus struggling to find a balance between the planet, people, and profit owing to the difficulty of recognizing the long-term advantages.

"Sustainability has been viewed by many as an added expense, but this does not have to be the case. We must get better at recognizing its benefits." (Interview

Object 4)

This could also be related back to the findings regarding the complexity of sustainability. When people do not understand the meaning of sustainability and how the organization is going to contribute to it, it is also difficult to implement successfully. Moreover, our findings regarding the emphasis on profit were consistent with those of the sustainability department, where we found that despite the fact that the organization could undertake a number of initiatives that benefited the environment, the economic aspect and returns remained the focus.

“A point I’ve made several times, and I’m not sure if it’s good or bad, but the environment and climate do not have feelings, they do not care if we do anything. Whether we establish an eco-friendly store because the management wants a better conscience, because we believe it will have a positive influence on marketing, or because we believe we should save money on energy costs is immaterial. In other words, why is mostly unimportant, the result is what matters.” (Interview Object 1)

6.0 Discussion

In this section, we will discuss the findings from our cross-sectional analysis with the theory to answer our research question: *“What is the difference between innovation processes driven by sustainability and where sustainability becomes an important element subsequently?”*

Throughout our analysis, we discovered specific characteristics differentiating the two types of projects, especially regarding the successful implementation of sustainability in later stages of the process. In this section, we will discuss our findings in more detail regarding their key drivers, the three phases of the innovation processes, and overall success factors and challenges experienced by the cooperative organization when working with innovation.

6.1 Key Drivers

Several motivations for organizations to engage in innovation and sustainable initiatives have been identified in the literature. Our findings from analyzing the four pilot projects demonstrate several drivers for working with innovation and SOI. In the next section, we will discuss the motivations and drives behind the pilot projects. From our findings we can relate the sustainable-driven projects to TBL, and the two other projects to increasing the company’s competitiveness. Lastly, all four projects were initiated to enhance the company’s knowledge regarding innovation.

6.1.1 Triple Bottom Line (TBL)

In the sustainable-driven projects, we could see a clear connection to all three aspects of the TBL, which complies with future research (Fisk, 2010; Porter and

Kramer, 2011), suggesting that all three aspects must be considered holistically to succeed with sustainability. The driver of the B2C sustainable-driven project was reducing food waste and nudge their customers to make sustainable choices. In return a reduction in food waste results in increased sales, thereby meeting the profit part of the TBL. Wanyama (2016) and Benos et al. (2018) highlight that cooperative organizations have a stronger incentive to engage in sustainable initiatives to ensure their members' social welfare. This was something that we found especially evident for the B2C sustainable-driven project, where the main emphasis was on developing sustainable innovations for the benefit of their co-owners. Furthermore, it also complies with the findings of Schaltegger and Hörisch (2017), highlighting that one of the main drivers for engaging in sustainability is the interest in increasing the company's legitimacy by creating value for its stakeholders.

The B2B sustainable-driven project focused on reducing CO₂ emissions and energy consumption, where they emphasized how the sustainability focus of the project results in a positive reputation among consumers, thus could indirectly increase the market share. From the profit perspective of the TBL, the high investment costs of the sustainable solutions would in return create a long-term reduction of costs. In addition, a portfolio of sustainable buildings will have a higher value in the future than a portfolio of non-sustainable buildings. Ortiz-De-Mandojana and Bansal (2016) emphasized the importance of organizations mainly focusing on the aspects of people and planet to successfully commercialize sustainable initiatives and neglecting focusing on a short-term perspective in terms of financial returns in order to increase their profits in the long run. Hence, our findings comply with the existing literature regarding the holistic approach to the TBL in projects where sustainability is the driver.

Furthermore, Buysse and Verbeke (2003) suggest that the sustainability work in a company must be driven by a proactive environmental strategy to succeed. Both sustainability-driven projects were initiated as a result of the desire to implement the company's overall sustainability strategy and emphasized that the objectives of the projects were created to resolve some of the leading sustainable challenges that the company is currently facing.

6.1.2 Competitiveness

We found on a general level, all four pilot projects were initiated due to a desire to increase the company's competitiveness by either expanding its market share or its strategic position regarding sustainability. These findings align with previous strategic management literature research, highlighting that organizations engage in innovation to gain a competitive advantage by exploring new solutions, thereby differentiating themselves from their competitors (Aragón-Correa et al., 2008; Hull & Rothenberg, 2008).

In the non-sustainable-driven B2C project, we found that the main driver was the company's desire to form a valuable strategic partnership to increase its market share and find new ways to test its consumer-oriented innovations. This complies with Hansen and Birkinshaw's (2007) suggestion of the importance of entering a strategic partnership to enhance a company's innovativeness. The driver of the non-sustainable-driven B2B project was to increase efficiency through automatizing the logistics, and thereby reducing long-term costs. The background of the project was an analysis of cost-structures, where the company discovered that they were behind their competitors.

6.1.3 Knowledge Creation

Knowledge creation was also essential to why the companies realized the four pilot projects. The company desires to gain more knowledge on current solutions in the market concerning sustainability and technology. In line with Pantano's (2014) findings, our findings showed that a company's primary driver for exploiting new technologies and innovation is to improve its capabilities of predicting market trends to increase its competitiveness. In all four projects, the main emphasis is on developing incremental innovations by combining existing technologies in new ways to either become more sustainable or increase the organization's efficiency. Additionally, in three of the pilot projects, one of the main objectives was testing and developing new solutions that could be scaled to other parts of the organization.

In line with Aragón-Correa and Rubio-Lopez (2007) and Engert et al. (2016), it was evident that knowledge about sustainability was not obtained internally, resulting in collaboration with external partners and consultants during the projects. Further,

this aligns with Hansen and Birkinshaws (2007) and Cohen and Levinthal's (1990) emphasis on open innovation, showing that firms engage in open innovation to absorb external knowledge. Therefore, we can argue that the company collaborated with external partners to further enhance their knowledge and capabilities for later projects including sustainable solutions and new technology.

6.2 Idea generation

Several approaches in the idea generation phase have been proven successful by other researchers. Our findings showed that there was a difference between the B2B and B2C projects related to defining the innovation scope. Moreover, we can see that when the innovation scope is broad, it becomes more complex to generate ideas with the right strategic focus. In the following section, we will discuss our findings from the idea generation phase in the four projects and how they relate to innovation scope and external involvement.

6.2.1 Innovation Scope

Determining the innovation's scope is crucial to an effective innovation process. From our findings, we could see that the B2C-driven projects based their innovation scope on creative thinking and the use of various tools and workshops to generate long-list concepts that would benefit the co-owners. Amabile (1998) argues that these are important success factors for developing novel concepts. On the other hand, the B2B driven project had a strategic planning approach in line with Bouhali et al. (2015). This approach was beneficial regarding the project objectives, given that these projects were less dependent on customer involvement. Instead, their focus was on developing the core business linked to the corporate goals and strategy. Generally, we can argue that all the projects based their innovation scope on market trends and research to generate ideas that aligned with the company's overall strategy. Moreover, the non-sustainable-driven B2C project had several concepts and focus areas and struggled with implementing sustainability later in the process. This could be because their innovation scope was broad, thus making the concept of sustainability too abstract and thereby failing to address the actual core problem (Buhl et al., 2019). One of the main challenges this project experienced was a lack of customers' engagement and commitment, which could be a result of the broad innovation scope.

6.2.2 External Involvement

The involvement of external partners and stakeholders is a success factor in the initial phase of the innovation process and is essential in determining a more holistic approach to the innovation scope (Kolko, 2015; Hansen & Birkinshaw, 2007). In the four projects, they involved external consultants and suppliers in the idea generation phase, which provided them with the knowledge they did not obtain internally, which is a critical factor for succeeding with SOI (Goodman et al., 2017). Moreover, in the non-sustainable-driven B2C project the team collaborated with an external partner to search for startups with concepts that were a strategic fit for the store. Compared to the other projects, the B2B sustainability-driven project had low involvement of suppliers in the idea generation phase, which further caused challenges in terms of the complexity related to the broad innovation scope. Hence, we can see the importance of involving suppliers and external partners in the early stages of the innovation as it allows the company to search for ideas beyond their existing knowledge (Cohen & Levinthal, 1990).

6.3 Selection

Similar to previous studies, we discovered that the selection phase of each of the four projects used distinct approaches. A significant finding in this phase was that it was challenging to balance TBL when sustainability was included in the selection process, since it is more difficult to make selections that do not correspond with the project's overall objective and motivation.

6.3.1 Screening and Selection Process

From our findings, we see that the B2C projects had pre-defined selection criteria. These criteria were based on the strategic focus of the project, which aligns with Hallstedt (2017) who argues the importance of having a set of evaluation criteria that aligns with the strategic initiative. Moreover, these criteria were both based on the company's overall strategy and the chain strategy which assisted the team in selecting ideas that corresponded with customer segment for the respective chain. Both B2C projects had sustainability as a selection criterion, whereas it was obligatory for the concepts in the sustainability-driven B2C project to deliver on the TBL holistically. However, in the non-sustainability-driven B2C project, it was optional for the concepts to deliver on the sustainability criterion, as long as it met one or two of the four criteria. The concept met the criteria based on the project

team intuitions and perceptions, meaning that there was not a measurement of sustainability. Since sustainability often is viewed as a complex and ambiguous term (Engert et al., 2016), this could therefore lead to biased selections of ideas.

Furthermore, this led to a more open selection phase in this project compared to the stricter phase of the sustainability-driven project. Hansen and Birkinshaw (2007) argue that it is typical for large organizations to have a too broad screening process which leads to an overflow of new ideas of varying quality, thus making it difficult to align the initiatives with the overarching corporate strategy. This often happens when the organization is worried about falling behind its competitors. Both B2C driven projects selected concepts that were easy to test and scale. This approach is in line with the DT approach, which states that the purpose of the prototype is to provide a basic representation that will engage consumers in creating the futures they would apply to the product without high expenses (Brown, 2019).

In the B2B projects, the selection criteria were based on other actors' solutions and proven technology. Further, the criteria were based on the main objectives of the projects, which is aligned with Vinokurova and Kapoor (2020)'s argument that the selection criteria should be based on the strategic goals of the project. The objective of the sustainable-driven B2B project was to reduce emissions by 40% and get the highest score on the BREEM certification, which is in line with the corporate sustainability strategy. Therefore, the project team only selected ideas that contributed holistically to the TBL. The selection process of these projects was influenced by costs and the managers' previous experience. Tripsas and Gavetti (2000) argue that some of the evaluation criteria are shared beliefs common to the decision-makers across the organization. These criteria can have roots in the organization's past success, its prevailing business model, as well as the background and experience of its senior managers.

6.4 Diffusion

Similar to previous research, we see that the last phase is about testing the idea and evaluating it for scaling. In the B2C projects, the innovations need to gain market acceptance from consumers. All projects need to acquire the relevant approval within the organization (Hansen & Birkinshaw, 2007). In a cooperative, this includes acceptance from both the management and the local cooperatives. We see

that for sustainability-driven projects, the evaluation is more time-consuming, as the perspective on these projects is long-term. In the next section we will discuss our findings in the diffusion phase related to project evaluation and company reputation. All the four projects are currently in different stages in this phase, imposing a challenge for us to elaborate on all elements affecting the projects in this phase. Through our research, we did not find any significant differences between the sustainability-driven and non-sustainability-driven projects in this phase.

6.4.1 Project Evaluation

In the diffusion phase, the projects must show the innovations' ability to generate value and survive in the industry (Ørjasæter, 2005). The B2B projects had struggled earlier in the process to defend the high-cost investments, and in this phase the innovations will be evaluated for further growth and scaling, meaning the actual value must be tested. The B2B projects have a long-term perspective on investments, indicating that it will be several years before the value is realized and the projects can be evaluated properly. Further, this is typical for SOI, as sustainable initiatives often have a long-term perspective due to their complexity (Engert et al., 2016). Consequently, it becomes even more crucial that the project team is capable of continuously evaluating the concepts and generating solid business cases in which they can extract and provide the metrics that will benefit the organization (Ørjasæter, 2015).

In the B2C projects, they are testing the low-scale products in-store, where the aim is to adjust the concepts based on the customer's feedback. Moreover, we found that for the non-sustainable driven B2C project it is more difficult to measure and evaluate the effect of SOI, since these concepts lack clear sustainable goals in line with the strategy. In the sustainability-driven B2C project, the group struggled with involving consumers. Dewulf (2013) argues that this is one of the most critical external challenges for SOI. Moreover, the author argues that consumers might be unwilling to pay for environmentally friendly products or services, and thereby the innovation will not succeed. Even though the project group chose the store chain with the sustainability-focused customer segment, they still struggled with collecting feedback in this phase. Involving co-owners is something the cooperative views as critical in this phase in B2C projects since it is a part of the company

strategy. Moreover, in the diffusion phase, it is also critical that the project team is capable of setting clear KPIs for measuring the long-term value of the sustainable initiatives, and that these measures are a holistic representation of the TBL.

6.4.2 Reputation

Grimm et al. (2014) argue that if a part of the supply chain does not comply with the firm's standards, this could potentially harm corporate reputation. This was evident in the non-sustainable-driven B2B project, where the choice of suppliers was an important aspect of the project. The interviewees explained that the reputation of Company X was damaged by one unprofessional entrepreneur who conducted social dumping, which became a case in the media. In the expansion, the project had implemented sustainability as an essential element, and thereby the people aspect of the TBL was considered. The team prioritized an entrepreneur that they knew had professional working conditions.

Further, in the sustainable-driven projects, the interviewees emphasized attention from the media regarding the SOI projects. Rindova and Petkova (2007) argue that when presenting the product characteristics using cognitions and emotions strategically, the value will be viewed as much higher than an attribute-to-attribute comparison, which is highly relevant to do Company X's sustainability work. In the B2C sustainable-driven project the project team used nudging to inform their customers about sustainable choices available in the store.

6.5 SOI in Cooperative Organizations

The findings from our analysis illustrates that there are not only challenges and success factor related to the differences between the sustainable-driven and the non-sustainable-driven projects, but that there are some general challenges and success factors related to the cooperative organizational structure. In the following section we will discuss our findings regarding important aspects that must be addressed to succeed with SOI.

6.5.1 Strategic Focus and Internal Support

Our findings, in line with Morrison-Saunders and Pope (2013), revealed that a crucial aspect of sustainability projects is to have clear objectives and goals that indicated how the project positively contributes to sustainability. This was a notable success factor for sustainability-driven initiatives, where objectives and targets

were established following the overall sustainable strategy, gaining a shared understanding and making it simpler to break down into specific actions. This is also consistent with the findings of Byggeth and Hoschschorer (2006), who demonstrated the necessity of aligning all strategic decisions within an organization with its strategic priorities. Without the proper strategic focus on sustainability, it could become more dispersed and complex for employees to manage. Therefore, we can see that when several objectives and drivers are incorporated into a project, the company may miss the opportunity to properly adopt sustainability.

Further, retailers play a key role in the food industry as their impact on sustainability is significant, especially regarding food waste (Iles, 2007). Therefore, engaging in SOI becomes increasingly important as retailers' strategic activities affect numerous stakeholders. Consequently, positive contributions to the environment and society reflect positively on the company's reputation and image, which in turn could yield a competitive advantage. Our findings illustrated that the sustainable-driven projects had received a lot of positive attention from stakeholders and media indicating that a clear strategic focus is a success factor. This became evident when we compared sustainable- and non-sustainable-driven projects, as the sustainable-driven projects had more concrete focus areas in line with the sustainable strategy, thus making it more evident and clearer for the consumers how the organization contributes positively to the TBL.

Moreover, our findings revealed that the employees felt more obligated to commit to sustainability as a result of their cooperative organizational structure. One of the benefits of this structure was that they were better positioned to communicate and collaborate with their members, making it easier to involve them in innovation processes. This also corresponds to prior studies on cooperative organizations (Benos et al., 2018; Silva et al., 2021). However, Wayama (2016)'s assertion that cooperative organizations are in a better position to contribute to the TBL was inconsistent with our findings. Even though our findings indicate that they felt more obligated and had received a great deal of positive feedback from their cooperatives, and emphasized the importance of publicity and PR, our findings indicated that since this is a large cooperative, the organizational structures and communication with their cooperatives were still challenging, particularly due to the ambiguity of sustainability.

6.5.2 Innovation Processes and Clear Learning Structures

From our findings in the B2C projects, we see that having a pre-defined process for the project was a success factor. One reason for this was that it made the team able to bring in relevant resources at an early stage and everyone involved aware of the activities in the different phases. Our findings imply that the ability to evaluate solutions and hypotheses through dynamic and interactive processes is a success factor for SOI, however there were no distinct differences if sustainability was the main driver or not. This was especially evident for the B2C-driven projects that required high customer involvement. This corresponds with the DT process (Brown, 2019) and how the approach may help businesses create capabilities for working with innovation through a more flexible approach to problem-solving and producing innovations to address customer concerns. It was also evident that applying an agile innovation process helped the employees further develop their creative thinking skills, motivation, and expertise, which are essential for developing novel ideas (Amabile, 1998).

In the B2B projects, not having a defined process became a challenge, especially in the sustainability-driven project where the involvement of suppliers later in the process caused delays in the project. Thus, we can see that the B2B projects could have benefited from following aspects of the innovation processes of the B2C projects, idea generation phase, and involve the necessary stakeholders earlier in the process. Our findings indicate that this is especially important regarding SOI projects, as these projects require the involvement of resources with different knowledge and experience compared to other innovation projects. Therefore, it is important to have a more defined innovation process, to ensure that these resources are included in the right phase. Furthermore, evident in our findings was that the B2B-driven innovation projects lacked a clear and defined process from the beginning and had more negative experiences in terms of clear responsibilities, roles, and communication. Thus, we can see that establishing and structuring explicit learning procedures for engaging with innovation is a crucial factor in achieving SOI (Senge et al., 1999).

Moreover, the interviewees desired a common innovation methodology for the cooperative, including guidelines of whom to consult with internally regarding issues that might arise when working with innovation. This was highlighted regarding SOI, where the interviewees saw sustainability knowledge as a challenge, internally and among suppliers. This challenge is consequent with previous research, where Siebenhüner and Arnold (2007) argue that due to a lack of internal communication and transparency caused by inadequate organizational processes and structures, many organizations struggle to maintain a clear strategic approach to sustainable integration. Considering that the development of SOI could be viewed as a process of continuous learning, it is even more important to be able to define clear processes and structure. These measures enable the organization to share the knowledge and experience gained from the processes and use this information to further enhance their internal capabilities and skills (Beske et al., 2014; Teece, 2007).

The organizational structure was highlighted as a challenge by several of the interviewees. In the cooperative, every initiative must be anchored internally, which is a demanding process since it involves several divisions and often the local cooperatives' approval. This prevents the organization from being dynamic when working with innovations. One interviewee expressed that the slow process and the work that had to be done prior to a pilot project led to the competitors always being ahead of Company X, which the employees describe as frustrating. This aligns with Adner and Kapoor (2010) who argue that the issue on how an organization is organized, including its value chain, could have significant implications for its capacity to create and commercialize its ideas. From our findings we therefore see that the organization would benefit from creating clear processes for working with innovation, and that is essential for SOI since this is a new focus area of the company.

Moreover, our findings indicate that the company must distinguish between processes and procedures applied for the different innovation projects, based on their size and innovation scope. For small pilot projects with low investment costs, it would be useful for the company to apply an agile process with less strict procedures. This would in turn yield an innovation process where it is easier to test and commercialize concepts, hence increasing the company's competitiveness.

6.5.3 Knowledge and Resources

One success factor evident in our findings is having dedicated resources with the right expertise and knowledge regarding sustainability. This was a challenge experienced across all four projects, and especially important in terms of sustainability as the definition of sustainability can often be viewed as complex and difficult to fully comprehend (Broman & Robèrt, 2017; Engert et al., 2016; Maon et al., 2008). The ambiguity of sustainability and that company operates in an industry with low margins could be the reason why there is a short-term perspective on sustainable initiatives internally. As a result, there are not enough resources allocated to SOI. Further, it is necessary to have a common understanding of how an organization can contribute to the TBL through pilot projects from the beginning of the project in order to maintain the proper strategic focus. Managing this could result in more opportunities and better success, increasing their competitiveness in the market.

Moreover, in line with previous research (Aragón-Correa & Rubio-Lopez, 2007; Engert et al., 2016), we found that external collaboration was a success factor to obtaining knowledge and skills that are not present internally. To succeed in the long run with sustainability, organizations must develop their absorptive capacities to further enhance the knowledge and skills obtained from the pilot project and apply it to other operations or projects in the organization (Zahra & George, 2002). However, since our research was only conducted on four ongoing pilot projects, we cannot further elaborate on whether the external collaborations in terms of sustainability projects did influence the company's ability to utilize the knowledge obtained throughout the projects.

6.5.4 Balancing TBL

Following prior research (Buisse & Verbeke, 2003; Kotter, 1995), our findings demonstrated that for a company's sustainable strategy to be successfully implemented through innovation projects, the TBL must be holistically embedded in the organization at all levels and be adopted into several divisions. Our findings indicated that gaining internal support was one of the most challenging components of adopting sustainability because these initiatives typically disrupt daily operations, which results in a lower priority. This is consistent with the findings of

Post and Altma (1994), which demonstrated that past practices tend to overrule new initiatives within an organization, as well as a lack of commitment and actions throughout the organization resulting from insufficient communication processes from the management team. Following Suryaningtyas et al. (2019), who demonstrated the significance of establishing organizational resilience, our findings illustrate the importance of incorporating sustainability into the organizational culture and that this required a change not only among the employees but also in the management style, where sustainability must be clearly demonstrated through their behaviors, actions, and decisions.

Our findings indicated that for a company to manage the TBL holistically the organization needs to establish clear guidelines for how to deliver on KPI's related to the sustainable strategy. Clear guidelines will set the strategic direction for the employees working with SOI and make it easier to balance the TBL holistically. Sustainable initiatives are often in conflict with business as usual. An issue illustrating this conflict is when retailers campaign to increase the sales of products with the highest gross margins to deal with the low margins in the food industry. These are often promoting non-healthy products, thus neglecting the people aspect of the TBL to increase profits. Therefore, setting clear guidelines for how the organization should deal with these conflicting issues could improve the company's work with SOI. In addition, clear guidelines on how to deliver on the sustainable KPI's would make it easier for project teams to balance the TBL is implemented later in a project, since they have clear KPI's to follow, and a common understanding on how they can contribute to sustainability.

Another challenge when balancing the TBL is connected to investment in sustainable measures. These are often associated with high complexity and costs and require knowledge and capabilities usually not obtained by the company (Aragón-Correa & Rubio-Lopez, 2007; Engert et al., 2016). Earlier studies have shown that businesses often prioritize the financial aspect of the TBL in decision-making since the social and environmental components may be beneficial only in the long-term perspective (Ortiz-De-Mandojana & Bansal, 2016; Slawinski & Bansal, 2012). It was evident from our findings in the sustainability-driven B2B project that it was hard to defend the significant investment costs related to sustainable solutions and that the project team had to emphasize the long-term

benefits regarding economic value. Additionally, our findings revealed that the sustainability department did not view the TBL as a holistic approach. Instead, sustainable initiatives were viewed either as something that requires high investment costs without positive financial returns for the company, or something that could be incorporated in existing activities without adding economic value to existing solutions. As a result of this, the department struggled with budgeting capital needed to implement sustainable initiatives, which further led to a shortage in resources allocated to sustainability work.

7.0 Conclusion

The aim of our thesis was to contribute to the literature on the understanding of SOI as a dynamic process. We have conducted a multiple-case study on four pilot projects within a single company in the food retail industry. We analyzed the similarities and differences between their key drivers, challenges, and success factors encountered throughout the innovation process by focusing on two projects in which sustainability was the primary driver and two projects in which sustainability became an important element subsequently.

Firstly, from our analysis, we found that when companies work with SOI, it is an advantage when sustainability is included as the strategic focus area at the beginning of a project. By having sustainability as the main strategic focus area, it is easier to align the project activities and objectives with the overall sustainable strategy, thus ensuring a successful implementation through SOI. We conclude that when sustainability becomes one of several aspects of a specific project, the company struggles with balancing a holistic view of the TBL. Consequently, sustainability becomes more of an add-on and challenging to realize. Our findings indicated that when sustainability is included in a project, the organization needs to have resources that obtain knowledge and competence regarding sustainability, which the company often does not obtain internally. Including these resources late in the process could in turn result in project delays and missed opportunities related to sustainability.

The most prominent differences between sustainability-driven and non-sustainability-driven innovation processes were evident in the first two phases, idea generation and selection. We did not find any specific distinction in the diffusion

phase, as these differences were more based on other factors. In addition, none of the projects have completed this phase, making it difficult to conclude our problem statement regarding this phase. Moreover, our findings indicated the biggest differences in the overall innovation process were between B2B and B2C projects. We found anchoring and allocating resources critical in B2B projects, as these often impose higher financial risks. Therefore, a common understanding and agreement for the TBL will set the direction for sustainability in the company and help remove the internal resistance toward high-cost initiatives concerning sustainability.

Following prior research, we argue that if a large company is successfully going to work with sustainability and make it an integrated part of its business, it needs to be fully anchored within the organization and become a part of all strategic choices. In contradiction to prior research, which states that cooperatives are better positioned to contribute to the TBL, our study shows that working with sustainability, especially with high cost, is a challenge in a cooperative. We conclude that due to the short-term focus and the perception that co-owners prefer high return on their holdings, project teams are constrained from holistically implementing TBL in SOI projects.

7.1 Managerial Implications

The results from this thesis provide us with managerial implications for incorporating sustainability into innovation processes. Firstly, to succeed with SOI in an organization, it is crucial to have a common understanding of what sustainability entails for the organization and that this is communicated sufficiently through the actions and strategic decisions made within the organization (Aragón-Correa et al., 2008; Noci & Verganti, 1999; Siebenhüner & Arnold, 2007). Aligned with previous research (Bonn & Fisher, 2011; Senge et al., 1999; Siebenhüner & Arnold, 2007) our findings implicate that an important aspect is developing and establishing clear learning structures and procedures to assist employees in enhancing their knowledge and capabilities. Having clear learning structures will facilitate a common understanding of sustainability. It provides the employees with a better understanding of how their work could contribute positively to society and assists them in avoiding specific misconceptions regarding sustainability, which in turn could yield a more holistic approach.

Furthermore, as evident in our case, successful implementation of sustainability requires a joint effort from several parts of the organization. It cannot be done in isolation through a few initiatives from key employees. Therefore, it is important that sustainability becomes embraced and aligned with the organization's strategies and objectives through establishing a clear proactive strategy for implementation, in line with previous literature (Buchanan et al., 2005; Buysse and Verbeke, 2003; Byggeth & Hochschorner, 2006; Kotter, 1995). Furthermore, it is essential to establish a common framework for working with new sustainable initiatives and establishing clear learning platforms where employees can share their experience on challenges and success factors encountered through their work. This helps foster innovative thinking and novel ideas concerning sustainability (Bonn & Fisher, 2011; Senge et al., 1999). Our findings imply that the management must show support and recognize sustainability's long-term benefits by allocating enough resources to SOI. The company will benefit from establishing a risk-taking culture, where employees are encouraged and rewarded for engaging in sustainable initiatives.

7.2 Limitations and Future research

Similar to other research, this thesis also contains some limitations worth elaborating on, which might indicate some opportunities for future research. Firstly, our research only focused on one Norwegian cooperative in the food retail industry, which is characterized by high turnover rate and low margins, where the focus is often on improving routines with incremental innovations. Moreover, our research is within one specific field of study, SOI, which can limit the possibility of transferring our findings and conclusion to other empirical settings. SOI is a broad topic with more interesting aspects to investigate more thoroughly. Additionally, the company chosen is a cooperative, which has a different organizational structure than most firms. The findings might not be applicable to other settings where the organization has a different structure.

Furthermore, due to the limited number of projects, it is challenging to draw infinite conclusions. Our case study method introduces limitations regarding the possibility of generalizing the results we acquired from conclusions connected to our empirical setting. In addition, our research is based on a sample of 15 informants and may not be representative of the population. However, as we mentioned in our methodology

part, after 15 interviews, we reached saturation, meaning that this was sufficient to make a valuable contribution to this field. Moreover, the selection of the informants can be considered a limitation since they were chosen by the project managers and peers, which may have created a selection bias.

Another limitation in our research is connected to the four pilot projects in our sample. These were all ongoing projects, which made us only able to study the interim effects of the projects. Further, by selecting these projects, we thereby excluded other projects that might have provided more comprehensive insight into the research question. The same logic applies to topics emerging during the research. Not all topics, or dynamics within topics, could receive equal attention in this study as we had to choose where to put emphasis on to approach the research question. For instance, as open innovation regarding collaboration with start-ups was deemed highly interesting to explore, open innovation was described regarding idea generation and not as a stand-alone concept. However, this research study can be applicable for other similar organizations and provide a basis for future research.

7.3 Future research

The empirical findings and linkages to the existing research literature in our discussion open several avenues for future research. In light of the study and its limitations, certain aspects could benefit from more in-depth and future research. Regarding this study, it would be interesting to follow up on the four projects when they are complete and look at the long-term effects of sustainability when it is not the primary objective of the project and see if this affects the end result of the projects. Moreover, it would be interesting to follow up on the diffusion phase since we did not find any significant differences. Consequently, it might be interesting to conduct a quantitative study within the same industry to test if our findings provide robustness and if the findings are similar to what our multiple case study revealed. Additionally, it would be interesting to see if the same findings for cooperative organizations are encountered by other companies structured differently in the food retail industry, but also if our findings are more generalizable for cooperatives across sectors. Finally, since our chosen cooperative was still in its early stages of implementing the sustainable strategy, it would be interesting to look at a more mature cooperative that has more established and clear guidelines for how to work with SOI to see if our findings would have been different.

8.0 References

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9.0 Appendix

Appendix 1: Interview Guide Sustainability Department

- Kan du fortelle litt om din faglige bakgrunn, hvilken stilling du har i Selskap X, og hva den innebærer?

Innovasjon:

- Kan du si litt om hvordan din stilling er involvert i innovasjonsarbeidet i organisasjonen?
- Hvordan jobber dere med innovasjon i dag, er det en satt prosess/metodikk?
- Hvordan kommuniserer de ulike avdelingene om innovasjonsarbeidet?
- Hvordan måler dere verdien av innovasjon?
- Føler du det er noe som begrenser innovasjonsarbeidet i Selskap X?

Bærekraft:

- Hva legger du i begrepet bærekraft?
- Hvor viktig synes du bærekraft er for Selskap X?
- Er det noen deler av organisasjonen som har et større fokus på bærekraft enn andre?
- Hva er de største utfordringene til Selskap X når det kommer til bærekraftig utvikling?

Innovasjon og bærekraft:

- Hva betyr samspillet mellom innovasjon og bærekraft for deg?
- Hvor viktig kommer bærekraftig innovasjon til å være for Selskap X fremover?
- Hvordan har dere tenkt å jobbe med bærekraft og innovasjon?

Appendix 2: Interview Guide First Round

Kan du fortelle litt om din faglige bakgrunn og stillingen din i Selskap X?

Bærekraft

- Hva legger du i begrepet bærekraft?
- Hvor viktig synes du bærekraft er for Selskap X?
- Hva kan du fortelle om arbeidet med bærekraft i Selskap X?

- Har dere fått noen tilbakemeldinger på deres arbeid med bærekraft fra interessenter?
- Er det noen deler av organisasjonen som har et større fokus på bærekraft enn andre?
- Snakker dere om bærekraftsmålene på arbeidsplassen, og hvordan er dette knyttet opp i mot arbeidet som gjøres i dag?
- Hvilke tiltak gjør dere for å øke ansattes kunnskap om bærekraft?
- Hvilke tiltak jobbes det med i dag for å implementere bærekraftstrategien?
- Hva er de viktigste forutsetningene for å lykkes med bærekraftige tiltak?
- Hva er de største utfordringene til Selskap X når det kommer til bærekraftig utvikling

Innovasjon:

- Hva assosierer du med begrepet innovasjon?
- Kan du si litt om hvordan din stilling er involvert i innovasjonsarbeidet?
- Hva er Selskap X største drivkraft til innovasjon?
- Opplever du at Selskap X har en metodikk/rammeverk for hvordan man skal jobbe med innovasjon?
- Føler du det er noe som begrenser innovasjonsarbeidet i Selskap X?

Prosjektet:

- Kan du fortelle litt om prosessen i prosjektet, hvor du kan starte med å fortelle ideen og initiativet? Hvor kom det fra og hvordan jobbet dere med det i starten?
- Hva var den viktigste driveren i prosjektet?
- Kan du fortelle videre om hvordan dere jobbet i de ulike fasene?
- Hvilke utfordringer har dere møtt på så langt i prosjektet?
- Hvordan var leverandører og samarbeidspartnere involvert?
- Var kundene involvert i prosessen?
- Hvor viktig var bærekraft i prosjektet?
- Hva blir viktig framover?
- Hvilke utfordringer ser du for deg dere kan møte på fremover?

Innovasjon og bærekraft:

- Kan du si litt om din erfaring om hvordan selskapet har jobbet med bærekraftige innovasjon?
- Kan du gi noen eksempler på innovasjons prosjekter hvor bærekraft har vært en viktig driver?
- Hvordan måler dere hvorvidt bærekraft er en viktig driver for innovasjon?
- Hvor viktig kommer bærekraftig innovasjon til å være for Selskap X fremover?

Appendix 3: Interview Guide Second Round

- Kan du fortelle litt om prosjektet og hvordan du var involvert?
- Hva var den største drivkraften bak prosjektet?
- Hva har bærekraft å si for dette prosjektet?
 - Hvordan har dere fått tiltrukket dere den riktige kunnskapen rundt dette?
- Brukte dere en bestemt metode/prosess under dette prosjektet?
 - Hvordan jobbet dere med idemyldring?
 - Hvilke utfordringer møtte dere i denne fasene?
 - Hva gjorde dere for å løse disse utfordringene?
 - Kan du beskrive noen suksess faktorer i denne fasen?
 - Hvordan jobbet dere i fasene etter idemyldringen?
 - Hvilke utfordringer møtte dere i disse fasen?
 - Hva gjorde dere for å løse disse utfordringene?
 - Kan du beskrive noen suksess faktorer i disse fasen?
 - Hva har dere lært gjennom dette prosjektet/hva ville dere gjort annerledes?
- Var det noen forskjeller på utfordringene som dukket opp i starten av prosjektet kontra slutten?
- Samarbeidet dere med noen eksterne aktører?
- Opplever du at det er en forskjell på prosjekter som er startet med tanken på bærekraft, og hvor bærekraft kommer inn senere?
- Hva tror du er de viktigste faktorene som må til for å kunne lykkes med bærekraft?
- Hva tror du er hovedårsaken til at folk ikke lykkes med bærekraftige prosjekter?

- Basert på dette prosjektet, føler du det er noe spesielt Selskap X bør ha mer fokus på fremover når det kommer til innovasjonsarbeid og bærekraft?