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Navn:	Benedikt Surkau og Sindre Fondenes Suphellen

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Sustainability-Oriented Innovation:

Why are some companies lagging behind?

- A comparative case study -

Executive Summary

Sustainability is arguably the biggest trend in business today and represents one of the greatest challenges humanity has ever faced. Consequently, companies are faced with mounting pressure from multiple stakeholders to be more aware of and handle the social and environmental impacts of their business activities. To succeed with the green transition, we need more sustainability-oriented innovation (SOI). Many companies assign considerable resources to SOI and launch important innovations on a regular basis. However, there are also laggards, and we have limited knowledge on why some companies lag behind. The purpose of this thesis is to provide some preliminary answers to this important question by exploring the following research question:

Why are some companies' laggards in relation to sustainability-oriented innovation?

To answer this question, we reviewed the literature on SOI and performed a comparative case study of a leading and a lagging company. The research process consists of two phases, and a combination of deductive and inductive approaches was applied. We started deductively by developing managerial implications from the existing SOI literature, resulting in a novel normative framework. Secondly, primary data for our comparative case study analysis was gathered through semi-structured interviews with key informants from both companies. The interviews were informed by the normative framework. For the second phase, we combined deductive and inductive reasoning. First, we use the normative framework to analyze the data from the first round of interviews. Subsequently, we used a grounded theory approach to come up with new insights through a second round of interviews.

Our proposed normative framework provides managers with a tool to identify concrete weaknesses and areas of improvements in relation to SOI. Moreover, the empirical findings represent knowledge and insights which can support managers in prioritizing their SOI efforts to truly become more sustainable and tackle the challenges of the future.

In addition, our study provides several theoretical contributions. Firstly, the normative framework can support scholars in identifying gaps and thereby

opportunities for future research on SOI. Secondly, based on a theoretical analysis, we present two conceptual contributions to the SOI literature by suggesting that absorptive capacity and psychological safety should be included as key concepts. Thirdly, our empirical findings add important insights into the SOI literature and highlights three central elements to why some companies lag being in terms of SOI. The first is the lack of sustainability integration. In relation to this point, we provide insight into the importance of hiring & training practices as well as the strategic positioning of companies. Secondly, our findings suggest that the lack of collaborative efforts can be central in answering our research question. Here we make important cross-industrial considerations and provide insights into the relevance of employee's attitudes and mindset. Lastly, by utilizing Schein's model for organizational culture, we add important insights to the cultural discussion in the SOI literature. We suggest that an underlying reason why companies lag behind in relation to SOI, is the absence of sustainability at the lowest level of the corporate culture – the basic underlying assumptions of the culture. This finding represents a novel contribution as Schein's model has yet to be applied in the context of SOI. We hope scholars will continue exploring the role of culture and cultural assumptions in future research. We believe that new insights in this area have great potential in improving our knowledge of why some companies are leaders on SOI and others lag behind.

Acknowledgements

What a feeling to have finished our thesis! We are happy and proud to have completed two great years at BI Norwegian Business School. With a shared interest for innovation and entrepreneurship, and a growing passion for sustainability, it has been a great journey to deepen our knowledge in these fields for the last couple of years. A lot of sweat and tears have been put into the process of writing this thesis, and we are beyond thankful for everyone who has contributed to the process.

There are many who deserve our gratitude. First of all, we want to thank all of our classmates who have contributed to creating a great learning-environment despite having to move a lot of the classes online due to the corona pandemic. Our class discussions and general conversations have been a central part of our learning experience. Secondly, we want to thank the great faculty connected to the MSc. in Innovation and Entrepreneurship at BI. Your competence and passion for what you do is truly inspiring. We want to especially thank our supervisor Alessandra Luzzi for her input and feedback throughout the process of writing this thesis. Her interest and availability have been imperative for us in order to finish with a product we are proud of. As a final remark, we want to thank our family, friends, and partners for their continuous support. Your every sheer and shoulder tap have motivated us to push through and do our best.

We feel grateful and proud of everything we have achieved and learned through the process of authoring this paper. We genuinely believe that the topic of SOI will be central in tackling the many challenges that the world is facing. We are therefore glad we have dedicated our time and efforts to learn more about this important topic. Hopefully, we will be able to apply our knowledge in future jobs to contribute to creating positive impact for people and the planet.

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Abbreviations

CAGR   Compound Annual Growth Rate

DIY   Do It Yourself

ESG   Environmental, Social, and Governance

KPI   Key performance indicator

MECE   Mutually Exclusive Collaboratively Exhaustive

SNM   Strategic Niche Management

SOI   Sustainability-Oriented Innovation

USD   US Dollar

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1 Introduction

Sustainability is arguably the biggest trend in business today. Companies are faced with mounting challenges and pressure from governments, nongovernmental organizations (NGOs), investors and employees to be more aware of and handle the social and environmental impacts of their business activities (Geradts & Bocken, 2019). This is further reinforced by the big changes in consumer interest towards sustainable brands which adds to the pressure on businesses to measure, monitor, and report sustainability performances (Cillo et al., 2019), thus making sustainability a source of competitive advantage in many industries. Research is increasingly exploring this phenomenon, proving the topic's relevance. Here, sustainability-oriented innovation (SOI) is often proposed as a key strategic approach for organizations to contribute to sustainable development at the same time as providing opportunities for growth and long-term competitive advantage (Fichter & Clausen, 2016; Geradts & Bocken, 2019; Hansen & Große-Dunker, 2013; Waddock & Graves, 1997).

Even though there is a broad consensus in the literature regarding the strategic importance of SOI, the implementation and diffusion of SOI still varies a lot among companies and industries. Some companies and even whole industries (e.g., the energy sector) have been quick to engage in SOI activities, showing impressive ability to change which has resulted in many new radical SOIs (Gauthier & Wooldridge, 2012; Rossignoli & Lionzo, 2018). At the same time, many others are lagging behind with less to no focus on SOI, in the extreme cases conducting business as usual. There is currently limited knowledge of the challenges and hurdles that these companies face. While the current literature is focusing on SOI on either a general level, or on very specific issues within certain industries, we find that there is currently a gap in understanding the factors that span across different industries in explaining why companies lag behind others in terms of SOI. We intend to start filling this important gap in the literature. This is relevant to the extent that to reach the ambitious but crucial goals put down by the UN in the Paris agreement (*The Paris Agreement | UNFCCC*, n.d.), it is imperative that all industries contribute and find new, innovative solutions that provide economic,

social and environmental value. We base our research efforts on the following research question:

Why are some companies' laggards in terms of sustainability-oriented innovation?

It is likely that some of the variation in SOI efforts between companies can be explained by the inherent nature of their respective industries and business activities. For instance, companies in the oil industry are forced to engage in SOI efforts while other industries (e.g., salt production) don't have the need to engage in SOI efforts as they can adopt already developed sustainability solutions available in the market (Utami & Novianti, 2021; Wang et al., 2015). Still, it is reasonable to believe that in addition to natural variations across industries, other elements such as company-specific factors might be central in explaining why certain companies lag behind. We believe that knowledge about these elements will contribute to the academic literature, but may also assist companies, NGOs, and governments in improving their SOI efforts.

To compare different companies, a standard for comparison is needed. Lagging on SOI does not only mean that a company does less SOI. It is also a matter of content, - the nature of strategies, activities, and process. Therefore, we believe we need to firstly be able to compare companies to current research-based knowledge on how to conduct SOI efficiently. To do this, we first develop a novel theoretical framework highlighting the normative elements in the current literature as well as depicting its managerial implications. Building on this, we perform a qualitative comparative case study of two companies operating in lagging and leading industries, respectively. The data in this study, is primarily gathered through two phases of semi-structured interviews of key informants at both companies. A total of 11 interviews have been conducted of employees in managerial positions. In addition, a document analysis of internal and publicly available resources has been conducted to supplement, add nuances, and validate the primary data.

The thesis is composed of six chapters. Following the introduction, chapter two provides a review of the SOI literature. In this chapter, we develop a novel theoretical framework highlighting the normative elements in the current literature as well as depicting its managerial implications. In chapter three, the

methodological procedure will be discussed including reflections and explanations on the choices we have made during the process. Our findings and analysis are found in chapter four, followed by the discussion of the theoretical and managerial implications that these represent in chapter five. Additionally, we discuss the limitation of this thesis and proposes topic for future research endeavors. Lastly in chapter six, we summarize our research process and provide some concluding remarks.

2 Literature Review

In the following, a literature review of sustainability-oriented innovation (SOI) will be given. Firstly, we provide a definition of SOI. Secondly, the key normative elements will be described and summarized. Lastly, a novel normative framework will be presented in an aggregated tabular format, addressing linkages between the individual elements. The articles identified were discovered through the search in leading scholarly databases such as JSTOR, Science Direct and Wiley primarily via the Web of Science database. Those were primarily chosen due to their wide reach across various topics as well as their rate of high-quality journals. Searches were made utilizing terminologies revolving around "sustainability" and "innovation" as the terminology of "sustainability-oriented innovation" is not adapted by all scholars and a reasonable share of previous research.

2.1 Defining Sustainability-Oriented Innovation

Since the publication of the Brundtland report in 1987, and throughout the 1990s, innovation with aspirations to create positive social and environmental impact has been studied under similar but slightly different terms. The dominating focus has for a long time been creating environmental value studied under terms like "eco-innovation", "environmental innovation" and "green innovation" (Beise & Rennings, 2005; Bossle, Dutra de Barcellos, et al., 2016; Carrillo-Hermosilla et al., 2010; del Río et al., 2010; Hansen & Klewitz, 2012; OECD, 2009). The question of how innovations should be implemented to create not only environmental, but also social value, has been of rising interest recently and was studied under the concepts like "sustainable innovation", "sustainability-related innovation" and "sustainability-driven innovation" (Ardito et al., 2019; Cillo et al., 2019; Herrera, 2015; Jarmai, 2020). In 1998, John Elkington introduced the popular and widely adopted concept of the triple bottom line (TBL) in which businesses are exhorted to adopt a responsible approach and give equivalence to environmental, social and economic elements in decision-making (Adams et al., 2016; Elkington, 1998).

This paper adopts the notion of sustainability-oriented innovation (SOI), a term that subsumes the aforementioned concepts and is defined by Adams et al., (2016) 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

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and realizing social and environmental value in addition to economic returns." (Adams et al., 2016). SOI is considered more complex than strictly market-driven innovation because it involves a wider range of stakeholders which may have contradictory demand (E.g., shareholders, customers, governments, and non-government organizations) (Longoni & Cagliano, 2018). Therefore, SOI is known to have strong collaborative components (Goodman et al., 2017a; Inigo et al., 2020).

The form of SOI varies a lot and is highly dependent on the context. SOI can be anything from the development of new and improved products or services to the creation of new processes and business models that bring value to society or the environment at large. While the innovations themselves may or may not be disruptive or radical, the idea is to mitigate the negative impacts of existing solutions or, even better, make a positive impact (Geradts & Bocken, 2019).

2.2 Current Normative Theory on SOI

Even though SOI is a relatively new concept, it has aggregated a significant body of research, resulting in several published literature reviews. Four key articles were identified: Adams et al., (2016), Cillo et al., (2019), Geradts & Bocken, (2019) and Pellegrini et al., (2019), all in which depict their own approach in structuring SOI and the belonging literature.

Adams et al., (2016) provides a highly recognized framework of reviewing SOI. They present a three-approach model to SOI which includes (1) *Operational efficiency*, referring to a "doing the same things better" approach, (2) *Organizational transformation* representing a "doing good by doing new things" approach and (3) *System building*, which refers to a "doing good by doing new things with others" approach (Adams et al., 2016). A similar approach is chosen by Pellegrini et al., (2019). They also raise a framework consisting out of three elements, even though they depict them as taking place in a consecutive order, creating a three-stage process. The stages identify as reactive stage, embedding stage and system changing stage. Additionally, they go one step further by identifying external, as well as internal drivers. The external drivers have a primary focus on incentives and pressures from various market, institutional and social entities (del Río González, 2009). The internal drivers on the other hand are stated as companies' structural characteristics (Bossle, Dutra de Barcellos, et al., 2016), companies' individual technological capabilities (Baumol, 2002), and a company's

perception and strategy towards SOI (Horbach, 2008). Related to this, Cillo et al., (2019) start by clustering the literature into an internal-managerial-, external-relation- and performance evaluation perspective. These are discussed through the key lenses of "Strategic management; innovation management; ambidexterity; business model innovation; information systems; knowledge management" (Cillo et al., 2019, p. 1020), forming the cluster with internal perspective and "Strategic alliances; stakeholder theory" (Cillo et al., 2019, p. 1020) the one with external perspective. In their slightly more practice article, Geradts & Bocken, (2019) provides an analysis of how seven of the world's leading SOI companies are creating a culture that promotes SOI. They derived five key activities which taken together with the theoretical findings from the literature review, provides important managerial insights to the topic at hand.

It contains the components looking at SOI from a strategic, operational, cultural, stakeholder and collaboration viewpoint. Due to the later introduced research efforts, the structure follows components relevant to organizations in general allowing an alignment with the research context.

To our knowledge, there has not yet been any efforts to create a normative framework that summarizes the SOI theory in addition to its managerial implications. Based on the key articles presented above as well as the general literature discussed in the following, we aim to do exactly this. We include both an internal and external perspective and group the theory with its managerial implications in to five main categories: (1) Strategic elements (2) Operational elements, (3) Cultural elements, (4) Stakeholder elements and (5) Collaborative elements.

2.2.1 Strategy and SOI

The following section deals with the integration of innovation into an organization's general strategy, as well as business model innovation and innovation types as part of the strategic decision making towards facilitating SOI within an organization.

Dodgson et al. (2014) argue that SOI is linked to corporate strategy. So even though Franceschelli et al. (2019) conclude that organizational characteristics and structure have a greater impact on performance, environmental practices as part of the strategic direction chosen by an organization should not be neglected. Furthermore, strategic management, innovation management or strategy in general are identified

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as drivers of SOI adoption by multiple scholars (Bossle, Dutra de Barcellos, et al., 2016; Pellegrini et al., 2019; Román et al., 2021).

Summarizing these terminologies as strategic management, the authors continue to identify associated elements of strategic management facilitating SOI. This starts with the clear formulation and communication of a sustainability focused strategy (Ayuso et al., 2011; Geradts & Bocken, 2019; Huang & Jim Wu, 2010; Lee, 2009; Pujari et al., 2003; Reed, 2002; Stubbs, 2019). Another common ground is the strategic alignment in form of cross functional alignment, alignment between subsidiaries and offices, brands and businesses as well as the alignment between the needs of today and tomorrow (Beverland et al., 2016; Román et al., 2021; Ryynänen & Hakatie, 2014). Also networks, as well as the strategic integration of sustainable intrapreneurship and R&D activities play a fundamental role in fostering SOI (Ghisetti & Pontoni, 2015; Pellegrini et al., 2019). Environmental management systems including the integration of relevant key performance indicators that support the establishment of accountability, prioritizing environmental, social and governance (ESG) components within an organization are also to be considered (Geradts & Bocken, 2019; Rauter, Jonker, et al., 2017; Rennings et al., 2006; Sardinha et al., 2011; Shrivastava & Hart, 1995; Stubbs, 2019). Furthermore, as conflicting interests between different areas of an organization may emerge, different and even conflicting strategies will be required to manage these occurring tensions (e.g. avoidance or separation) (Stubbs, 2019). As this is closely related to the actual operational activities within a company, further elaborations can be found in the section about the operational element.

Also, the strategic decision for either incremental or radical innovation towards SOI is discussed in the literature (Carrillo-Hermosilla et al., 2010; Hall & Vredenburg, 2003; Inigo et al., 2020). Radical innovation consists of discontinuous developments replacing current elements based on novel capabilities whereas incremental innovation preserving and improving present practices and elements through continuous developments (Chandy & Tellis, 1998, 2000; Cillo et al., 2019; Tiberius et al., 2021). Multiple scholars argued that the latter is often insufficient to achieve sustainability-oriented goals as it often requires fundamental changes to e.g. processes, products and strategy (Carrillo-Hermosilla et al., 2010; Hall & Vredenburg, 2003; Wagner, 2010).

As addressed and also mentioned in the literature, sustainable oriented developments derived though SOI demand radical and systemic innovations (Boons et al., 2013; Boons & Lüdeke-Freund, 2013). This can be realized most effectively when supported through adjustments in a company's business model (Bolton & Hannon, 2016; Osterwalder & Pigneur, 2010; Pedersen et al., 2018), in which León-Bravo et al. (2019) recommends redesigning according to the triple bottom line approach. Relatedly and based on the need to modify business models to drive SOI, Stubbs (2019) points out to not only bring economic and social components to the core of organizations, but also to recompile the ownership structure with both stakeholders with economic, as well as with interest in social values.

Additionally, dynamic decision making towards resource allocation regarding current and novel products is identified as a relevant factor (Rejeb et al., 2019; Smith et al., 2010). The primary resource in this case is understood to be knowledge and competences from in- and external sources (Pellegrini et al., 2019). Leaders are therefore encouraged to utilize an ambidextrous strategy, driving exploitation and exploration (O'Reilly & Tushman, 2008; Zeng et al., 2017). Ambidexterity has two common natures to itself being structural and contextual (Gibson & Birkinshaw, 2004). The literature states that in an organization with SOI focus, structural ambidexterity can cut conflicts, improving overall efficiency (Andriopoulos & Lewis, 2009), whereas contextual ambidexterity supports cutting integration costs (Gibson & Birkinshaw, 2004; Güttel et al., 2015; Turner et al., 2013). As third nature, coordinated ambidexterity on the other hand supports compensating differing business strategies and cutting conflicts (Chen et al., 2014; Du et al., 2013; Martinez-Conesa et al., 2017; Soto-Acosta et al., 2018), which is essential as tensions are expected to occur as mentioned earlier.

2.2.2 Operations and SOI

The following discusses SOI literature facing drivers regarding operational elements of an organization as well as knowledge management towards in- and external competences.

Organizations need to provide specific prerequisites, in order to allow SOI to be carried out. Characteristics of operational nature, recommended to be considered, are e.g. the availability of financial resources dedicated to SOI activities and organizational complexity (Bossle, De Barcellos, et al., 2016; Pellegrini et al.,

2019). Besides, resources such as sufficient space, time and training are required to successfully pursue SOI as an organization (Geradts & Bocken, 2019). Moreover Pellegrini et al. (2019) identify the presence of R&D activities as well as further process-based procedures for innovation as key drivers to SOI.

An additional part of this internal perspective, identified by Pellegrini et al. (2019) and closely linked to the previously mentioned innovation strategies, is an operational systemization of "the search, selection, experimentation and adoption of new ideas" (Pellegrini et al., 2019, p. 1045) within an organization. Based on the managerial implications of a study, this is supposed to happen alongside the creation of a permanent innovation team, which relies on the structural elements addressed above and that is guided by sustainable intrapreneurs. The same study addresses the strategic role of top managers in this regard. Sourcing their strategic in- and external networks, as these can further stimulate sustainable intrapreneurs on suiting novel solutions to the internal infrastructure, will support addressing sustainability challenges (Pellegrini et al., 2019). For an ideal transition to SOI, organizations need to consider the described systemic integration and complexity of innovation systems, summing up the previously addressed (Foxon & Pearson, 2008; Malone & Yohe, 2002; van Geenhuizen & Ye, 2014)

Adjusting production processes and technologies is also necessary, in order to drive SOI (Baumol, 2002; Horbach, 2008; León-Bravo et al., 2019). This is especially relevant as sustainable technologies often fail based on technological and production elements leading to a negative impact on performance, customer satisfaction and competitiveness (Kemp et al., 1998). The literature also reveals that operational factors proposing hurdles to SOI often comply with production and technological adaptations, systems and company internal processes (Bocken & Geradts, 2020; Foss & Saebi, 2017; Kafetzopoulos & Skalkos, 2019; Kiefer et al., 2019; Pacheco et al., 2017)

2.2.3 Organizational Culture and SOI

As the last element to SOI from a primarily internal perspective, corporate innovation culture was identified (Román et al., 2021). Literature promotes the fundamental role of an organization's culture and values towards SOI (e.g. Kiefer et al., 2019). The cultural element can be described with a set of values being understood as common knowledge among members of an organization,

substantiating the understanding of an organization's ways of working, as well as behavioral norms (Brown & Starkey, 1994). The ideal culture driving SOI is contextualized as relying on flexibility, as well as commitment towards experimentation, in which employees have the freedom to create new ideas and take risks while considering environmental and social elements (Büschgens et al., 2013; Herrera, 2015; Patricia S. & René, 2017; Pham et al., 2019). In short, creating an environment facilitating the introduction of intrapreneurship towards ESG. Román et al., (2021) divides corporate innovation culture into three sub-elements: (1) quality values which refers to the relevant values and their overall count, (2) hierarchy of values which involves setting up the correct priorities within the organization and (3) espoused enacted values congruency which refers to what extent the values are represented and made reality inside an organization. These form a good metric framing an organization's corporate innovation culture.

Practices supporting the creation of such culture are listed as adjustments to hiring practices, socialization practices as well as sustainability-related training of members of the organization (Stubbs, 2019). Also, a clear articulation of a company's direction and goals towards SOI with positive reinforcement for organizational members enrolling in SOI projects should be considered (Baya & Grunman, 2011; Blake, 2006; Geradts & Bocken, 2019; Lent & Wells, 1992; Stubbs, 2019).

2.2.4 Stakeholders and SOI

One of the key drivers from mainly external nature identified by literature is stakeholder management and the general impact of external developments, influencing an organization's competencies towards SOI (del Río et al., 2016; Zubeltzu-Jaka et al., 2018).

SOI can be defined as a process involving innovation driven organizations and the wider context (Dodgson et al., 2014) of "regulatory and social governance, and as value chains and socio technical regimes" (Cillo et al., 2019, p. 1018). It might even be seen as an ecosystem (Hsieh et al., 2017; Vollenbroek, 2002), a continuous and non-linear process nature (Malerba, 2004). The involvement and management of stakeholders within this system regarding sustainability plays a fundamental role (Ayuso et al., 2011; Cillo et al., 2019; Geradts & Bocken, 2019; Katsoulakos & Katsoulacos, 2007; Riahi-Belkaoui, 2003; Seuring & Gold, 2013; Sharma &

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Henriques, 2005). It creates the opportunity for organizations to acquire insights from their stakeholders, which in turn improves an organization's orientation regarding SOI and drives the development of sustainable and innovative creations (Cillo et al., 2019; Katsoulakos & Katsoulacos, 2007; Riahi-Belkaoui, 2003; Sharma & Henriques, 2005). Besides enriching an organization's understanding of their impact on society and the environment (Rocha et al., 2011), the involvement of partners and suppliers in the change within the own organization helps deliver more sustainable products in terms of the triple bottom line approach (León-Bravo et al., 2019). Werther & Chandler, (2011) argue that these impacts of stakeholder engagement in SOI can especially be observed in mid to long-term.

A key element in stakeholder inclusion is the integration of a wide range of stakeholder's expectations (Alkemade & Suurs, 2012; del Río González, 2009; Hansen & Große-Dunker, 2013; Seuring & Gold, 2013) forming a prerequisite in a successful implementation and utilization of the elements of SOI (Rocha et al., 2011). These include regulatory pressure (Zhu et al., 2012), market transformations (Beise & Rennings, 2005) and further demands from customers and other stakeholders (Pellegrini et al., 2019). Market pressures primarily relate to new demands from customers, consumers, suppliers or competitors behavior (Kammerer, 2009). Social pressures on the other hand are derived from various internal (managers, employees) and external stakeholders (business partners, actors from science, non-governmental institutions, shareholders, the public) demanding improving their ESG performance (Sarkis et al., 2010). Hojnik & Ruzzier, (2016) even go one step further and identify regulations, market developments and stakeholder's general pressure as key external drivers to SOI, later reconfirmed by Pellegrini et al., (2019).

Stakeholder involvement as well as the understanding and integration of their expectations and demands is a great challenge towards introducing SOIs to markets, as these are sometimes neglected for reasons beyond the earlier discussed technological and also functional aspects (Kivimaa & Kern, 2016). Scholars claim that a major reason for this is the fact that SOI are often competing against well-established and well-integrated technologies (Kemp et al., 1998; Meelen & Farla, 2013; Nill & Kemp, 2009). Therefore consumers may experience SOI as too different to their current solution or alternatively be unwilling to accept a higher price for a more sustainable solution compared to their current (Aaker & Keller,

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1993). A potential concept to solve this issue is strategic niche management (Cillo et al., 2019; Kemp et al., 1998). According to this approach SOI can be grown by the creation of niches in which technology can develop together with ESG objectives, facilitating SOI developments (Hoogma et al., 2005; Nill & Kemp, 2009). This strategy also supports the earlier addressed experimentation and adoption of new ideas (Hoogma et al., 2005; Pel, 2014). A relevant example depicted in the literature are electric vehicles and the environment in which these develop which are created simultaneously. SNM facilitates these simultaneous developments by levelling social and technological levels, which otherwise pose a threat to the SOI (Schot & Geels, 2008; Seyfang & Longhurst, 2016).

2.2.5 Collaboration and SOI

As addressed in linkages, and according to the stakeholder management section SOI follows network-based structures. This fact highlights the relevance for collaboration and connectivity (Malerba, 2004; Wu, 2017). Following the sustainability systems thinking framework (Williams et al., 2017), SOI is more achievable when collaborating with further relevant organizations to continuously create new valuable offerings (Anttonen et al., 2013; Cappa et al., 2016; Desouza et al., 2008; Holmes & Smart, 2009). It is therefore reasonable to see most companies following open innovation approaches (Floricel et al., 2008).

This approach to open innovation includes parts of the own organization but also external entities such as suppliers and customers (Baya & Grunman, 2011; Bocken & Geradts, 2020; Doran & Ryan, 2016; Foxon & Pearson, 2008; Geradts & Bocken, 2019; Gulbrandsen, 2005; Messeni Petruzzelli et al., 2011; Pujari et al., 2003; Rauter, Vorbach, et al., 2017; Taylor et al., 2016; Weidner et al., 2021; Zhu et al., 2012). Additionally, collaborations between organizations focusing on SOI and research centers contains great value especially in the idea generation and testing phase (del Río et al., 2016). Also, public authorities can take collaboration roles besides the one of the pressure applying regulators. Hansen & Klewitz, (2012) e.g. argue that they can alternatively take the role of the financial supporter and spreader of ESG related challenges and information.

Concluding, SOI is rather created as a collaborative effort than achieved by single organizations (del Río et al., 2010). The same is stated by Goodman et al. (2017b) identifying SOI as a multi-stakeholder effort. The kind of collaboration also has an

impact on the types of innovation, discussed in the operational element. Companies focusing on incremental SOI, which already was identified as less suitable towards achieving substantial SOI, will derive the greatest benefits applying an open innovation approach within the own organization's current portfolio. Opposingly for radical SOI anticipatory action towards alliance building is advantageous to identify disruptive partners. (Inigo et al., 2020)

2.3 A proposed normative Framework of SOI

Below a summary of the previously discussed key elements mentioned in the literature facing SOI in its various forms is depicted in a tabular format.

As noticeable the borders between various of the elements main areas are fluent, meaning different approaches clustering the literature are possible as addressed earlier framing core articles for this review. Still for the further efforts and the goal of this research effort, the above stated format, being close to key elements of an organization's elements, were chosen. Several linkages between the sub elements are possible. They are ranging from the connection of ambidexterity and the integration of external stakeholders' knowledge and expectations, over to the deep connection between strategic elements reflecting into the operational element, to the connection of market developments and SNM and the operational systemization of SOI in the operational element. While identifying these linkages, it becomes observable that SOI cannot be seen as a vertical activity being performed next to the other activities performed within an organization, but more like a horizontal element penetrating all components of an organization.

	Sub-Element	Implication	Detailed Explanation of Managerial Implications	Sources
Strategic Element	Communication	Set up clear sustainability focused strategy	A clearly articulated sustainability strategy can act as trigger for innovation	Ayuso et al. 2011; Geradts & Bocken, 2019; Huang and Wu 2010; Lee 2009; Pujari et al. 2003; Reed 2002; Stubbs, 2019
	Integration of SOI into Corporate Strategy	Alignment of all internal entities towards strategy	Strategic Alignment of different entities is crucial to successfully implement SOI into the core of an organization's strategy (Cross Functional, Subsidiaries, Offices, Brands and Today and Tomorrow)	Beverland et al., 2016; Dodgson et al., 2014; Román et al., 2021; Ryynänen & Hakatie, 2014
		Apply strategic innovation management	Integration of Strategic Innovation Management into an organization's overall scope of activities identifies as another key driver to SOI. This includes the previously described intrapreneurship activities from a strategic management perspective.	Bossle, De Barcellos, et al., 2016; Pellegrini et al., 2019; Román et al., 2021
		Measure the sustainability-related efforts	The establishment of environmental management systems including SOI relevant KPIs fosters the creation of accountability within an organization alongside the clear depiction of ESG components	Geradts & Bocken, 2019; Rauter et al., 2017; Rennings et al., 2006; Jonker, et al., 2017; Sardinha et al. 2011; Shrivastava and Hart 1995; Stubbs, 2019
		Centralize SOI efforts in the organization	The integration of SOI into the core of an organization's corporate strategy also helps to avoid potential conflicts arising, as all parts of an organization are impacted due to the centricity of such an integration	Beverland et al., 2016; Dodgson et al., 2014; Román et al., 2021; Ryynänen & Hakatie, 2014; Stubbs, 2019
	Innovation Type	Drive radical innovations	To achieve specific sustainability-oriented goals fundamental changes to current practices are often a requirement. Therefore, radical innovation is better suited for SOI due to its nature of being discontinues, whereas incremental innovation is not as it focuses on improving practices.	Boons et al., 2013; Boons & Lüdeke-Freund, 2013; Chandy & Tellis, 1998, 2000; Carrillo-Hermosilla et al., 2010; Cillo et al., 2019; Hall & Vredenburg, 2003; Inigo et al., 2020; Tiberius et al., 2021; Wagner, 2010
	Business Model Innovation	Realign the organizations BM	Redesigning a company's business model following the triple bottom line approach (including environmental, social, and economic perspectives) drives a company's SOI performance, as it further centralizes ESG elements into the core of an organization.	Bolton & Hannon, 2016; León-Bravo et al., 2019; Osterwalder & Pigneur, 2010; Pedersen et al., 2018
		Balance interests in the ownership structure	Recompiling an organization's ownership structure according to the triple bottom line approach, in terms of mixing owners with both economic and social interests.	León-Bravo et al., 2019; Stubbs, 2019
	Ambidexterity	Balance developing the current business and experimenting on novel business areas	As knowledge and competences is considered as one of the primary resources for SOI ambidextrous strategies elements are fundamental. Structural ambidexterity supports cutting conflicts and improve overall efficiency, whereas contextual ambidexterity helps cutting integration costs. Balancing the explorational and exploitational nature to ambidexterity is essential to sustain a operations	Andriopoulos & Lewis, 2009; Gibson & Birkinshaw, 2004; Güttel et al., 2015; O'Reilly & Tushman, 2008; Pellegrini et al., 2019; Turner et al. 2012; Zeng et al., 2017

	Sub-Element	Implication	Detailed Explanation of Managerial Implications	Sources
Operational Element	Resource Availability (e.g. Time, Capital, Training)	Create explicit budget for SOI	Dedicated resources (financial, time, space) should be available for SOI related activities	Bossle et al., 2016; Geradts & Bocken, 2019; Pellegrini et al., 2019
		Create "room" for SOI	Training of employees in the knowledge space of sustainability and innovation practices, alongside creating physical and timewise room for employees to pursue SOI related activities	Geradts & Bocken, 2019
	Operational Systemization of SOI	Engage in R&D	The presence of R&D activities drives SOI	Pellegrini et al., 2019
		Educate management	Development of management skills towards recognizing and constituting intrapreneurs within an organization	Pellegrini et al., 2019
		Create innovation processes including tools	Establishment of processes supporting the search, selection, experimentation, and adoption of new ideas following innovation practices countering the complexity of innovation systems and drive a systemic integration of SOI	Foxon & Pearson, 2008; Malone & Yohe, 2002; Pellegrini et al., 2019; van Geenhuizen & Ye, 2014
		Establish permanent innovation teams	Establishment of permanent Innovation Teams, involving sustainable Intrapreneurs linking to the elements described in the characterizational element and following the established SOI related processes above, supported by organization's managements and their networks	Pellegrini et al., 2019
	Further Operational Adjustments	Realign other sections of the operation	The adaption of production, technologies, systems and company internal processes utilized is essential as these are proven to create hurdles along the way when not considered while driving SOI	Foss & Saebi, 2017; Geradts & Bocken, 2019; Kafetzopoulos & Skalkos, 2019; Kemp et al., 1998; Kiefer et al., 2019; Pacheco et al., 2017
Cultural Element	Cultural Characteristics	Create experimentation culture	A corporate culture with a commitment towards experimentation is key in driving SOI	Büschgens et al., 2013; Herrera, 2015; Patricia S et al., 2017; Pham et al., 2019
		Subtopic of above	High level of flexibility in the corporate cultures is good for SOI	Büschgens et al., 2013; Herrera, 2015; Patricia S et al., 2017; Pham et al., 2019
		Subtopic of above	Freedom to take risks and come up with new ideas considering sustainability is essential to drive SOI	Büschgens et al., 2013; Herrera, 2015; Patricia S et al., 2017; Pham et al., 2019
		Link company & society	Important to link the company's long-term interests with the good of society	Geradts & Bocken, 2019
		Link individual and corporate purpose	Important with a close connection between individual purpose and corporate purpose	Geradts & Bocken, 2019
	Practices to build an SOI Culture	Readjust hiring criteria towards sustainability	Adjustments to hiring practices in order to hire Sustainability Oriented people	Stubbs, 2019
		Educate on ESG	ESG certification/training of members in organizations	Stubbs, 2019
		Create positive reinforcements for SOI activity engagement	Managers must provide positive reinforcements and incentives for organizational members enrolling in SOI projects	Baya and Gruman 2011; Blake 2006; Lent and Wells 1992; Stubbs, 2019
		Create a Collaboration Culture	Managers need to allow people to work with other parts of the organization or partner with suppliers, customers, NGOs, and other third parties to address gaps in skills and resources	Geradts & Bocken, 2019

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	Sub-Element	Implication	Detailed Explanation of Managerial Implications	Sources
Stakeholder Element	Stakeholder Involvement & Management	Involve stakeholders	Stakeholder involvement & management is key in obtaining crucial SOI related knowledge	Ayuso et al. 2011; Cillo et al., 2019; Geradts & Bocken, 2019; Katsoulakos & Katsoulacos, 2007; Riahi-Belkaoui, 2003; Sharma & Henriques, 2005
		Involve stakeholder expectations	A key element in stakeholder inclusion is the integration of stakeholder's expectations.	Alkemade & Suurs, 2012; del Río González, 2009; Hansen & Große-Dunker, 2013; Seuring & Gold, 2013
		Engage in strategic niche management (launch SOIs in niches, then move up the ladder)	To deal with conflicting stakeholder expectation, strategic niche management is seen as a solution in the literature	Cillo et al., 2019; Kemp et al., 1998 Hoogma et al., 2005; Nill & Kemp, 2009
	Internal Stakeholders	Internal Pressure drives the company as an entirety towards SOI	Pressure from employees, managers and shareholders are important drivers of SOI	Alkemade & Suurs, 2012; del Río González, 2009; Hansen & Große-Dunker, 2013; Sarkis et al., 2010; Seuring & Gold, 2013
	External Stakeholders	Utilize external pressure to drive SOI	Pressure from the public, new regulations, customers' demands, supplier demands are important drivers of SOI	Beise & Rennings, 2005; Hojnik & Ruzzier, 2016; Kammerer, 2009; Pellegrini et al., 2019; Sarkis et al., 2010; Zhu et al., 2012;
		Utilize competition pressure towards ESG to drive SOI	Pressure from the behavior and actions of competitors are important to consider and do often work as drivers of SOI	Kammerer, 2009
Collaboration Element	External collaboration	Engage in open innovation	SOI is more achievable when engaging in open innovation efforts.	Anttonen et al., 2013; Cappa et al., 2016; Desouza et al., 2008; Floricel et al., 2008; Holmes and Smart 2009
		Create collaborations with other players in- / outside the value chain	Interorganizational relationships and collaboration help boost SOI (Both vertically (sustainable supply chain management) and horizontally)	Baya and Gruman 2011; Bocken & Geradts, 2020; Doran & Ryan, 2016; Foxon & Pearson, 2008; Geradts & Bocken, 2019; Gulbrandsen 2005; Petruzzelli et al. 2011; Pujari et al. 2003; Rauter et al., 2017; Taylor 2016; Weidner et al., 2021; Zhu et al. 2012
		Create collaborations with relevant research centers	Collaborations between organizations focusing on SOI and research centres contains great value especially in the idea generation and testing phase	del Río et al., 2016
		Create collaborations with governments	Collaboration with governments as an financial supporter and spreader of ESG related challenges and information is attractive when engaging in SOI efforts	Hansen & Klewitz, 2012
	Internal collaboration	Create collaborations between various internal disciplines	Collaboration across disciplines provides benefits towards SOI	Geradts & Bocken, 2019
		Avoid creating a feeling for competitive thinking	Internal competition and silo thinking can have negative effects on innovation	Geradts & Bocken, 2019

Table 1: Theoretical Framework SOI

2.4 Additional perspectives on organization culture

Due to the limitation in the SOI literature in relation to organizational culture, insights from the general literature were sought to get a deeper understanding of the culture dimension. This is also corroborated, as explained in the following, by our inductive analysis. After the initial analysis of our primary data, indeed, the cultural dimension was found to be especially interesting. We therefore illustrate in this section some of the relevant research on organizational culture we want to build on with our empirical contribution.

The concept of organizational culture first emerged in the 1970s and has evolved over the last decades (Baumgartner, 2009; Hofstede, 1980; Ouchi & Price, 1993; Pettigrew, 1979; Schwartz & Davis, 1981). In the 90s, Edgar Schein developed a highly recognized model for analyzing organizational culture which has been widely applied the last couple of decades. He identifies three levels of organizational culture with the term "level" meaning the degree to which the cultural phenomenon is visible to you as participant or observer (see figure 1) (Schein, 2017).
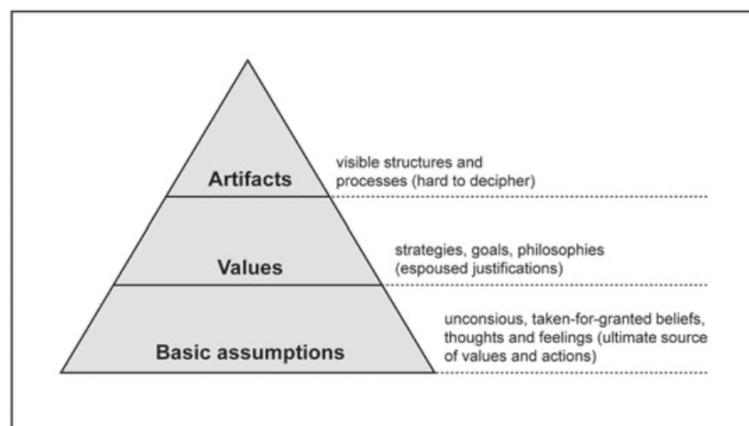
Figure 1: Levels of Organizational Culture - Example (based on Schein, 2017, p 17-22)

The first level he labels as "artifacts" which refers to the visible and feelable dimension to the corporate culture. This included the organizations listed values and its observable behavioral and rituals as well as the organizational processes by which such behavior is made routine. Even though culture at this level is easy to observe, it is still very difficult to decipher it (Schein, 2017). Some companies can have very similar artifacts, but it can still be hard to reconstruct from that alone what things mean to a given group. It is therefore dangerous to try to infer deeper assumptions about an organization culture from artifacts alone because

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interpretations will inevitable be projections of your own cultural background (Schein, 2017).

Therefore, one needs to get an understanding of the second layer which Schein calls "values". Analyzing this level of the culture is about understanding why the people in the organization do what they do. The fact that every individual employee bears their own assumptions about what is right and wrong, and what will work or will not work in certain situations, makes this a very complicated question to answer. Schein points towards concepts such as social validation and ideologies to understand organizational culture on this level. Social validation means that certain beliefs and values in an organization are confirmed by the shared social experience of a group. Shared assumptions occur when for instance a manager convinces the group about an assumption and that those actions based on the assumption proves empirically successful (Schein, 2017). The ideology in relation to this refers to the moral values and espoused beliefs that guide employees when faced with uncertainty and intrinsically uncontrollable or difficult events. An important tension in this regard is that if the ideology that provides meaning and comfort the group are not congruent with the beliefs and values that correlate with effective performance, we will observe espoused values that reflect the *desired* behavior but are not reflected in the *observed* behavior of the organization (Schein, 2017). For example, a company's ideology may say that it values sustainability and transparency, but its actual record may in that regard contradict what they say.

The third level of the model is labeled "basic assumptions". These are defined by Schein as the assumptions that … "has become so taken for granted that you find little variation within a social unit" (Schein, 2017, p 21). Basic assumptions are the implicit assumptions that actually guide behavior, that tell group members how to perceive, think about, and feel about things. Generally, they are non-confrontable and non-debatable and are therefore extremely difficult to change (Schein, 2017). Many techniques have been developed to try and change them. "Double-loop learning" or "frame breaking" which involves resurrecting, reexamining, and possibly changing some of the more stable portions of your cognitive structure (Argyris & Schon, 1974, 1996) are the process Schein points towards.

3 Research Methodology

In the following chapter, we aim to provide the reader with insights into our research process in its entirety. Firstly, we describe our overall research design including the reasoning for the choices we have made and the methodological foundations for these. Secondly, we present our case selection criteria with the following empirical context of this thesis. Thirdly, we explain our primary and supplementary methods for data collection, as well as a detailed description of our process for data analysis. Lastly, we discuss the ethical considerations which has been made throughout the research process.

Below there is a representation of all phases and elements of the research process followed throughout this study. It is based on this chapters' segments and gives a visual overview of the interactions of all elements.
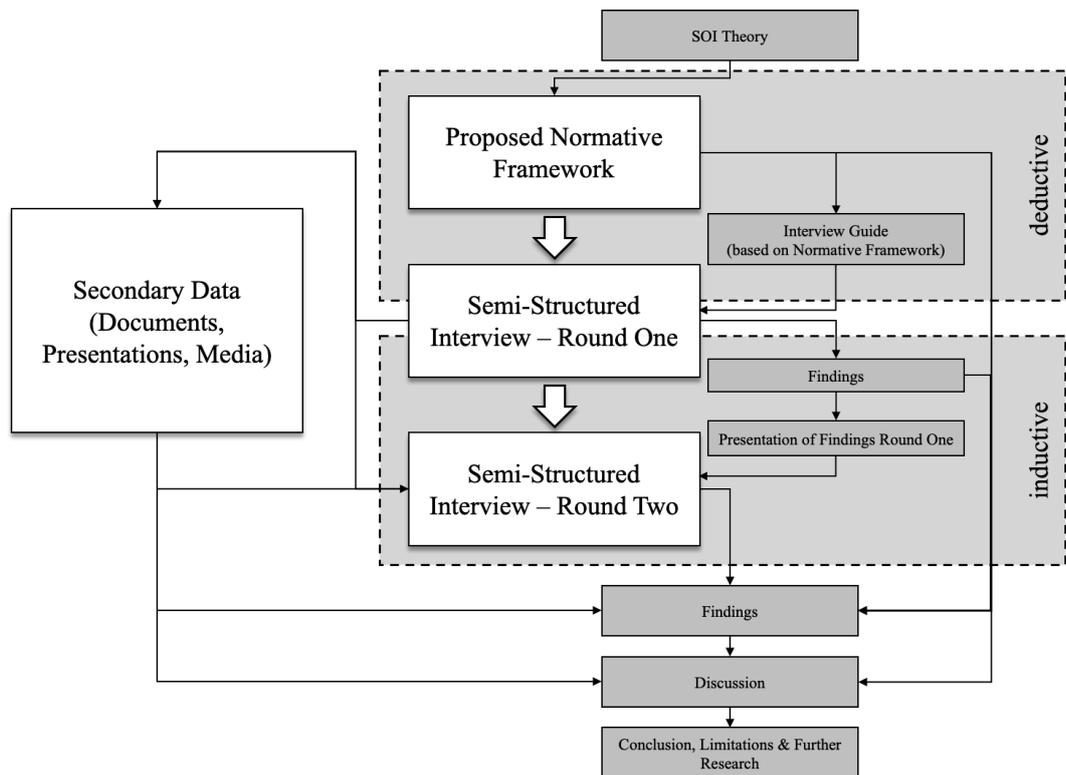

Figure 2: Research Process Overview

3.1 Research Design

To answer our research question, we conducted an comparative case study of the two organizations described under 3.3.3 Empirical Context, operating respectively in what is considered "leading" and "lagging" industries in terms of sustainability-

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oriented innovation. Due to the current limited theoretical knowledge, a qualitative research approach was chosen to obtain an in-debt understanding of the research phenomenon and identify the most relevant factors in relation to our research question. In the future, these study's findings can be built further upon in studies involving more companies and industries as one example, described under 5.4 Further Research. A combination of deducting av inductive approaches has been used in this thesis. The research process has two phases. As illustrated in Figure 2, we use deductive reasoning in the first phase of the process, while in the second, an inductive approach as applied.

Similarly to Román et al., (2021), we identified theoretical elements with its managerial implication *a priori* to the research in the literature review. Subsequently, a novel normative theoretical framework has been proposed, which assisted the researchers in designing the interview-guide, used to gather primary data through semi-structured interviews. By conducting qualitative research, one can see and understand the context within which decision and actions take place (Meyers, 2009). Semi-structured interviews were chosen to allow follow-up questions to be asked to probe more details and insights. These questions related mostly to asking the interviewee to clarify their response, elaborate on the relevance and provide more depth for instance by using examples (Collis & Hussey, 2014). To secure grounds for comparison between the different units, predefined rules were applied regarding the number of follow-up questions. The normative framework was used as a guideline for the interviews to ensure that all essential elements and themes were covered. The interviews were scheduled to last 45 minutes each. After the initial analysis of the data from the first round of interviews, a grounded theory approach was used to obtain further insights. A second round of interviews, guided by the preliminary findings from the first round of interviews, were subsequently conducted.

3.1.1 Comparative Case Study

The terms "case", "case study" or more generally "case method" have been difficult to create a consensual understanding of for quite some time (Kaarbo & Beasley, 1999; Ragin & Becker, 1992; Yin, 2014). However, the authors define a case study "… to be a method of obtaining a "case" or a number of "cases" through an empirical examination of a real-world phenomenon within its naturally occurring

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context, without directly manipulating either the phenomenon or the context" (Kaarbo & Beasley, 1999, p. 372). One of the main scientific benefits of a case study lies in its ability to open way for discoveries (Shaughnessy et al., 2012) and to consequently "… serve as the breeding ground for insights and even hypothesis that may be pursued in subsequent studies (Berg & Lune, 2012, p. 339). Due to the nature of our research question, we performed a comparative case study which is defined as "… the systematic comparison of two or more data points ("cases") obtained through use of the case study method (Kaarbo & Beasley, 1999, p. 372). A six-step approach for comparative case studies described by Kaarbo & Beasley (1999), has been followed: (1) Identify specific research question for focused comparison, (2) identify variables from existing theory, (3) select cases that are comparable, vary on the dependent variable, and that addresses alternative explanations, (4) operationalize variables and construct a case codebook, (5) code-write cases and (6) comparison and implications for theory.

3.2 Case Selection Criteria

In our research efforts, initial access to case companies and informants was granted through Company X (CX) as described under 3.3 Empirical Context. George & Bennett (2005) emphasize how preliminary knowledge when selecting cases will strengthen the research design and reduce unwanted variation amongst cases. As CX is the owner of over 300 brands, we applied a strategic selection approach to ensure that the chosen cases met the defined case criteria in line with Thaagard (2018). To avoid a misleading comparison of unequal entities, we selected cases that were similar on dependent variables, but different enough for a comparison to be interesting. Our contacts at both CX and C1, were used actively when selecting key informants and case companies. We defined our case selection criteria as follows:

Leading/lagging company: To answer our research question: "why are some companies' laggards in relation to SOI?", we wanted to compare one leading and one lagging company to each other. To be defined as leading or lagging, we defined two conditions that needed to be met. Firstly, the company needed to identify as leading or lagging themselves. Secondly, external sources needed to confirm this perception to make sure the statement had credibility. With the help of our contact person at CX, we identified a suitable "lagging" case company which we in this

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paper call C1. Utilizing key informants at C1 as well as available articles and press coverage, we identified the "leading" case company which we call C2 for the purpose of this paper.

Operating in difference industries: As previously mentioned, a cross-industrial perspective in the SOI debate has currently been missing. Therefore, we sought to select case companies operating in different industries to obtain insights that could be transferable across industries.

Focus on Innovation: To be able to get enough details for comparison of the innovation activities we needed the case companies to have a strong focus on innovation. Therefore, we required the companies to have structured innovation processes present with an existing innovation manager or chief innovation officer role in the company.

Access to key informants: Access to key informants at both companies were necessary to enable a functioning interviewing process resulting in rich data. Just a couple of interviews with employees holding periphery roles within the company would not be enough. Therefore, it was ensured that a broad access to key informants in the management team of both organizations C1 and C2 was given.

3.3 Empirical Context

The companies studied, are both owned by the same Norwegian multinational corporation (Figure 3: Empirical Context - Organization's Relations). This corporation (in the following referred to as Corporation X or CX) is a leading supplier of branded consumer goods in multiple industries including the painting tools and clothing industry. Additionally, they operate in the grocery, out-of-home, pharmacy, and bakery industry. The company is primarily active in its home markets which are Scandinavia, Benelux, and the United Kingdom, but their products can be found in several other countries as well. The organization is a suitable case for this research purpose, especially as its subsidiaries operate in both lagging and leading industries. The corporation itself is listed as one of the world's 100 most sustainable companies (Staff, 2021). It is also one out of only four of the 100 biggest companies in Norway, which can document climate footprint reduction according to the Paris agreement (PwC, 2020).

3.3.1 Lagging company (C1)

C1 is an actor of the painting tools industry. The painting tools industry has had a market size of roughly USD 10bn in 2021, which is expected to rise to USD 13bn by 2028. That is a CAGR of around 5% p.a. (*Painting Tools Market Size, Statistics | Industry Trends Report 2028*, n.d.). The most common products sold in this industry are brushes, scrapers, rollers, knives, spray guns, trays and masking tapes (*Painting Tools Market Size In 2022*, n.d.), of which brushes, rollers and spray guns are the items with highest units sold (*Painting Tools Market Size, Statistics | Industry Trends Report 2028*, n.d.). The largest market is the Asian one, that also sees the highest growth expectations, followed by Europe and North America. The largest share of the business is made within construction (*Painting Tools Market Size, Statistics | Industry Trends Report 2028*, n.d.).

C1 is employing around 900 employees in multiple markets. With factories in China and the UK and products sold in the UK, the Benelux countries as well as Scandinavia they can be considered a multinational organization that is active across borders. Owning nine brand families, which are structured according to the markets, they offer a wide range of high-quality painting tools. The company's composition of these multiple brands, each serving one respective market reasons from various M&A deals, making the company what it is today. Since 2020 they have launched their campaign to drive sustainability in their industry. Resources utilized in their value chain are primarily various plastics and wood. The production itself is mainly owned, only some finished products are bought externally. Their products are sold in common hardware stores to all kinds of customers from professionals to customers from the DIY (do-it-yourself) category. (Internal Report C1; Sustainability Manager C1, personal communication, March 8, 2022)

3.3.2 Leading company (C2)

C2 is a venture that is active in the apparel industry. The apparel industry, also discussed as fashion industry in this paper, has a global market size of around USD 1.5 Tn which is expected to grow to USD 2 Tn by 2026 at a CAGR of 3.39% p.a. (*Apparel - Worldwide | Statista Market Forecast*, n.d.; *Revenue of the Global Apparel Market 2013-2026*, n.d.). A share of 52% of that is generated in women's apparel. The rest is two thirds children's fashion and one third men. In regional perspective the largest market is the US's market with around 20% (*Apparel -*

Worldwide | Statista Market Forecast, n.d.). The apparel industry is built on the textile industry as it supplies their core resources. Therefore the various ESG related concerns towards the textile industry are also majorly impacting the apparel industry as well (Pucker, 2022). It is a fact that compared to other industries the textile industry is one of the major drivers for environmental pollution and the trigger for a multiple ecological problems (Desore & Narula, 2018). To produce 60bn kilograms of fabric 3tn gallons of fresh water were consumed and around 35% of chemicals released into the environment are from various textile processing and dying activities (*Global Market Report on Sustinable Textiles - Executive Summary*, 2010; Thiry, 2011) making SOI a relevant topic to be considered when active in this industry.

C2 employs around 200 people, that are in Scandinavia, primarily in Norway. They manage a sustainability centered clothing brand that primarily supplies woman's clothing, but also offer apparel for men and children. The latter face a more limited offering in terms of the types of apparel sold. They are following strict guidelines in their supply chain and educate their consumers on how to give their products a longer lasting and more sustainable life, while making consumers own less. Their sustainability centricity was launched in 2006 and further driven ever since. Resources utilized are various types of garments produced by the textile industry. Examples are merino wool, polyamide and cotton. C2 does not own any production facilities and sources their products from third party suppliers. They have an own sales channel which is their own online shop. Additionally, they sell products through the customers stores being local grocery shops. (Internal Presentation C2, 2022; CSR & Quality Manager C2, personal communication, March 9, 2022)
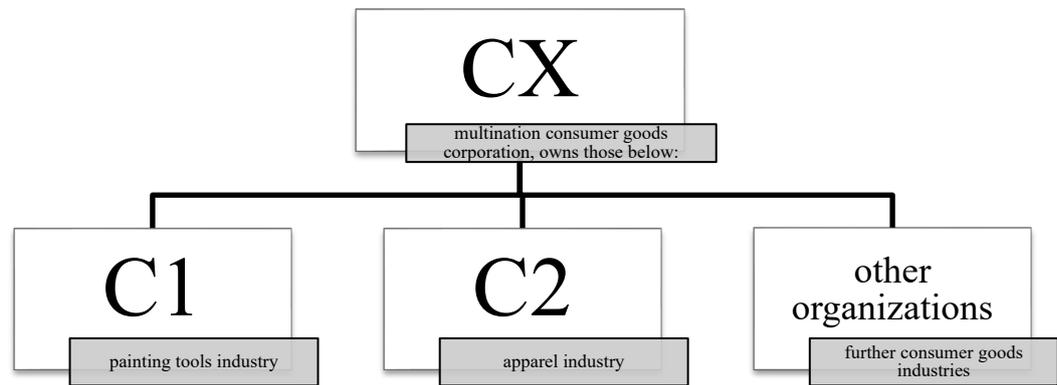
Figure 3: Empirical Context - Organization's Relations

3.4 Data Collection

In the following the data collection process is described, including the method itself and its prerequisites and a description of the interviewees participating in the study.

3.4.1 Semi-Structured Interviews

Interviews are one of the most trusted methods for data collection in case studies (Kallio et al., 2016; Kvale & Brinkmann, 2009; Mason, 2017; Straits & Singleton, 2018). To ensure flexibility in terms of the ability to clarify both questions and answers, as well as ensuring that every relevant item is answered, semi-structured interviews (Straits & Singleton, 2018) were conducted. One of the advantages of semi-structured interviews is that new questions can be developed during the interview in order to capitalize on the special knowledge and experience of the separate respondents (Straits & Singleton, 2018). This can especially be valuable when interviewing "key respondents" (Kumar et al., 1993). Although this is generally seen as an advantage, it is important in a comparative case study to ensure that the interview process is similar across different interviews to maintain analytical control in the data collection process (Andersen, 2013). Consequently, a detailed interview-guide was developed, which is based on the normative framework developed in the literature review, under 2.3 A proposed normative Framework of SOI.

The criteria when selecting informants was that the interviewee had to be characterized as a "key informant". Key informants in this study's context were defined as (1) executives, (2) managers or (3) middle-managers involved in SOI activities within the given case organization. Key informant methodologies are selected because the chosen subjects are expected to be " … particularly knowledgeable about the issue that is being researched and able and willing to communicate about them" (Kumar et al., 1993). Like all research techniques, the key informant method has some drawbacks. The possibility of informant bias and random error are two central ones. To ensure accuracy (i.e. reliability and validity), it was made sure to be supplemented with secondary data from publicly available sources, observations as well as internal documents (see 3.6 Document analysis). The number of interviews conducted will be determined based on the point where 'data saturation' is reached, which refers to the point of diminishing returns in terms of novel and significant data (Guest et al., 2006).

A snowballing strategy was used to gather participants to the study. The process started by utilizing the authors personal network within CX. In an introductory conversation where the general topic of interest was presented, the contact person connected the authors with the sustainability manager of C1. The authors engaged in conversations with this person, and "snowballed" to other key informants within C1. The sustainability manager of C1 further connected the authors with the CSR & Quality Manager of C2 who is responsible for sustainability at the organization. This person provided the authors with the contact information of key informants within C2. In the first round, nine interviews were conducted (see Table 2: Comparative Case Study: primary data for further details).

The normative theoretical framework developed in the literature review (see 2.3 A proposed normative Framework of SOI), formed the basis for the interview-guide. Questions were developed related to all elements of the framework and follow-up questions were formulated accordingly. The interview guide gave each interview a clear structure and ensured that all interviews were conducted in a similar manner, also supporting the comparability for the later following display of findings under 4.6 Findings Comparison. Both authors were present on all interviews, and each interview was led by the same person. All interviews were held in English. The second author was responsible for taking notes and making sure no elements of the framework were missed in the conversation. The second author also had the

mandate to ask follow-up questions to clarify responses. All interviews were held using the video conference tool "Zoom" and were with the permission of the interviewees recorded using the internal recorder function in Zoom. The recordings were stored locally on the authors' computers and uploaded to a secure one-drive folder only available for the authors and university supervisor.

A total of nine interviews with five informants from C1 and four informants from C2 were conducted. It was found to not be necessary to conduct further interviews for this level of data collection, as the point of "data saturation" was reached in the last couple of interviews. This refers to the point of diminishing returns in terms of novel and significant data (Guest et al., 2006).

Data collection	Company 1	Company 2
Time	February-March 2022	February-March 2022
Interviews	5	4
Length	30-50 min	30-50 min
Conducted by	First & Second author	First & Second author
Analyzed by	First & Second author	First & Second author
Respondents	Sustainability Manager	CSR & Quality Manager
	Quality director	CEO
	Supply chain director	Marketing Manager
	Head of Innovation	Head of Innovation
	Director of Business development	

Table 2: Comparative Case Study: primary data details

After transcribing and analyzing the first round of interviews, three main differences between the C1 and C2 were identified. To obtain further insights regarding these and to validate the findings, a second round of for data collection by interviewing the main key informants at both companies again was conducted. The second interview round was based on a power point presentation, describing the main findings of the first level analysis. This presentation guided the interviews, and each informant was given the opportunity to respond to the findings. In turn, each main finding was discussed, and follow-up questions were asked to get a more detailed understanding of the underlying dynamics. This second round of interviews therefore has a less structured and framed character, which provided details and concepts which were not discovered in round one. After conducting an interview with each company, enough detail and in-debt-knowledge was obtained. It was concluded that conducting more interviews would not be necessary. The second round of interviews were conducted in a similar manner than the first round using

the digital video conference tool Zoom. Both interviews, with C1 and C2 were recorded and transcribed for analysis purposes.

3.4.2 Secondary data sources

To validate our primary data, as recommended by, e.g. Denzin & Lincoln (1994), Gibbert et al. (2008) and Yin (1994, 2014), and to obtain more detailed insights into the case companies, we also include secondary data sources. Further explanations on this type of data sources can be found under 4.5 Document Analysis.

3.5 Data analysis

As researcher, one is obliged to theorize the meaning of data in order to ensure high quality of our research. Encoding and structuring the data is thus recommended as important tools to meet this end (Mason, 2017; Silverman, 2011). When entering the analysis phase, it is important to consider the fact that the analysis process already started, when conducting the interviews. The way body-language and expressions in the conversations are interpreted will influence and direct how the collected data is analyzed. This is why data collection and analysis occur simultaneously in qualitative research (Kvale & Brinkmann, 2009). This has been considered in this analysis efforts. The analysis process is described as follows:

The initial step in the analysis was to transcribe every interview to get a detailed overview of all the data collected in the first round of interviews. The acknowledged transcription tool "Nvivo transcriptions" was used to generate the initial transcripts. To ensure the transcripts were accurately reflecting the conversations, the authors read through the generated transcripts while listening to the recording of the interview. By doing this, one was able to correct spelling mistakes and other types of misunderstanding that potentially could corrupt the transcripts.

Subsequently, the authors structured the written data by applying color-codes according to each element of the theoretical framework developed for this thesis. Following that, a framework for analysis-purposes in excel, was created. Each element of the theoretical framework and each individual interviewee was represented. By extracting text parts and quotes from each interview and placing them according to the theoretical elements, the authors were able to make sure that they got the perspectives of all interviewees on each element. In line with Thagaard (2018, pp. 152–154), key insights were subsequently summarized on each element

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across the different interviewees which formed the basis for the comparative analysis. Key differences and tensions between the companies were then identified by comparing the companies on each element of the normative framework, giving us important preliminary understanding and already interesting findings.

The insights generated in the first level of analysis helped the authors to identify the most interesting topics to further investigate. To obtain further detail and insight into these, a second round of interviews was conducted where the preliminary findings were presented to the key informants. The authors received positive response from both organizations C1 and C2, as both confirmed the relevance and managerial value that the discussion delivered. They also provided valuable details and reflections on the topics. The conversations were transcribed and structured like the first round of interviews. Quotes and text parts were structured according to the premilitary findings and used in further analysis.

3.6 Document analysis

The document analysis can be utilized to gather background information on specific topics such as information on specific ventures or for information on specific case conditions (Thagaard, 2018, p. 119). In this study the document analysis will be helpful in two ways. Firstly, to collect insights about the companies being the object of analysis. Here annual reports are one example that contain multiple facts and explanations on the general strategic direction of both ventures. Secondly, case specific documents such as presentations, specific reports as well as other sources such as videos, news entries and others will help to learn more about the specific case of SOI with both organizations C1 and C2. To ensure exclusively high-quality information is considered, only the documents relevance, authenticity and credibility need to be respected according to Thagaard (2018, p. 119). The document analysis in the case of this study can be categorized as complementary channel for information, that adds to the information gathered via the primary research. The main emphasis here is to strengthen and validate findings, as well as to allow making the argumentations under findings and discussions richer in terms of background information on both research contexts.

Relevant documents were identified either through research on both companies' web appearances, the web appearance of the corporation CX or by proactively asking for such during the interview sessions. Following this approach, authenticity

and credibility were ensured. External documents, such as general market reports, were not considered. The reasoning behind is that those kinds of documents were missing relevance and needed specificness to the set research context and case.

3.7 Ethical Considerations

The research project is registered with the Norwegian Centre for Research Data (NSD). The registration on the NSD's platform includes an assessment from their side regarding data collection and storage, as well as processing (see Appendix A – Norwegian Centre for Research Data - Assessment). As we will record interviews, including background information such as the interviewee's role profile alongside personal experiences and impressions we needed to ensure the research complies with their guidelines.

We are documenting the participants consent towards being interviewed and their input being utilized for our analysis through either an electronic or manual confirmation. The range of data subjects involved in the project is between 1 and 99. Still this study is not supposed to contain any information on the organization's names as well as the names of individuals interviewed as required by both participating organizations. Therefore, there can be no representation of the interview transcripts or documents analyzed attached to the study due to the contained personal information.

The processing is planned to be performed on the cloud solution offered by Handelshøyskolen BI Oslo, with restricted access only allowing both researchers, as well as the supervisor from BI to enter. Results will not be shared with externals, besides in the anonymized form in the written study. Access to the raw data will be restricted to access limitations and only permitted after approval with the involved organizations.

The data controller is the Handelshøyskolen BI Oslo / Institutt for strategi og entreprenørskap, with the project type of a student project in terms of a master's thesis.

4 Findings

Under 2.3 A proposed normative Framework of SOI, we propose a normative framework of SOI which is displayed in Table 1: Theoretical Framework SOI. This model is based on the current literature on SOI. It contains five main elements, with sub elements below, giving suggestions on how to integrate SOI into an organization. The five elements are the strategic element, the operational element, the cultural element, the stakeholder element, and the collaboration element. The first round of interviews is based on this structure. Therefore, also the findings are presented accordingly, starting with the findings on the strategic element at C1, followed by the findings on the strategic element on C2 and so on. These findings are also synthesized into dedicated tables on a more aggregated level at the end of every element's finding presentation. In the first round of interviews, three key differences between C1 and C2 emerged. These provided the basis for the second round of interviews, following a grounded theory approach. Lastly a comparison of the main differences are presented under 4.6 Findings Comparison, laying the basis for the following discussion. Here we change from a purely deductive to a more inductive approach, as the findings presented contain insights from both rounds of interviews.

4.1 Strategic Element

The strategic element has sub elements on the sustainability strategy itself, the communication of it and its integration into the overall corporate strategy. Additionally, innovation types applied, business model innovation and ambidexterity are part of it.

4.1.1 C1

Sustainability Manager (Talking about their strategy): *"Our strategy is based on what we call the four pillars, which are packaging, production, products and people"*

Sustainability Manager (Talking about their organizational purpose statement): *"And then we've added to that by being a front runner in the transition to a sustainable painting tools industry."*

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C1's strategy towards a more sustainable future is built around a core concept, with four mutually exclusive and collectively exhaustive pillars being "packaging, production, products, and people" (Sustainability Manager C1, personal communication, March 8, 2022). These are existing since about 2 years and guide them as basis for a detailed action plan until 2025 (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Therefore, the official launch of their new sustainability related strategy is dated to 2020, with the first actions taking place in 2021 (Director of Business Development C1, personal communication, March 7, 2022). At that time also the role of the sustainability manager was created at C1. According to the company's sustainability manager the long-term goal is to be the "front runner in the transition to a sustainable painting tools industry" (personal communication, March 8, 2022) while driving the entire industry forward and establishing novel standards.

Director of Business Development C1 (talking about the role of the sustainability manager): *"Among other things there is the one important task to kind of be the internal cheerleader for sustainability and also to be the internal editor for sustainability related communication."*

In the communication of the above described and new strategic direction, alongside regular updates, the role of the sustainability manager is central. The application of a wide range of communication channels, such as monthly sustainability focused newsletters, periodic presentations held in front of the company and to management, image movies and internal poster campaigns was mentioned (Sustainability Manager C1, personal communication, March 8, 2022). Due to the diversity of roles in the company, some without access to mail and a computer, it is expected by management that some time will need to pass to reach a full penetration with the strategy change, keeping in mind the hiring date of the central sustainability manager. This is further supported by the statement that some roles are more concerned due to the nature of their tasks than others. (Director of Business Development C1, personal communication, March 7, 2022)

Sustainability Manager: *"The company has been through multiple M&As. Therefore, we are continuously working on aligning entities across markets."*

Sustainability Manager (talking about the internal alignment towards SOI): *"It's more about how to make sure that everyone works in the same way and […] how*

to make sure that people actually do what's needed the next day as a general correction."

C1 has been through multiple M&A activities, making the alignment of the internal and external entities a central task to drive the venture even without going through a strategic reorientation (Sustainability Manager C1, personal communication, March 8, 2022). Still a fractioned internal system and structure pose extra challenges when aligning around 900 individuals with a divers set of backgrounds, as well as further external stakeholders accordingly stated the Sustainability Manager of C1 (personal communication, March 8, 2022). The central challenge mentioned by the Sustainability Manager during the interviews is "about [making] sure that everyone works in the same way and […] how to make sure that people actually do what's needed" (Sustainability Manager C1, personal communication, March 8, 2022). To tackle that challenge, line managers create individual goal plans on employee level. These are containing at least one goal with a relation to sustainability, encouraging the individual to act in line with the company's strategy. Doing so a decentralization of responsibility and the empowerment of the individual can be observed. (Sustainability Manager C1, personal communication, March 8, 2022; Head of Marketing & Innovation C1, personal communication, March 16, 2022)

Sustainability Manager: *"We have the overarching strategy which is the basis. This overall company strategy towards 2025 has five central points to it, which all somehow integrate sustainability to them."*

Besides aligning activities and entities with the strategy, the sustainability strategy is supposed to be in line with the general corporate strategy. Sustainability is a central part of the company's purpose. Therefore, all five identified elements of the corporate strategy are integrating a sustainability related objective (Sustainability Manager C1, personal communication, March 8, 2022). These are not to be confused with the four pillars being at the base of their 2025 action plan. Hence there is no separate strategy for sustainability next to the other strategic objectives of the company. But as the entire strategy has sustainability related elements woven into them the sustainability strategy is in line with the overall corporate strategy (Director of Business Development C1, personal communication, March 7, 2022).

Sustainability Manager (talking about their overarching KPIs and their process of analyzing the company's status on ESG related measures): *"I would say that we*

rather see the KPIs as means to actually reach our goals of reducing our CO2 emissions, reducing the use of packaging, having better packaging, better, more sustainable packaging."

As described earlier all four MECE style pillars of their action plan have SOI related KPIs linked to each. But instead of creating KPIs to track how successful their SOI activities are, they are seeing the KPIs as "means to actually reach [their] goals" (Sustainability Manager C1, personal communication, March 8, 2022). This was figured during their analysis process performed on the company's status (Sustainability Manager C1, personal communication, March 8, 2022). Still it was also stated that they would have to have time pass to collect data and understand what is achievable and what not, as they actively started tracking such KPIs half a year ago (Director of Business Development C1, personal communication, March 7, 2022).

Sustainability Manager: *"To reach the KPIs targets, I think it is more about incremental things like changing raw materials or changing packaging. But there are larger projects looking into more significant changes, for example in terms of circularity or new business models as well."*

The interviewees revealed incremental changes are required to reach C1's SOI KPIs (Sustainability Manager C1, personal communication, March 8, 2022). These improvement related innovations, e.g., utilizing a new thinner carton in the packaging, make a great difference when applied on the large scale of the entire company (Director of Business Development C1, personal communication, March 7, 2022). Still also projects of more radical innovation nature, are running currently, none of which has been introduced to the markets yet (Director of Business Development C1, personal communication, March 7, 2022; Group Manager, Insight & Product Marketing, personal communication, March 10, 2022; Sustainability Manager C1, personal communication, March 8, 2022). As reasons to why there were no radical changes or business model adjustments made yet the missing maturity as well as the complexity of the industry the company operates in were mentioned (Group Manager, Insight & Product Marketing, personal communication, March 10, 2022).

Sustainability Manager: *"Currently the main emphasis is on incremental changes towards optimizing our business in its current form. Still the willingness to do more*

is there. The major problem with our company is that the product development cycles are really long."

In terms of ambidexterity the current focus of C1 lies in the explorational element (Sustainability Manager C1, personal communication, March 8, 2022). Still the willingness to move more towards exploring was raised even though it was mentioned that this is not top priority (Head of Marketing & Innovation C1, personal communication, March 16, 2022). This aligns with the previous arguments around the type of innovation utilized. As key problem to why there is an overweight towards exploitation the long lead times of product development activities were pointed to. This is due to them wanting to ensure a constant high quality, which appears to be at risk when cutting process time (Quality Director C1, personal communication, March 9, 2022). Also, economic interests can be seen as potential argument for why there is imbalance between exploration and exploitation, as cost savings were named as argument to satisfy management at C1 (Quality Director C1, personal communication, March 9, 2022).

In terms of the ownership structure C1 is a 100% subsidiary of a stock listed multi consumer brand known for its sustainability related efforts (Director of Business Development C1, personal communication, March 7, 2022). The triple bottom line principle is applied, as the company is driven by economic interests, but also follows environmental and social objectives as the four chosen pillars prove.

4.1.2 C2

CEO: *"Our strategy is built on the whole lifecycle of our product and both the sourcing and development parts of it and throughout the sales and consumer usage. So, our strategy starts by actually defining, as the brand mission, that sustainability is a core aspiration for us."*

At C2 the base for the entire company's strategy is sustainability with the goal of being a leading player in their industry and markets. The strategy is rooted in the UN's sustainable development goals of which C2 is making use of eleven in total. The work towards a sustainability-based future of the company started in 2006/07 and centers sustainability in all their activities. With the goal to "empower people to wear better" (CSR & Quality Manager C2, personal communication, March 9, 2022) they utilize sustainability as decision relevant element in product portfolio

decisions, material, quality, supply chain and packaging changes as well as designs (CEO C2, personal communication, March 18, 2022).

CSR & Quality Manager: *"The internal communication around our sustainability focused activities is part of my role. Still oftentimes it is more a collaborative effort with other colleagues depending on the topic"*

Marketing & Digital Sales Director (talking about externally communicating their sustainability related strategic direction: *"... we are recognized for our effort as well. So, every time we get the chance to talk to press or some sort of journalists the message is around sustainability. It is very seldom that we are talking about just our products."*

At the center of internally communicating sustainability efforts and the strategic sustainability effort is the role of the CSR manager (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). They use a wide range of communication channels across all departments internally. Examples raised where the brand book, the integration of ESG into every sentence, posters, newsletters and more. Additionally, there is a clear execution plan with direct responsibilities and goals to be achieved (CSR & Quality Manager C2, personal communication, March 9, 2022). Also, externally there is a heavy focus on sustainability centered communication, for which the company is recognized (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). This external communication keeps the company accountable for the ESG activities once more the CSR Manager said (personal communication, March 9, 2022).

Head of Product Portfolio & Innovation: *"We have sustainability roadmaps. This is based on our long-term strategy and is always for the current strategy period."*

CEO: *"Sustainability is the guiding star for everything we do…"*

The alignment of internal elements is based on a sustainability roadmap that exists for all entities and product portfolios within C2 (CSR & Quality Manager C2, personal communication, March 9, 2022). The role of the sustainability manager is to keep all employees updated on the company's sustainability related activities and the company's overall direction according to this plan (CSR & Quality Manager C2, personal communication, March 9, 2022; Marketing & Digital Sales Director C2, personal communication, March 23, 2022). This is driven by the central integration of ESG as guiding concept in C2, which is also why the company shows

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a deep connection between sustainability and their corporate strategy (CEO C2, personal communication, March 18, 2022). Multiple interviewees stated that sustainability is in everything that C2 is doing, that it is included in every document in some way, shape or form (CEO C2, personal communication, March 18, 2022; Head of Product Portfolio & Innovation C2, personal communication, March 28, 2022).

Head of Product Portfolio & Innovation (talking about their sustainability roadmap): *"The roadmap shows the level of sustainability of all product portfolios which is based on our mother company' roadmap. Our goal is to have all portfolios in the highest category before 2024. To control our progress, we use KPIs from the roadmap, adjusted to our industry."*

Also connected to the ESG roadmap that is laid out for a period of two to three years, there is a reporting system in which product lines are ranked according to their degree of sustainability (Head of Product Portfolio & Innovation C2, personal communication, March 28, 2022). Therefore, KPIs are utilized to characterize each product line, with the ultimate goal of ranking all product lines in the highest category (CSR & Quality Manager C2, personal communication, March 9, 2022). The basis for this is taken from the mother company and adjusted to the industry C2 is active in (CEO C2, personal communication, March 18, 2022). Again the CSR manager role is central as they are tracking multiple metrics on all product portfolios. Part of that role's responsibility is also the extensive reporting to external institutions which C2 has partnered with and that require insights on the entire value chain. This is necessary to receive and maintain certifications from all these institutions. (CSR & Quality Manager C2, personal communication, March 9, 2022)

CEO (on innovation types applied): *"It depends on where it in the value chain it happens. So, there are radical and significant changes we've made but for now there have been no changes been made to our business model as such. Still, we are continuing to explore options."*

The innovation types applied at C2 vary, depending on were in the value chain the innovation is taking place. The focus is on smaller incremental improvements with the goal of making existing products more sustainable. Therefore, researching and testing on suitable more sustainable materials is one of the key tasks (CSR & Quality Manager C2, personal communication, March 9, 2022). Another example

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is the decision to "remove all plastic from all [their] packaging" (CEO C2, personal communication, March 18, 2022) in all their 5000 – 6000 product lines. Additionally, more radical innovations were described. There are multiple pilot projects on potential business model changes. The CEO describes potential solutions on rental or secondhand concepts (CEO C2, personal communication, March 18, 2022).

Head of Product Portfolio & Innovation: *"We have this 80/20 rule that everybody is aware of. We have 80 percent that would remain unchanged, and we can innovate 20 percent."*

C2 follows the 80/20 rule in which they keep 80% of the product lines as they are and innovate 20% (CSR & Quality Manager C2, personal communication, March 9, 2022). This is translated into a focus on exploitation, as when minor changes are done the entire product pallet is concerned, with some elements of exploration. In line with exploration, interviewees point to partnerships and projects that have been performed together with universities, researchers and innovation consultancies resulting in a high rate of pilot projects (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). As challenge to the exploration efforts the lack of resources to focus on projects of non-core business nature as well as the missing patients for returns is listed. (Marketing & Digital Sales Director C2, personal communication, March 23, 2022)

In terms of ownership C2 is a subsidiary of the same mother company as C1, which also in this case has an ownership of 100% (Head of Product Portfolio & Innovation C2, personal communication, March 28, 2022).

	Sub-Elements	Implication	• Insights
Strategic Element	Communication	Set up clear sustainability focused strategy	• Both subjects have a clearly articulated sustainability strategy • C2 is associated with sustainability to a greater extent than C1 • C1 shows a more systematic approach towards internal communication of their strategy • C2 engages with sustainability since 2006/2007, whereas C1 has made sustainability a strategic objective for 1 year
	Integration of SOI into Corporate Strategy	Alignment of all internal entities towards strategy	• Utilized toolsets are similar with both subjects • At C2 it appears that "sustainability" guides every decision, whereas C1 is still trying to get to that point
	Integration of SOI into Corporate Strategy Innovation Type	Apply strategic innovation management	• Both subjects have a detailed plan towards SOI grounded in specified activities, processes and KPIs
		Measure the sustainability-related efforts	• C2 is already reporting on SOI efforts with an advanced set of metrics, whereas C1 is still in the set up and testing phase; C2 is subject to report on multiple axis due to several partnerships and certifications (e.g. Ethical Trade Norway)
		Centralize SOI efforts in the organization	• At C2 it was articulated that sustainability is the "core" of everything that is done, whereas at C1 the sustainability focus is still very recent; relevant factors to mention here are the companies' different sizes and the time invested
		Drive radical innovations	• Both preliminary focus on incremental innovation, but C2 is more flexible in terms of its smaller size, lower complexity of their demand and supply side, as well as not owning production facilities
	BM Innovation	Realign the organizations BM	• Both are invested for potential business model adjustments, neither of them has done so, C2 has adapted more than C1 in their processes like sourcing and production
	Business Model Innovation Ambidexterity	Balance shareholder's interests	• Both have the exact same ownership structure
		Balance developing the current business and experimenting on novel business areas	• C1 has a focus on exploitation as they tend to follow incremental changes • C2 follows an 80/20 rule, in which they collaborate with multiple externals on the 20% exploration • Both mention that economic interests are of highest priority, often leading to a higher degree of exploitation

Table 3: Findings Comparison – Strategic Element

4.2 Operational Element

The operational element's sub elements investigate the availability of resources. Moreover the systemization of SOI plays a role with R&D activities and innovation teams alongside further operational adjustments.

4.2.1 C1

Sustainability Manager: *"We have the personal development plans, which in essence is something you agreed on with your leader at the beginning of the year and contains your key deliverables throughout the year."*

Director of Business Development: *"I think in innovation itself, whether sustainability oriented or not, has always been a central topic in C1. A lot of people in the business have always been engaged in working on innovation projects, some more incremental than others. The sustainability element does not change that, it just changes the focus of our innovations"*

At C1 the integration of SOI into the daily operations is ensured mainly through management dedication to the topic of sustainability alongside the previously described employee level goal plans (Sustainability Manager C1, personal communication, March 8, 2022). The Director of Business Development points out that at C1 innovation has always been central at C1, most employees are familiar with the novel (personal communication, March 7, 2022). The strategic redirection just changed the focus of their innovations.

Head of Marketing & Innovation (talking about innovations made): *"Whatever we are doing it should hit the targets of the sustainability strategy as well. We should not do any innovation without tackling some of the sustainability issues with them."*

To further support the integration of SOI into the daily business, the framework identifies the necessity for dedicated resources. At C1 there are no specific resources, except the role of the sustainability manager, dedicated just to sustainability related activities as it was decided to have sustainability "as part of every innovation" (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Also, there is no special training for employees towards sustainability. But as sustainability is centralized in the strategy, as well as the individual goal plans, most innovations are having sustainability related effects.

The way that SOI is realized is that every time a change is done to e.g., product it is checked if there are options to make it more sustainable (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Additionally, if there are potentials identified, the company only has limited resources available, which is why projects with the largest effects are prioritized. Still multiple sources stated that management is willing to accept worse economic conditions for more ESG compliance (Head of Marketing & Innovation C1, personal communication, March 16, 2022; Sustainability Manager C1, personal communication, March 8, 2022).

Sustainability Manager: *"Our innovation process is very similar to what was originally brought up by Procter & Gamble and is typical for a consumer goods company. It is about regular innovation board meetings as decision making entity."*

In terms of a process supporting the search, selection, experimentation, and adoption of SOIs C1 utilizes the mother companies stage gate innovation process (Sustainability Manager C1, personal communication, March 8, 2022). It contains multiple stages an innovation must clear out before being introduced to business. The project team meets with the innovation board, that consists out of managers and specialists with relevant skills related to the project on a periodic basis (Quality Director C1, personal communication, March 9, 2022). The stages have different objectives depending on the stage itself. Recently sustainability related objectives have been added to them (Head of Marketing & Innovation C1, personal communication, March 16, 2022). This process is only applied to "strategic" projects, which classify as being of higher complexity and the need for a greater number of resources for the project to be realized. The so called "tactical" projects do not undergo the same process but follow a rather standard and non-innovation like style, including a proposal to the local manager, the creation of a business case which is approved or denied. For such projects usually there is very little complexity and no or only very scare necessity of development work required. (Head of Marketing & Innovation C1, personal communication, March 16, 2022; Quality Director C1, personal communication, March 9, 2022; Sustainability Manager C1, personal communication, March 8, 2022)

Director of Business Development: *"There are quite a few people basically almost working full time on innovations from different areas in cross functional teams."*

As described, the projects are carried out by project teams. Those are cross-functional depending on the skillset required (Head of Marketing & Innovation C1,

personal communication, March 16, 2022). Therefore, these teams are not permanent and none of them works full-time solely with innovation. During the interview it was argued that for some most of their time is spend with pushing projects through the innovation processes described above, making them almost work permanently on these innovation projects (Director of Business Development C1, personal communication, March 7, 2022).

Quality Director: *"We have done some local improvements effecting the CO_2 footprints at all our sites. Similar other things also have been done. So it is on the agenda but to have larger projects going it takes time of course."*

Usually transforming with SOI towards more sustainable products and operations requires adjustments to several internal processes. To fulfil the predefined KPIs and requirements for the FSC certification C1 also needed to adjust processes and sourcing of materials (Quality Director C1, personal communication, March 9, 2022; Sustainability Manager C1, personal communication, March 8, 2022). Still it was stated that their "products have undergone small improvements, while being produced in a very similar fashion since about 150 to 200 years" (Head of Marketing & Innovation C1, personal communication, March 16, 2022). The most recent adjustment is to create singularity in their IT landscape by introducing a central enterprise planning system that replaces the many, existing due to the M&A activities growing the company. This is identified an essential step towards aligning functions and allowing further and more wide-ranging collaboration (Quality Director C1, personal communication, March 9, 2022).

4.2.2 C2

CEO: *"Sustainability is sort of the starting point at the desiring brief and then it follows a stage gate process throughout. In this there are resources such as people, time and money invested, but there are no specific budgets only assigned to sustainability, rather to the innovation process."*

Sustainability is the starting point for their projects. This makes budgets specifically assigned for sustainability unnecessary, as it is part of their projects (CEO C2, personal communication, March 18, 2022; Marketing & Digital Sales Director C2, personal communication, March 23, 2022). It is similar with R&D processes. Due to the nature of C2's business and industry, the traditional R&D projections do not apply. Therefore, there is no central R&D department but the combination of brand

managers, product managers and designers and sustainability manager collaborate on developing new products (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). This is part of their "daily activities and includes observing the markets and the debate about sustainability in terms of materials, innovations, communications etc." (CSR & Quality Manager C2, personal communication, March 9, 2022).

CSR & Quality Manager: *"We don't have a separate R&D department. When it comes to R&D there are rather the product managers, designers, me and other functions working on the new collection where we have to kind of think in our own way."*

The R&D activities closely link with the innovation process applied by C2, which is focused primarily on sustainability challenges. The starting point of this is a central meeting of C2's leadership group that decides on the strategic direction of the company for the next three years. This is reviewed every six months. Accordingly, there is the "insight day" in which every department presents their learnings and insights following this strategic direction. The information collected during the insight day is then taken to a workshop with the product departments and combined with their three Cs thinking. It consists out of the three lenses customer, consumer, and company. Taken all of this into consideration they generate innovations, which are in turn driven forward in project based and cross discipline teams that run it through a stage gate process that checks sustainability metrics at every stage gate. (CEO C2, personal communication, March 18, 2022; Head of Product Portfolio & Innovation C2, personal communication, March 28, 2022)

CEO: *"The innovation or development is an integrated part of our business process, which is carried out in cross functional teams with designers, consumer marketing and the product team."*

These cross functional innovation teams are non-permanent, neither dedicated to creating innovations solely. But a key responsibility of them is to drive the innovation projects and they usually consist of various individuals being textile designers, consumer marketing and product marketing specialists. They are identifying market potentials, designs, and product opportunities as the CEO states (personal communication, March 18, 2022).

Marketing & Digital Sales Director (on internal process adjustments): *"Yes, we have continuously changed since 2006. It is a learning journey that never ends, and touches on everything from identifying the right materials and suppliers to working with certification labels. At times this can be both difficult and costly, especially since consumers are not always as driven by sustainability as we would like to believe, and not always willing to pay more for something that is better produced."*

These innovation projects lead to multiple changes in C2's value chain. Ranging from choosing different factories to produce their products based on sustainability related aspects, over changes in logistics to allow a more sustainable transportation, to adjustments of the production process to reduce the amount of wastewater. All these changes were either driven by the willingness to achieve multiple ESG related certifications or lead to C2 obtaining them. Currently they see increasing prices, e.g., in the transportation sector, as challenge as it can be difficult to prioritize sustainability over economic aspects, when customers and consumers are clearly prioritizing the latter. (Marketing & Digital Sales Director C2, personal communication, March 23, 2022)

	Sub-Elements	Implication	Insights
Operational Element	Resource Availability (e.g. Time, Capital, Training)	Create explicit budget for SOI	• Both do not have explicit budgets for SOI, but mention that sustainability is (at C1) often part of their innovations / changes OR (at C2) the starting point for their innovations
		Create "room" for SOI	• C1 follows a more "supervised" or framed approach with predefined employee level goal plans in which sustainability plays a role • At C2 there is no employee level goalsetting including sustainability related goals, it appears to be more natural to engage in SOI related activities to the employees, making such goals obsolete (linkage to cultural element)
	Operational Systemization of SOI	Engage in R&D	• Both engage in project based R&D efforts involving multiple individuals with various backgrounds (at C1 only internals), at both these R&D efforts are never purely with a sustainability focus, C2 has a different definition of R&D as such
		Educate management	• See education & hiring practices in cultural element
		Create innovation processes including tools	• At both a stage gate process is applied; this ensures reasonable investing and risk reduction due to an improved selection, experimentation and adoption of changes / innovations • As to C2 there is a product based standard cycle for innovations, including a strategic goal setting of the upper management, the creation of innovations appears more structured and guided
		Establish permanent innovation teams	• Both do not have permanent innovation teams, but rather project based teams, coming together, and collaborating on specific innovation projects
	Further Operational Adjustments	Realign other sections of the operation	• C2 has performed more adjustments to their value chain (also see BM Innovation in the strategic element)

Table 4: Findings Comparison – Operational Element

4.3 Cultural Element

The cultural element contains two sub elements, being the cultural characteristics and the practices to build an SOI culture. The first focuses on the creation of an experimentation culture with flexibility, risk taking and the connection of the individual's and the company's purpose as well as the linkage to society. The latter emphasizes the adjustments of hiring processes and education for SOI, alongside positive reinforcements for employees towards SOI.

4.3.1 C1

Sustainability Manager: *"I feel like it's more my initiatives that I do, sort of like my separate little island working with sustainability. I actually think that there hasn't been done much to foster that environment."*

The organizational structure of C1 is a matrix structure, with local organizations in their operating countries and the overarching administration (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Still managers also pointed out that there has not been done much to foster an innovative culture (Sustainability Manager C1, personal communication, March 8, 2022). On the other hand, it was stated that the company internal culture always had an innovative drive (Head of Marketing & Innovation C1, personal communication, March 16, 2022).

Group Manager, Insight & Product Marketing (on flexibility of C1): *"I think it's still rigid, with a long-term focus to becoming more flexible, but we are not there."*

In terms of flexibility the interviewees identified their organization's culture as rigid with a long-term goal of becoming more flexible (Group Manager, Insight & Product Marketing, personal communication, March 10, 2022; Head of Marketing & Innovation C1, personal communication, March 16, 2022). The reasoning behind is the organization's complexity in their processes and not managerial decision making or willingness of the workforce. Additionally, the interviewees pointed to the current ERP project, consuming a lot of resources. They expect that this centralization in their system landscape will promote flexibility and leanness (Quality Director C1, personal communication, March 9, 2022). Another perspective raised the cultural differences between the administration with key decision makers and the factories and the belonging staff. Whereas the administration often appears to be more flexible and agile, the factory workers are

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more rigid (Director of Business Development C1, personal communication, March 7, 2022).

Sustainability Manager (on risk taking): *"I wouldn't describe it as high, actually I would say its pretty low. But I do think the management team has really good intentions as they are pretty open. Still it is quite a risk averse culture."*

Also, in terms of risk taking, C1 is more traditional as observed in their main type of innovation applied (Director of Business Development C1, personal communication, March 7, 2022). Still risk taking is accepted, as long as it sees "business sense" (Head of Marketing & Innovation C1, personal communication, March 16, 2022). The managers interviewed welcome ideas but also point towards the importance of their innovation processes cutting risks, of which the more complex one is applied when larger investment volumes (>1m NOK) are required (Director of Business Development C1, personal communication, March 7, 2022).

Quality Director: *"I feel like there is a fairly high level of motivation and desire in the workforce to work for improvements on sustainability. And people are proud of that."*

The novel initiatives, rising through the strategic reorientation, see wide acceptance within the company (Group Manager, Insight & Product Marketing, personal communication, March 10, 2022; Quality Director C1, personal communication, March 9, 2022; Sustainability Manager C1, personal communication, March 8, 2022). Getting an investment while following both types of innovation processes is stated to require a lot of convincing (Director of Business Development C1, personal communication, March 7, 2022). When interviewed on connecting individual purpose and company purpose, interviewees in C1 pointed towards the employee level goal plans that are aligning the individual goals with the overall company goals. It is expected that the individual purpose therefore aligns as well. Also, it was stated that most staff recognize the need for innovation in sustainable terms and follows it with interest and passion. (Sustainability Manager C1, personal communication, March 8, 2022)

Director of Business Development: *"There's no overall policy on that , so I think it's very individual from who's hiring and what department and for what positions . So I would say no."*

Director of Business Development (on education of workforce on sustainability): *"It's part of the onboarding package , but it's nothing more than that , so it's kind of it's in there , but it's not kind of a big deal."*

Another important factor when driving SOI is the skillset of new hires and current employees. C1 does not consider sustainable profile traits as relevant when hiring new employees. The skillset needed to perform good in a role are what is looked at, while sustainability related skills play a minor role, that is categorized as a "nice to have" (Director of Business Development C1, personal communication, March 7, 2022; Head of Marketing & Innovation C1, personal communication, March 16, 2022; Sustainability Manager C1, personal communication, March 8, 2022). Only one of the managers, who interacts with the product development teams on a regular basis pointed out that there are roles to these product development teams, that require sustainability related knowledge (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Again, in those roles such skills are needed to perform well in the respective role. Therefore, C1 has not made adjustments to their hiring process to support their sustainability focus. Similar was observed when it comes to trainings for the current employee base. During onboarding there is minor emphasis on sustainability, mainly due to the purpose alongside the four pillars introduced earlier (Director of Business Development C1, personal communication, March 7, 2022). Besides that, there are no specific trainings at C1. The mother company does offer multiple trainings, that C1's employees can join. This is not incentivized by management as one of the interviewees stated and needs to be brought up based on employees' intrinsic interests (Head of Marketing & Innovation C1, personal communication, March 16, 2022).

Quality Director: *"We have the personal development plans, but not all functions have a bonus incentive program. That is only on management level, there are bonus incentives related to some of the KPIs in the personal development plans."*

SOI initiatives are also driven by positive reinforcement for employees supporting and engaging in SOI projects. Again, the employee level goal plans are pointed to. In those, as described, at least one goal is ESG related (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Moreover, the closer roles are to ESG heavy projects, the higher the emphasis on ESG is (Sustainability Manager C1, personal communication, March 8, 2022). As of manager level there

are monetary incentives linked to the individual goal plans (Head of Marketing & Innovation C1, personal communication, March 16, 2022).

SOI prospers in a culture of collaboration; this is in line with the fifth element of the SOI framework and discussed below.

4.3.2 C2

CEO: *"The innovation is sort of inherent in the fact that textile designs change every season. So, innovation is bult into our business. Therefore, also an innovation culture is deeply integrated into the organization."*

To create a prospering and SOI centered culture in at C2 various methods are used. A central event in this is the previously described "insight day", alongside other events that encourage employees to think outside the box (Head of Product Portfolio & Innovation C2, personal communication, March 28, 2022). This, combined with the efforts of "building up knowledge and awareness on sustainability internally" (CSR & Quality Manager C2, personal communication, March 9, 2022) has helped fostering this culture. Additionally, there are frequent meetings relating to sustainability. Examples are monthly meetings of the marketing department with a specific topic that is predefined (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). Depending on the topic other functions are invited too. Another is the bi-weekly update meeting of central sustainability roles focusing only on sustainability at C2 (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). Ultimately C2 uses the mother companies marketing and innovation consultants that are providing helpful tools and innovation frameworks to help them prosper internally (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). Lastly the inherent innovation culture in the industry of C2 also has effects on the culture towards SOI within the company (CEO C2, personal communication, March 18, 2022).

CSR & Quality Manager: *"We are not a very big organization, so I would say we are quite flexible. We are transparent and open and have a flat hierarchy internally with a lot of empowerments."*

In terms of C2's flexibility the interviewees state that they are working in a flexible environment. Therefore, they point to the relatively small size of the venture that

has a very flat hierarchy and high degree of transparency (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). This makes it easy to share information and leads to empowerment of individual employees as both the CSR & Quality Manager and the Marketing & Digital Sales Director state (personal communication, March 9, 2022; personal communication, March 23, 2022).

Marketing & Digital Sales Director (on risk taking): *"I think we could be better at that. I think there could be more room to experiment before having to prove the results as projects are often stopped when calculations are having to be done."*

As described earlier there are many efforts towards creating innovations and drive the company's ESG objectives. Often the resulting pilot projects are stopped shortly after. Interviewees point towards the expatiations for returns in rather early stages as a reason and state that sometimes it would be helpful to have more room for experimentation before the economic element get evaluated (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). The interviewees state that they would like to be taking slightly more risks than currently done in their rather risk averse state. (CSR & Quality Manager C2, personal communication, March 9, 2022)

Head of Product Portfolio & Innovation: *"We look for people who have sustainability in their mindset. When there is a candidate who doesn't mention anything regarding sustainability that person hasn't been interesting to us."*

CSR & Quality Manager (on education of workforce regarding sustainability): *"Yeah we have it, adapted to the respective positions. I do like an introduction about an hour and then there are additional more specific trainings depending on the roles towards sustainability."*

When hiring C2 requires candidates to have a sustainability-based mindset, making candidates without any sustainability skill in their profile not being considered (Head of Product Portfolio & Innovation C2, personal communication, March 28, 2022). Nowadays, C2's focus and standing towards sustainability lead to an upward trend in the number of applications of sustainability centered individuals further boosting the SOI centered culture (CSR & Quality Manager C2, personal communication, March 9, 2022). Also, at the beginning of every career at C2 there is a training for all new hires together with the CSR manager. Additionally, roles

more closely relating to sustainability aspects, e.g. in the product development, receive extra trainings tailored to their roles and responsibilities (CSR & Quality Manager C2, personal communication, March 9, 2022).

	Sub-Elements	Implication	Insights
Cultural Element	Cultural Characteristics	Create experimentation culture	
		Degree of flexibility	• C2 is perceived as more flexible than C1, here markets served, and company size may have implications
		Enable risk taking	• C1 appears bolder in terms of their willingness to take risks, still combined with the actual activities performed both a very similar
		Link company & society	• C2 focusses more on ESG in their external communications than on the company itself, close linkage of how they are perceived and their company goal
		Link individual and corporate purpose	• At C1 this is more instrumentalized due to the individual goals set on employee level including sustainability related goals, whereas at C2 it is a natural trait
	Practices to build an SOI Culture	Readjust hiring criteria towards sustainability	• At C2 a sustainability based profile is mandatory, whereas to C1's hiring it is not of relevance (this does not hold for special hires sustainability related roles such as in research, as this is not the general case, it is not perceived as highly relevant)
		Educate on ESG	• At C2 there are mandatory sustainability trainings for all employees in the onboarding process, those in specific sustainability related roles there are extra trainings • At C1 there is no required sustainability related training that employees are encouraged to enroll in • Both companies can use their mother companies training infrastructure to educate employees
		Create positive reinforcements for SOI activity engagement	• At C1 the individual goal plan is related to monetary bonuses in some cases
		Create a Collaboration Culture	• Both subjects have a culture facilitating collaboration, C2 profits from its smaller size, still C1 has a matrix structure further promoting collaboration across internal barriers, supported by a currently rolled out project integrating various systems into one central one, C1 has been through many M&A activities which is why the central system integration is expected to make a difference to their internal collaboration, still C2 has a flatter hierarchy being an advantage

Table 5: Findings Comparison – Cultural Element

4.4 Stakeholder Element

The stakeholder element has three sub elements. Stakeholder involvement and management is about involving stakeholders, their expectations and the introduction of SOI via e.g., strategic niche management. The internal stakeholders sub element focusses on the internal pressure that drives SOI withing an organization, whereas the last sub element, external stakeholders focus on utilizing external stakeholder pressure to drive SOI.

4.4.1 C1

Director of Business Development: *"The sustainability manager does quite a bit of kind of managing them (the stakeholders) and they have a lot of demands and then forward the different types of reporting and other documents."*

Involving and handling stakeholders is crucial according to theory as well. C1 utilizes an internal network of various entities to do so, based on the kind of stakeholder that is to be managed (Director of Business Development C1, personal communication, March 7, 2022; Head of Marketing & Innovation C1, personal communication, March 16, 2022; Quality Director C1, personal communication, March 9, 2022). Focusing on sustainability it is mentioned that again the role of the sustainability manager is central (Director of Business Development C1, personal communication, March 7, 2022). Also, the complexity of the company itself, as well as their construct of markets served is brought up again, leading to inefficiencies in handling stakeholders and their requests (Group Manager, Insight & Product Marketing, personal communication, March 10, 2022; Quality Director C1, personal communication, March 9, 2022).

Quality Director: *"The consumers and customers are having more and more requirements and expectations to us delivering on sustainability improvements and also society as whole. Income requests are internally redirected to the right person."*

To integrate stakeholder expectations usually account managers are the connecting points to the stakeholders themselves cascading requests down internally (Director of Business Development C1, personal communication, March 7, 2022). Also employing professionals from the painting tools industry in product development is said to support the integration of external expectations (Sustainability Manager C1,

personal communication, March 8, 2022). These expectations are primarily brought up by C1's customers and not the consumers (end-users) (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Moreover, the Sustainability Manager discussed that missing standards of the industry are leading to conflicting interests between stakeholders, further increasing the complexity for them as part of the industry (personal communication, March 8, 2022).

Sustainability Manager: *"The main pressure is coming from our business area's CEO which our CEO reports to. They have a lot of power as they represent the owners to C1. So, I think those are the most important stakeholders to us."*

Internal stakeholder pressure is identified as being the main driver to SOI at C1 during the interviews. The CEO of the business area at the mother company that C1's CEO is reporting to, has the ESG transition on top of the agenda, giving most pressure on C1. This is further supported by KPIs that are set up by the mother company and combined with internal ones. C1 looks positively at this and states that they experience a high motivation and interest in the topic of sustainability and are keen to fulfill the set targets. (Sustainability Manager C1, personal communication, March 8, 2022)

Sustainability Manager: *"I think our customers are very high on the agenda. They are pushing on the sustainability agenda, which is great. It is more than from consumers."*

Director of Business Development: *"We expect that more and more pressure will be coming from governments and regulators, which we could just now observe in the UK."*

External stakeholder pressure is also identified as driving force to SOI for C1. They identify their SOI related activities as reactive and raise examples of novel regulations that are brought up by different markets (Director of Business Development C1, personal communication, March 7, 2022; Group Manager, Insight & Product Marketing, personal communication, March 10, 2022; Quality Director C1, personal communication, March 9, 2022). Besides changing regulations also customer demands are mentioned, sometimes in combination with a statement on conflicting interests of sustainable and economic nature (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Furthermore, consumers play a minor role, which is still valued, especially pointing

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towards professional painters due to their expertise (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Opposite to the pressure perceived from external stakeholders, C1 pressures both customers and suppliers to improve on sustainability while also educating them (Sustainability Manager C1, personal communication, March 8, 2022).

Director of Business Development (on competition on sustainability): *"We haven't seen much yet, but we are expecting that we will see more from competitors. But I also think that SOI will become too much of a competitive factor in terms of sustainability. It will be more like a ticket to play. So, if you don't have it, you are out of the game."*

Lastly when interviewed on the competitive edge and the pressure reasoning from that angle the Director of Business Development states that they are not experiencing too much pressure from the competition yet (Director of Business Development C1, personal communication, March 7, 2022). As reason it is stated that sustainability is not a competitive advantage yet, as only a small minor group requires sustainability from companies. Still competitors are said to create a lot of noise for what they are doing. Here the Head of Marketing & Innovation refers to smaller incumbents that are much more flexible. They are introducing innovations to the market that are not realizable to C1 due to the masses of resources they would be needing compared to the small incumbents and the limited availability of such. (Head of Marketing & Innovation C1, personal communication, March 16, 2022)

4.4.2 C2

CSR & Quality Manager: *"Well, I would say it's a mix of our suppliers, which we depend on being a good partner to, also taking this responsibility into their operations. And I would also say that our customers, the grocery stores, are also an important stakeholder to us because if we align and contribute to their sustainable targets, for instance, that will give us a strengthened position."*

There are multiple stakeholders that play crucial roles in C2's efforts of becoming more and more sustainable, e.g., the customers that C2 tries to align its efforts with towards reaching their sustainability related goals together (CSR & Quality Manager C2, personal communication, March 9, 2022). Doing so strengthens C2's competitive position with these customers over their competitors, as they are directly contributing to the goals of them (CSR & Quality Manager C2, personal

communication, March 9, 2022). Also managing the expectations from their mother company with detailed reporting and application of given guidelines is pointed to (CEO C2, personal communication, March 18, 2022). For the involvement of consumers C2 started to communicate much more on their sustainability related efforts in 2016/17. This helped to strengthen their position at the consumers, but also to educate those (Marketing & Digital Sales Director C2, personal communication, March 23, 2022).

In terms of stakeholder expectations to manage C2 does not report much, it is rather like they are raising expectations to their stakeholders. An example is that they are continuously challenging their suppliers to adopt to new technologies and utilize different materials for more sustainability (CEO C2, personal communication, March 18, 2022). They are trying to take direct influence on governmental institutions with signature campaigns (CSR & Quality Manager C2, personal communication, March 9, 2022). Due to their focus on sustainability sometimes they face conflicting interests. Consumers are identified as price sensitive and C2 also experiences margin pressure from the mother company, leading to conflicts between pricing and sustainability efforts. Finding the right balance in this sense is a crucial task to them (Marketing & Digital Sales Director C2, personal communication, March 23, 2022).

Marketing & Digital Sales Director: *"Internally sustainability is a top priority. Especially some leading roles like the CEO, the CSR manager and the marketing team have a lot of influence and willingness to drive sustainability. Also, our owners and the board are really invested."*

The internal stakeholder pressure is identified as driving force for SOI at C2 throughout the interviews. Especially the hierarchically more powerful roles are taking major influence. Still this also has potential for conflicts. An example raised is the sales director, who's main concern is to sell items. Therefore, they challenge SOI efforts on the pricing issue. Opposite to that the CEO, C2's owners and the general board have sustainability at C2 as key priority, pressuring the general company towards SOIs. (Marketing & Digital Sales Director C2, personal communication, March 23, 2022)

CEO (on external pressure and competition for sustainability): *"It's quite difficult for customers and consumers to navigate because there are few set standards, few sets of measuring criteria that they can actually determine if a company is really*

sustainable or not. And it's an industry where it's quite easy to greenwash to have a good story, but to not really be sustainable. Still the expectations from them (consumers and customers) are somewhat contradictory as they want us to be sustainable, but they don't want to pay for it."

Nonetheless C2 has external stakeholders to handle as well. Their suppliers are not pressuring C2 on sustainability. Rather C2 has to pressure them and convince them to become more sustainable, so that specific certification related requirements hold, which is not always to the advantage of the supplier (CSR & Quality Manager C2, personal communication, March 9, 2022). The customers of C2 expect them to be sustainable. Still in contracting C2 is always pressured from the same players to deliver on pricing, which is conflicting as SOIs usually come at higher costs. The CEO states that "the market wants [C2] to be more sustainable, but they do not want to pay for it" (personal communication, March 18, 2022). This can lead to tempting situations for companies to engage in greenwashing, which C2 stated not to. Competitors also do not pose pressure on C2 in terms of sustainability. They rather compete on pricing creating further challenges in economic terms to C2 (CEO C2, personal communication, March 18, 2022). Sustainability as such is not described as competitive factors but in some areas is characterized as hygiene factor (Marketing & Digital Sales Director C2, personal communication, March 23, 2022). Lastly the Marketing & Digital Sales Director points to NGOs and the government. These pressure C2 to be more sustainable as C2 directly works with some e.g., Etisk Handel or Tekstil Aksjon (personal communication, March 23, 2022).

	Sub-Elements	Implication	Insights
Stakeholder Element	Stakeholder Involvement & Management	Involve stakeholders	• Both are aware of the importance of stakeholder involvement, looking at ESG especially the sustainability managing role has the greatest responsibilities
		Involve stakeholder expectations	• Both include stakeholder expectations, even though both point to the fact that more sustainability is expected by customers and consumers, while neither appears be willing to pay extra for it
		Engage in strategic niche management (launch SOIs in niches, then move up the ladder)	• Strategic niche management is applied by C2, focusing on a very specific customer group with a focus on a specific sales channel in a limited number of markets, compared to C1 serving various customer groups from mass market to professionals in multiple countries
	Internal Stakeholders	Internal Pressure drives the company as an entirety towards SOI	• Provides most pressure for both subjects, coming from own management and the owner
	External Stakeholders	Utilize external pressure to drive SOI	• No or only little pressure is perceived from these entities, they are rather pressured and educated by both subjects instead of pushing them in SOI realms, C1 expects steadily increasing pressure from governments and regulators
		Utilize competition pressure towards ESG to drive SOI	• C1 is expecting increasing pressure from competitors, for now it is not a relevant competitive factor in their market • C2 is rather posing pressure on their competitors, proving the fact of them being a leading figure in terms of SOI

Table 6: Findings Comparison – Stakeholder Element

4.5 Collaboration Element

The fifth element of the normative framework is about collaboration. It has an external collaboration sub-element looking into open innovation and collaborations within and outside the own value chain, with research centers and with governments. Besides there is an internal collaboration element that looks at collaborations between internal bodies and the avoidance of a feeling for internal competitive thinking.

4.5.1 C1

Head of Marketing & Innovation (on open innovation): *"Yes kind of, we've partnered with other subsidiaries of our owner corporation as well as external research agencies to better understand our footprints and where we could make the most difference."*

In terms of collaborative efforts of C1 it is found that there are collaborations they engage in, still at a low number. If it comes to open innovation efforts that usually links closely to shared learnings and research on common projects C1 collaborates only with other subsidiaries of CX (Head of Marketing & Innovation C1, personal communication, March 16, 2022). There are no collaborations with other players from their own industry or similar ones existing (Director of Business Development C1, personal communication, March 7, 2022).

Sustainability Manager: *"We collaborate in a sense with the FSC organization, because we have some products that are FSC certified."*

Business Development Manager: *"We do manufacture in our own facilities for the most part, but obviously we buy raw materials and some finished goods as well. So here we collaborate with whoever we are buying from."*

On vertical axis company partners with some of their suppliers as well as producers, as not all goods are produced in their own factories around the globe (Director of Business Development C1, personal communication, March 7, 2022). These collaborations are said to be important as they help C1 when convincing suppliers to get certified, e.g. with the FSC certification. The Sustainability Manager also states that C1 is willing to partner with entities further down the value chain, more precisely referring to customers, when they would manage to come up with simpler

systems in the future. (Sustainability Manager C1, personal communication, March 8, 2022)

Sustainability Manager: *"We have had a collaboration with a research institute from Sweden which has been pretty big."*

As generating ideas and testing new concepts is essential to SOI, C1 partnered with a Swedish research institute researching on product disposal (Sustainability Manager C1, personal communication, March 8, 2022). In terms of collaborations with governmental institutions C1 rather follows their regulations as having active collaborations with governments from markets they are active in (Director of Business Development C1, personal communication, March 7, 2022; Quality Director C1, personal communication, March 9, 2022).

Head of Marketing & Innovation: *"We're a matrix organization. This means that we have local commercial organizations in the countries that we operate in, as well as centralized functions, requiring a lot of internal collaboration between these different areas of our company. As an example, innovation at our organization is actually cross-functional due to the nature of it being primarily project based."*

Ultimately looking at the degree of internal collaboration C1 is understood to support this kind of collaboration. Their matrix structure is said to push employees to work together between their markets, the headquarter and the markets as well as between functions (Head of Marketing & Innovation C1, personal communication, March 16, 2022). Additionally, the non-permanent innovation teams are of cross functional nature, further promoting collaboration (Director of Business Development C1, personal communication, March 7, 2022). Only if it comes to market specific decisions thinking and acting becomes more siloed due to the decentralized decision making (Director of Business Development C1, personal communication, March 7, 2022). Linked to this element of the framework managers of C1 point to the growth history of the company and the high complexity of the IT landscape reasoning from the multiple M&A activities. To counter that they are again mentioning the ongoing ERP project, which they expect to further drive internal collaborations (Group Manager, Insight & Product Marketing, personal communication, March 10, 2022; Sustainability Manager C1, personal communication, March 8, 2022).

4.5.2 C2

CSR & Quality Manager: *"We are trying to involve our company and use our voice as an industry player because sometimes you come much further when you collaborate with other stakeholders. And collaborating gives us more strength in many ways."*

Therefore, C2 is engaging in a wide variety of collaborations to drive their SOIs. They are part of multiple industry specific and cross industry initiatives, that all work towards a more sustainable future of their markets. This open innovation channel is also one of the sources for the SOI projects C2 is creating and gives an impression of their horizontal collaborations (CSR & Quality Manager C2, personal communication, March 9, 2022).

CEO: *"As we don't have our own production, we have to challenge our suppliers, to use new technology, for instance, to deliver the same type of product as we do have maybe with different type of production methods and with the use of different types of systems."*

In terms of vertical collaborations, they have activities in both directions of the value chain. On the hand they have close partnerships with suppliers as described earlier, which help them with certifications and testing and adopting to new technology and material (CEO C2, personal communication, March 18, 2022). On the other hand, they have collaborations with their customers on testing new concepts and business models (Marketing & Digital Sales Director C2, personal communication, March 23, 2022).

To support their research, they have partnerships with various research institutions such as universities. These help identifying solutions for recycling or reusing activities as well the lifespan of their products (CSR & Quality Manager C2, personal communication, March 9, 2022). Another example mentioned was the effort on weaving techniques towards making their fibers more resilient towards releasing micro plastics (CEO C2, personal communication, March 18, 2022). As described earlier there are multiple collaborations ongoing with NGOs, but besides that C2 also tries to take influence on governmental institutions, like in the current case in which they have an active signature campaign (CSR & Quality Manager C2, personal communication, March 9, 2022).

CSR & Quality Manager: *"Our innovations are purely collaboration based. As explained, we are working cross functional and depending on the needed skillsets project teams are set up. Additionally, we try to encourage internal collaboration through events such as the insight day."*

They also depict a high degree of internal collaboration across functions. With the earlier described "insight day" they create a platform for open discussions and the opportunity to raise ideas from every employed individual. Project teams are cross-functional and C2 drives the empowerment of the individual. All of this combined is creating a save environment for open and innovative concepts to be brought up and grow (Marketing & Digital Sales Director C2, personal communication, March 23, 2022).

	Sub-Elements	Implication	• Insights
Collaboration Element	External collaboration	Engage in open innovation	• C1 collaborates with other subsidiaries of its mother company, while C2 utilizes a wide innovation network and collaborates with multiple institutions of various natures, these collaborations were described as highly valuable by C2 even though they sometimes are resource intensive (time, capacity, monetarily)
		Create collaborations with other players in- / outside the value chain	• Both work closely with their suppliers to ensure specific certification's requirements are met, this also includes educating them, as well as customers (unequal to consumers!)
		Create collaborations with relevant research centers	• Both engages in collaborations with research centers, even though C2 to a greater extend
		Create collaborations with governments	• There is no collaboration with governments, both rather ensure to fulfill governmental regulations • C2 tries to influence the government with activities such as signature campaigns
	Internal collaboration	Create collaborations between various internal disciplines	• See comments on innovation process
		Avoid creating a feeling for competitive thinking	• As for C1 the employee individual goal plans are based on the overall strategy they should generally be in line with each other

Table 7: Findings Comparison – Collaboration Element

4.6 Findings Comparison

Based on the research question of this study the following section will focus exclusively on identified differences between both researched subjects C1 and C2. This is reasonable as it will support the process of identifying why there are companies leading and lagging in terms of how SOI is framed by the introduce framework. It might reveal further perspectives which are not covered by the framework and the theory it is grounded on. Additionally, this way of proceeding cuts complexity for the reader as the focus will be on the relevant aspects of the results, as well as building a bridge between the findings and the following discussion.

Based on the first interview round, three fundamental spaces in which C1 and C2 clearly differ, could be identified. A presentation of these spaces to key informants in a second round of interviews with both companies, revealed further details which are woven into the elaborations following. The three key areas are collaboratively exhaustive but not mutually exclusive in the sense that they do interact with each other in some regards.

4.6.1 Sustainability Integration

The first major difference was observed in the degree of how the strive for change towards sustainability is integrated into the overall company.

4.6.1.1 Strategic Focus and Management

C2 has had a head start in terms of time spend on structured SOI efforts as they started in 2006/2007 (CSR & Quality Manager C2, personal communication, March 9, 2022), whereas C1 started two years ago in 2020, with the intense work launching beginning of 2021 (Director of Business Development C1, personal communication, March 7, 2022). The CSR & Quality Manager of C2 clearly pointed to the fact that time played a major role in terms of the integration of such topics at C2 by stating that it "was not normal for employees and departments to have such a focus on sustainability earlier in C2. It took multiple steps to make people" (personal communication, May 25, 2022) get to where they are today. By describing this they are pointing towards the positioning of C2 as sustainability leader in their industry.

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Compared to C2 at which sustainability could be described as the strategy itself, which is in everything that is done, at C1 the change for sustainability is part of the strategy, alongside other elements on the agenda of management, which are having a high strategic focus as well. The CSR & Quality Manager of C2 stated that "management is the anchor together with the board to make it [SOI] happen" (personal communication, May 25, 2022). So at C2 SOI is majorly driven through a top down approach. At C1 SOI also sees the support of management, but to another degree than at C2. This is observed in the primarily described strategic integration of sustainability, but even more in statements from C1's sustainability manager in the final interview round in which they state that oftentimes there are other activities that are prioritized over sustainability related activities (Sustainability Manager C1, personal communication, May 25, 2022). One example described is, again, the realization of the large-scale ERP project that is currently running. So, one could argue that the state in which organization C1 currently is, is not the one mandatory in order to follow the leading example of C2 which is more mature in terms of SOI.

Summarizing a major difference in the degree of integration can be found in the time spend as well as the management support or rather prioritization of activities towards the realization of SOI, done by management. Especially the latter might be one of the most fundamental differences, which also has multiple implications for the following identified differences between both ventures.

4.6.1.2 Adjustments to Company Positioning and Processes

The described strategic focus and management backing also had implications on the internal processes and image around both companies. C1 described their SOI process by stating that innovation has always been a central element to the company. Now only the focus of innovations has slightly shifted towards sustainability. C2 on the other hand classifies sustainability as starting point for their innovation process. Finding new or better materials, increasing the lifespan or utilization of their products and other SOI activities are the foundation for what they do. Multiple processes have been changed based on SOI based projects at C2 and new business models have been tested. Here C1 only points to adjustments in their sourcing to get certain certifications. Still also C1 shows the efforts of identifying new business models.

The company positioning also changed alongside the internal adjustments that have been made. C2's public image is completely built around sustainability. This perspective that customers and consumers have on them have multiple positive implications when striving for SOI, which are for example observable in the talent they attract. They have created a "strong identity and communication towards sustainability" (CSR & Quality Manager C2, personal communication, May 25, 2022), whereas C1 is rather known for high quality painting tools, but not as much for sustainability and their novel SOIs (Sustainability Manager C1, personal communication, May 25, 2022).

Differences are therefore also observed in the innovation process applied by both. The process applied is similar in its structure, but the role of SOI in both is different. At C2 the element of sustainability is rooted much deeper in the process itself. Also, the external image both companies have, varies drastically further revealing the difference in the integration of the sustainable element.

4.6.1.3 Hiring and Training of Employees

Another key difference towards the integration of SOI into both companies was found in the hiring and training efforts of both companies. As described under the cultural element, C1 has not done much to foster an SOI emphasizing culture. This does not hold for C2 at which there were multiple efforts to impact culture such as launching the "Insight Day", engaging in innovation networks, scheduling open innovation days to drive out-of-the-box thinking, collaborating with CX's marketing and innovation consultants supplying new tools and ideas and more.

When hiring, sustainability in applicants' profiles does not play a major role for the wide range of applications at C1. At C2 this is the complete opposite as they only hire applicants with a sustainability related profile. The individuals they look for have sustainability as personal driver, which have sustainability as part of their identity. The CSR & Quality Manager of C2 additionally states that this also "makes it much easier to identify with the company and the things we [C2] do" (personal communication, May 25, 2022). The above-described positioning of C2 in general, focusing on the public image they build around their company, supports attracting such talents to the company and employing them as internal drivers for their efforts. Also C1 has recently started talking about sustainability and the importance of

innovations towards more sustainability in their industry, still the overall public image has to develop yet.

In terms of training at C2 every new employee gets a training with the CSR & Quality Manager before starting, alongside specific trainings if having a role that is closely relating with SOIs. At C1 there is no specific training that relates to sustainability. Due to the strategic focus, it became part of the onboarding package though. During interviews it was additionally argued that there is no direct management backing to train employees on sustainability. Employees would need to show intrinsic interest and willingness for such trainings as stated by the Head of Marketing & Innovation (personal communication, March 16, 2022).

Concluding the focus on changing and developing an internal culture for SOI is something that C2 tries via various channels and events, which remain unused by C1. Therefore, C2 can ensure having a deeper integration of SOI in the minds of their employees and by that also in everyday activities as well as the long-term development of the company.

The clear difference depicted in the strategic focus set, the management support or prioritization, paired with adjustments made to processes and image of the company are reasons for the different level of integration. Moreover, the cultural aspects, with the differences in hiring and training of employees in which C2 is clearly more active are distinguishing the leading player from the lagging.

4.6.2 Collaborations

4.6.2.1 Openness to Open Innovation and Collaborations

In their ambidextrous efforts C2 makes use of external knowledge to a great extent. To drive exploratory actions, they partner with various entities such as research institutions or universities. External players do not play a role in the innovation process of C1. The CSR & Quality Manager of C2 stated that "collaborations open chances for more success and for having a greater impact and improve" (personal communication, May 25, 2022) on sustainability. They believe that collaboration is a central element to SOI as also stated by theory, as well as a large benefit, even though it consumes resources. Still the benefits outweigh the downsides to a great extend as stated by them (CSR & Quality Manager C2, personal communication, May 25, 2022).

These statements from the final round of interviews also align with the results from the previous round in which it was found that C2 engages in multiple collaborations of vertical and horizontal nature, in industry specific and cross industry collaborations with various partners. Those range from suppliers to customers and consumers, from research institutions to governments. Novel concepts and research are openly discussed, striving for more SOI. This is much more limited with C1, which partner primarily with entities from their product's sourcing and some research institutions. In the final round of interviews C1's Sustainability Manager pointed to the fact that oftentimes the willingness to collaborate is not there (personal communication, May 25, 2022). It is not prioritized by management. There were two specific examples that were brought up in the discussion. In the first there was a conflict of interest with another department in the organization, which was prioritized over a scheduled collaboration. In the second upper management argued that the company is not mature enough for the kind of collaboration that got suggested by key employees with the goal of competing for sustainability.

This confirms the previous arguments for the degree of prioritizations on SOI efforts, here specifically looking at collaboration which is supported by theory as well as the experience C2 made to drive SOI.

4.6.2.2   Owning vs Buying

Analyzing both companies structures it can be observed that C2 is a much larger and more widespread venture than C1 is. C2 has its own production facilities around the globe, which C1 does not (Sustainability Manager C1, personal communication, May 25, 2022). This has some implications on the collaborations that C2 must engage in, which C1 does not, looking at the ones at pre- and at production stage. Therefore, this only explains a portion of the gap between both in terms of collaborations.

4.6.2.3   Opportunities for Collaboration

The industry C2 belongs to is inherent to changes for sustainability as the industry itself is criticized for their negative footprint and large players create regular bad press with ESG based headlines (CEO C2, personal communication, March 18, 2022). This could also explain why C2's industry is more mature in terms of collaboration compared to C1's (CSR & Quality Manager C2, personal
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communication, May 25, 2022). C1's Sustainability Manager confirms that by stating that there are simply less initiatives in their own industry to partner with and there are "no cross company open innovation networks existing" (Sustainability Manager C1, personal communication, May 25, 2022). On this C1's CSR & Quality Manager stated that also to them, the options for collaborating on SOI were not there from day one, but they invested a lot of resources in establishing many of them, which again reflects into their public image as SOI driver (personal communication, May 25, 2022). Just now there is a new initiative that C2 has brought to life together with other players of the industry, which was linked to major expenses. It was stated that to successfully do so one needs both "the industry [players of the industry] as well as curious people [employees] to engage" (CSR & Quality Manager C2, personal communication, May 25, 2022). The CSR & Quality Manager of C2 additionally said that "if C1 can take the leading role and be a pioneer [for SOI and related initiatives in their industry] it would give them a lot of credit and support their standing in the industry. Especially when openly talking about their industries challenges and efforts (personal communication, May 25, 2022), which aligns with what C2 did over the last decades.

Concluding, C2's industry is in a state in which the discussions on SOI are held more openly and challenges are tackled more collaboratively compared to C1 and the industry they are part of. Still, it also took time for C2 and their industry to get to that state. Due to the great value of collaborations and open innovation efforts C1 might rather see their industry's state as chance to not only drive the industry forward in terms of SOI, but also to reposition their company when doing so.

4.6.3 Flexibility

Lastly a key difference was identified in the degree of flexibility both companies have due to specific structural differences. The findings revealed that this difference is mainly driven by structural factors, meaning there is a limited relevance and no contribution to be made additionally. Therefore, this dimension of difference will not be considered in further elaborations like the discussion and conclusion.

4.6.3.1 Markets Served

C2 is classified as a player applying strategic niche management due to their specific sales channels, the limited number of countries they are active in as well as

the specific consumer personae they are targeting. C1 on the other hand is a mass market seller targeting various consumer personas from the professional down to the private person utilizing their products. Additionally, they are active in multiple international contexts with dozens of products differing from market to market (Sustainability Manager C1, personal communication, May 25, 2022).

4.6.3.2 Company Size & Structure

C1 employs around 900 employees, which are spread across China, Sweden, Denmark, Norway, Belgium, the Netherlands, Luxemburg, and the UK (Sustainability Manager C1, personal communication, May 25, 2022). They are organized in a matrix structure, which creates complexity as there are various connections each employee or department needs to consider internally. Additionally, the past of the company adds further complexity as they consist of multiple companies that have been merged over the last decades. The missing internal singularity of systems, processes and ways of working hinder a flexible way of working across borders and departments (Sustainability Manager C1, personal communication, May 25, 2022). C2 on the other hand employs less than 200 people and is active in Norway, Sweden, and Finland. They have a very flat hierarchy that promotes the empowerment of the individual.

4.6.3.3 Owning vs Buying

As described earlier C1 owns most of the production facilities they source their products from. This arguably gives them more power and influence on what is done in the factories and how things are done (CSR & Quality Manager C2, personal communication, May 25, 2022). C2 on the opposite side does not own any production. They do not have the same degree of power over the production of their products, still this ensures them a much higher degree of flexibility and it saves resources in times of change. Simply put, instead of investing a lot of resources into restructuring production every time an SOI is applied, they switch their suppliers. Fortunately, C2 has close partnerships with their suppliers which helps them in periods of change to develop with their suppliers instead of changing them (CSR & Quality Manager C2, personal communication, May 25, 2022).

Summarizing C2 faces a higher degree of flexibility due to multiple structural characteristics. Those are identified as the lower degree of complexity in their market served as they operate in a small portion of the overall market of their

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industry, whereas C1 is acting as a large player in the international mass market. Moreover, C2 is smaller in size and has less complexity in their ventures structure, which enables more flexibility in their employee's daily work. Lastly C1 owns most of the production facilities needed to source their goods. Therefore, a change in activities in sourcing and production are often related to high investments and therefore higher risks. C2 is much more flexible as they do not own any production facilities, cutting their risks of reorganizations in the production and sourcing drastically.

5 Discussion

In the following chapter, the research question will be discussed in relation to the normative theoretical framework developed for this thesis and the empirical findings presented in the previous chapter. The chapter is structured in four main parts: Firstly, we discuss the theoretical implications of our findings, and present both our conceptual and empirical contributions. Secondly, we discuss the managerial implications of our research findings. Thirdly, the general limitation of our study is addressed and discussed. Lastly, we propose areas for further research building on our findings. The research question underlying our study is as mentioned in the introduction:

Why are some companies' laggards in terms of sustainability-oriented innovation?

5.1 Theoretical implications

There are five theoretical contributions in this study. First, there is currently no normative framework of the SOI literature and its managerial implications even though the SOI literature has been growing in depth and width throughout the last decade with both empirical and theoretical articles being published in high quality journals. A central contribution of our research efforts has therefore been to develop a novel normative theoretical framework. Five main elements have been identified by aggregating the most central literature reviews and empirical studies on the topic. The framework provides scholars and business managers with an overview of the SOI literature as well as the relevant managerial implications it has on businesses today. Moreover, it provides a basis for comparison between different ventures in relation to SOI related efforts. We are aware that the framework will have to be further developed as it is purely based on past research efforts and insights. Future research endeavors are therefore expected to provide further nuances, details and depth into each element described in the framework. In addition, completely new and related elements and concepts are also expected to emerge, resulting from an increasingly rich and more detailed understanding of the topic at hand. Still, we believe that the normative framework is an important contribution as it is, as it provides managers with unique insights on how to drive SOI in their organization

and it can help guide scholars to find important future contributions to the SOI discussion.

Second, we provide two conceptual contributions related to the normative framework which we argue current literature does not reflect in a satisfying way. First, is the concept of absorptive capacity. Absorptive capacity refers to a firm's ability to exploit external knowledge and is closely linked to prior related knowledge within the firm which … "confers an ability to recognize the value of new information, assimilate it, and apply it to commercial ends" (Cohen & Levinthal, 1990, p. 128). To our knowledge, no empirical research efforts has looked at the relationship between absorptive capacity and SOI. The closest identified is an article published in 2014 from Chen et al., which introduces the term "green absorptive capacity". Their contribution is relevant, but they mainly explore the relationship between green absorptive capacity and what they call "green organizational ambidexterity", and not specifically SOI.

The current theory and thereby our normative framework emphasizes the need for collaboration with external units such as universities, NGOs, governments, and competitors to drive SOI at the company. It also highlights on the operational and cultural dimension that R&D activities and investing in sustainability training for employees are important drivers of SOI. All these elements are confirmed by previous study's to increase a firms absorptive capacity and consequently their general innovation capabilities (Cohen & Levinthal, 1990). Therefore, we argue that absorptive capacity should be included on a conceptual level to the normative framework.

Our second conceptual contribution, is to include the notion of team psychological safety as described by Edmondson (1999). She defines it as "… a shared belief that the team is safe for interpersonal risk taking" and that "… for the most part, this belief tends to be tacit - taken for granted and not given direct attention either by individuals or by the team as a whole." (Edmondson, 1999, p. 355). From a theoretical standpoint, we believe that it would be relevant to include this phenomenon at a conceptual level as the SOI literature include several related concepts such as experimentation, flexibility, and collaboration (Büschgens et al., 2013; Geradts & Bocken, 2019; Herrera, 2015; Patricia S. & René, 2017; Pham et al., 2019). To our knowledge, no empirical nor theoretical efforts have specifically

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looked at this concept in relation to SOI which motivates us to include it at a conceptual level to the normative framework as well.

Of course, both conceptual contributions need to be confirmed or disconfirmed by future research efforts on the topic looking at the specific connections between them and SOI through both qualitative and quantitative ways methods.

5.1.1 Sustainability integration

Our third theoretical contribution is based on our empirical findings. We propose that the level of sustainability integration within a company is central in explaining why certain companies lag behind others in relation to SOI. We argue that a low level of sustainability integration (when sustainability is not embedded in the company culture and the values of employees on the individual level), can be one of the main reasons why certain company's lag behind in relation to sustainability-oriented innovation efforts. This is in line with past research efforts on the topic (Beverland et al., 2016; Geradts & Bocken, 2019; Rauter et al., 2019). Our research provides new empirical insights on especially two dimensions: (1) The hiring and training activities of companies and (2), the effect on company positioning on the level of sustainability integration in the company. This is an important academic contribution as it provides new details and nuances to the discussion on why companies have higher and lower levels of sustainability integration within their company which again has a proven effect on SOI efforts (see e.g., Beverland et al., 2016; Dodgson et al., 2014; Román et al., 2021).

Naturally, parts of the explanation to the difference in the level of sustainability integration between C1 and C2 will be related to factors that only applies to the respective company's specific situation. These factors cannot be generalized and will therefore not represent valuable academic knowledge. For instance, the fact that C2 started focusing on sustainability on a strategic level way before C1 did, will naturally be a big part of explaining why C2 has sustainability much more "top of mind" compared to C1. What we learn from this is limited as it shows the that companies should start as soon as possible with structured sustainability efforts which is rather obvious. Still, we found in our comparative case study, that there are certain activities and focus areas companies can attend to, to obtain higher levels of sustainability integration which represents relevant knowledge for scholars and managers alike. In the following, we will discuss these in turn.

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5.1.1.1 Hiring & Training of employees

We find big differences in the hiring and training activities of C1 and C2. While C1 does not really focus on sustainability when hiring new employees, C2 sees it as an essential trait for potential candidates. In fact, they "… don't even consider candidates that don't mention sustainability in their applications" (Head of portfolio and innovation, personal communication, 28 March 2022). This is in line with (Stubbs, 2019) findings and has important implications on the corporate culture of the company. Additionally, in terms of sustainability-related training and competence enhancement, C1 only provides their employee with a general introduction to their sustainability work as a part of their onboarding at the company. C2 however, has a much more comprehensive sustainability training, where each relevant employee gets tailored sustainability training related to their position at the company. These two differences have important implications on the culture and thereby also the level of sustainability integration at both companies (Stubbs, 2019).

Firstly, as C2 focuses more on sustainability both in terms of hiring and training, they will naturally end up with more sustainability-minded employees. Since sustainability integration is not only reflected in the written documents and strategies of the company, but also in every employee's attitude and focus on their everyday work, we argue that it is important to stress the issue of connection between individual and corporate purpose when talking about sustainability integration. In fact most managers and executives according to Geradts & Bocken (2019), highlight the close connection between individual purpose and company purpose when describing environments that foster SOI. When individual and corporate purposed aligned, managers observed that employees were willing to above and beyond what is required to express their values (Geradts & Bocken, 2019).

Even though C1 communicates a big focus on sustainability both ex- and internally coupled with a concrete sustainability strategy that include all parts of the company with existing goals and targets, they are still not able to anchor the strategy to the same degree as C2. We believe that the fact that C2 has more sustainability-minded employees compared to C1 is a great reason for this. Additionally, we argue that this comes as a cause of the differences in the hiring and educating activities of the companies' employees. We found a greater distance between the corporate values

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and individual values at C1 compared to C2 which in turn makes it harder to anchor the sustainability strategy into the daily activities of the company. "Sustainability is the key pillar in everything we do", stated the CEO of C2 in our conversation. The same was never said from any of the informants from C1. One could argue that the importance of the initial hiring is too big in this regard. Proper sustainability training and indoctrinating of employees could perhaps compensate for the lack of initial focus and it is reasonable to believe that it would be possible to develop a sustainability-mindset based on training. Perhaps this is true, but in our cases, we found that C1 did not compensate for their low focus on sustainability in hiring by conducting comprehensive sustainability training. Our data are not able to tell if hiring or training is most important when it comes to sustainability integration. This will be up to future research to find out, but what we do find is that it is both important to hire sustainability-minded people and conduct sustainability training of employees to obtain a high level sustainability integration within an organization.

5.1.1.2   Strategic positioning vs Strategic direction

Another key driver in relation to sustainability integration, can be explained by the key difference in initial positioning of the companies. C2 has integrated sustainability into the core of their brand positioning since 2006/7 and has used sustainability as a key differentiation factor in their respective industry. C1 on the other hand has always focused on staying innovative and improving on several dimensions, but the sustainability dimension has only recently been included into the mix. In line with existing theory (Beverland et al., 2016; Geradts & Bocken, 2019; Stubbs, 2019; Wu, 2017), we find that a company's SOI efforts is closely connected to how integrated the sustainability strategy is to the overall corporate strategy of the company. This is in many ways self-explanatory, but we point towards important details regarding this topic. Firstly, we want to highlight the difference between sustainability as a strategic direction and sustainability as a strategic positioning. C2 has been successful in the latter by positioning their brand as a sustainable textile company and including sustainability as a key pillar for all decision-making in the company. They have had sustainability as a key differentiation factor for their strategic positioning which has led them to be considered a pioneer in the textile industry in terms of SOI. For C1 however, sustainability can be seen more as a strategic direction that the management of the company has pointed out behind closed doors. In this case, the direction was based

on the belief that "sustainability will be a hygiene factor for all industries in the future" (personal communication, Sustainability Manager, 8 March, 2022). Consequently, sustainability becomes something the company does outside of the core business activities with the goal of meeting future consumer and governmental demands to stay relevant. The approach of sustainable direction versus sustainable positioning represents two different degrees of sustainability integration within the company as well. Previous literature confirms that sustainability integration is closely linked with SOI efforts. Therefore, we argue that companies need to look at sustainability in a more integrated manner and include it in their overall positioning rather than just see it as a strategic direction.

5.1.2 Collaboration

Our fourth theoretical contribution is related to the notion of collaboration. In the SOI literature as well as in the general innovation literature collaboration has proven to come with many benefits: Access to new external knowledge, sharing of the financial risks and extending networks, to name a few. (Bocken & Geradts, 2020; Doran & Ryan, 2016; Foxon & Pearson, 2008; Geradts & Bocken, 2019; Weidner et al., 2021)

Still, companies show big differences on their level of collaboration. This paradox is also present in our study as C2 is engaged in a lot more collaborative efforts compared to C1 even though the importance and relevance of it is highlighted by both companies in the interviews. Our findings are in line with existing theory and suggest that collaboration (both in- and externally) is important in order to drive SOI. In relation to our research question, we therefore suggest that silo thinking and the reluctance to engage in collaborative efforts is central when answering why companies fall behind in relation to SOI.

Our qualitative comparative case study develops existing literature on collaboration in relation to SOI in two ways in particular: Firstly, we provide new and important insights into the elements that make creating a culture that fosters collaboration possible. Secondly, we provide important cross-industrial perspectives regarding the possibilities for collaborations within different industries. These are discussed in the following.

5.1.2.1 Openness to collaboration

We find that the difference in number of collaborative efforts between C1 and C2, can be explained by the company's internal attitude towards collaborative efforts. This is relevant in the cultural dimension of the theoretical discussion as it relates to the collective attitudes of the individuals at the different companies. We find that C1 in general is less open to engage in collaborative efforts compared to C2. According to the Sustainability Manager, this is due to it not being a priority for the top management of the company. Other type of projects is often prioritized as collaborative projects often are both time-consuming and sometimes costly. (Personal communication, March 8th, 2022). A specific example is the previously mentioned ERP project, which according to several informants of C1, is binding a lot of focus and time of the top management at the expense of other projects. This implies that C1 views collaboration in relation to SOI rather as a bonus activity, which can be good to have if they have the time and resources available for it. This can be problematic because companies often are pressured on both time and resources in their daily operational activities, leading them to not prioritize it (Andriopoulos & Lewis, 2009). C2 on the other side has a different attitude towards collaboration. They view collaboration as a central part of their operations and point toward how it specifically helps drive SOI efforts at their company. Still, they do acknowledge that it takes a lot of resources from them to engage in collaborative efforts, but "…the benefits are a lot bigger than the cost" (personal communication, CSR & Quality Manager, May 25th, 2022). This reflects a completely different attitude towards collaboration which naturally is central in explaining the level of collaborative efforts within a company.

5.1.2.2 Opportunity for collaboration

Outside the internal attitudes and prioritization towards collaboration, there are also external forces that can take part in explaining why certain companies engage in more collaborative efforts compared to others. In our comparative case study, the case companies are operating in different industries. The paining tools industry which C1 is part of, has less NGOs and collaborative initiatives present compared to the textile industry, which C2 operates in. Naturally, it takes more time and resources to start and pioneer new collaboration opportunities than what it needs to join existing knowledge networks and open innovation projects that are facilitated by a third party. Perhaps most of the explanation regarding the variation in the

number of collaboration efforts between C1 and C2 can simply be explained by the variation of their respective opportunities to engage in collaborative efforts. According to the CSR & Quality manager of C2, this would be too simple of an explanation. According to them, C2 alongside other companies within their industry, were the ones that did the initial push and took initiatives to form industry specific NGOs and networks. They argue that it is only a matter of prioritization and that C1 has had and still has the same window of opportunity to take the pioneering role in their own industry (CSR & Quality Manager C2, personal communication, March 28th, 2022). Also, there are multiple cross-industrial networks which focus on driving SOI regardless of industries. Also at this point, C2 shows greater interest in participating compared to C1. The sustainability manager of C1 mentioned "Circular Norway" as one example of a network that she wanted her company to join. But management saw required resources better to be invested elsewhere.

Concluding on this point, we do find that the opportunities for collaboration within the specific industry might have a relevance when explaining why certain companies engage in more collaborative efforts compared to other. At the same time, we argue that the most important explanation is rather found in the cultural dimension of the company. In the managements attitude and prioritizing of time and resources as well as the importance of employees showing a collaborative mindset both in- and externally.

5.1.3 Organizational Culture

Our fifth theoretical contribution is related to the discussion on organizational culture. After analyzing the data from the interviews and identifying the key differences, we believed it would be interesting to discuss the role of culture more in depth. Using Schein's model of organizational culture, we will therefore analyze the company culture of C1 and C2 in relation to our findings. To our knowledge, Schein's model has not yet been directly related to SOI before. We believe it will be relevant to understand at which level of culture C1 and C2 deviate, as it will provide relevant insights into what level of culture needs to be changed for companies that are lagging in relation to SOI. Prior to our study, we knew that both companies clearly state that sustainability is a big priority for the organizations. Both have internal documents and strategies with existing goals connected to

sustainability, which the literature points towards as being central drivers for SOI performance. Additionally, both companies are communicating that sustainability is a central part of their business on their respective webpages. Still, the strategy and sustainability efforts are anchored differently in the cultural dimension of the companies. We find that the explanation can be found in the lower levels of Schein's model of organizational culture.

As described in the literature review, Schein argues that culture can be analyzed at three different levels (see Figure 1: Levels of Organizational Culture - Example (based on Schein, 2017, p 17-22). These levels range from very tangible manifestations that are seen and felt, to the deeply embedded unconscious basic assumptions that define the essence of culture. Additionally, various espoused values, norms and rules of behavior are found in between these and are used by members of the culture as a way of depicting the culture to themselves and others (Schein, 2017). In the following we will analyze C1's and C2's culture on each of the levels using Schein's framework. This analysis is inspired by Baumgartner (2009) where the level of artifacts are represented through structures and processes, the level of values through strategies, goals and philosophies and the level of basic assumptions though views, cogitations and emotions.

Artifacts. Different artifacts related to SOI activities have been identified. Policies and documents, sustainability reports and other forms of communication forms. At this level both companies are very similar. This is in many ways natural as the companies are owned by the same corporation CX and thereby have similar organizational infrastructures in place. Consequently, we find that many of the internal processes show great similarities. For instance, they use a similar innovation process for their innovation projects. This process is also adopted broadly in companies owned by the same mother company (Internal Documents; Personal communication, March 28th, 2022). Additionally, internal innovation and marketing consultants with the sole purpose of helping the portfolio companies of CX with the optimization of processes and adoption of new tools in their workflows. This naturally leads them to implement similar working methodologies. On top of that, the management teams of the companies even have similar office spaces.

Even though this level of culture is easy to observe, it is very difficult to decipher, and one should therefore be very cautious to infer deeper assumptions about the culture from artifacts alone (Schein, 2017). From the outside, C1 and C2 look rather

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similar. But as we know that C1 is behind C2 in relation to SOI, this implies that the cultural differences must be found in the deeper levels of the culture.

Espoused Values: This level is represented through strategies, goals, and philosophies (Baumgartner, 2009; Schein, 2017). We find that C1 and C2 is also rather similar at this level of culture. Both companies have developed a comprehensive sustainability strategy that is communicated externally to various stakeholders as well as internally to employees on all levels. Being owned by the same company they both comply to the overarching philosophy of the mother company, and they get measured similar sustainability targets from their owners. They have similar sayings and formulations on the topic, even similar fonts, and designs of their documents (Company 1, 2022; Company 2, 2022). Both companies communicate that their sustainability strategy is integrated into their overall corporate strategy. Still throughout the interviewing process it became clear that the degree of integration is much deeper at C2 than with C1. In C1, we identified a lack in the willingness to prioritize sustainability in the everyday operations within the company and experienced that the sustainability strategy was much less anchored in the organization with the employees as well as with the managers. To understand this, we need to analyze the basic assumptions and "perceived reality" at the different companies.

Basic assumptions and values: This is the deepest level of culture and represents the unconscious, taken-for-granted beliefs, perceptions, thoughts, and feelings which serve as the ultimate source of values and actions at a given company (Schein, 2017). The interview process gave us some indications of the basic assumptions that characterize the different cultures of the companies. Naturally, the main purpose for both companies is to make money and they frequently report on their financial results to CX. Every decision taking place within the companies must take this into account. Interestingly, we find big deviations between the two companies in their assumptions regarding how this purpose is achieved and if sustainability is a driver or barrier to that end. In C2, we find that sustainability is a part of the basic assumptions guiding the behavior of every employee and that SOI is viewed as a natural driver to generate cashflow for CX. In C1 however, sustainability is not a part of their basic assumptions. Sustainability is rather viewed as a way of staying relevant and to comply with the future stakeholder pressure that is expected to increase over time.

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Implications: By analyzing C1 and C2 using Schein's model for organizational culture, we argue that one of the reasons why companies fall behind in term of SOI, is that they don't include sustainability in the basic assumptions that form the "perceived reality" of the company culture. We find that written strategies, communications, ceremonies, and other visible artifacts are not enough to drive SOI at a company. To properly drive SOI, we argue that sustainability needs to be anchored in the lower levels of culture where employees unconsciously include sustainability considerations in every decision they make. This is not solved by a strategy document formulated by the top management of a company, but requires comprehensive restructuring, reexamining and possibly changing some of the more stable portions of the cognitive structure (Schein, 2017). A process like this is intrinsically difficult because the reexamining of basic assumptions temporarily destabilizes our cognitive and interpersonal world (Schein, 2017).

We believe our findings point towards central explanations to why C2 has been able to include sustainability as a basic assumption in their company culture. First is the time argument. Basic assumptions can take time to develop and is subsequently extremely difficult to change (Schein, 2017). The fact that C2 have had a structural focus on sustainability for over 15 years has given them time for sustainability to be included as a basic assumption. This has not been the case for C1 as they recently started to focus on it. Secondly, the focus on hiring sustainability-minded employees at C2 makes it easier for sustainability to become a basic assumption, as it reduces the distance between the corporate values and the employees' own values. Thirdly, by focusing on further sustainability-related training, which is tailored to each employee's individual position, C2 also contributes to guiding what employees pay attention to and how they should react to certain situations that arise (Schein, 2017). Compared to C2, C1 has done none of the above.

We argue that the fact that C1 does not have sustainability as a basic assumption of their organizational culture, plays a central role in explaining the differences related to the level of sustainability integration and number of collaborative SOI efforts discussed previously in this chapter. This represents a novel academic contribution as Schein's model of organizational culture has yet to be applied in the SOI discussion. Additionally, it has important theoretical implications. Firstly, it disregards in many ways actions that are only fixated on changing culture at the top levels of the culture. It also suggests that looking beyond natural differences in

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industries, business areas and other external factors, the internal factor of organizational culture and the notion of basic assumptions, play an important role which provide a theoretical contribution that span across industries.

5.2 Managerial Implications

The findings have many managerial implications. Firstly, the novel normative framework (see Table 1: Theoretical Framework SOI) provides managers with a comprehensive overview of the SOI literature with managerial implications depicted on all relevant elements. The framework provides managers with concrete insights that can help drive SOI within their organization on many dimensions. It can further be used by managers to analyze their own SOI efforts to reveal strength and weaknesses. Additionally, the framework can be used to compare different companies (e.g., different competitors) to each other. Our result table (see Table 3 - 7) gives managers an overview over the identified differences between a leading and a lagging SOI player in relation to the normative framework. These insights provide managers with suggestions to concrete actions to improve their SOI performance.

Secondly, we provide relevant insights into the relationship between collaboration and SOI. We highlight the importance of collaboration to drive SOI performance and point toward central barriers to why companies don't engage in and prioritize collaboration. This kind of knowledge supports managers in taking more accurate decisions that ultimately will help them create organizations that better foster SOI.

Thirdly, we provide insights into how managers can integrate sustainability into their organization. Our findings highlight the importance of hiring sustainability minded people in addition to engaging in extensive training for their employees. Our findings suggest that this will make it easier for companies to anchor their sustainability strategies throughout the organization, which again will help drive SOI.

Lastly, we provide important insights into the cultural aspects of SOI. We suggest that managers should not only focus on creating sustainability artifacts and written strategy documents in relation to SOI, but also and perhaps more importantly work in a way that sustainability and SOI becomes a part of the basic assumptions and values at the company. This knowledge is imperative for managers when

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prioritizing their SOI efforts in order to truly become more sustainable and tackle the challenges of the future.

5.3 Limitations

In the following the limitation of this research are displayed and discussed. According to Gibbert et al. (2008) case study researches have been prone to validity and reliability. Still there are other additional limitations that should be noted when working with this study and its results.

5.3.1 Reliability, Validity & Generalizability

Reliability in quantitative research relates to the replicability of the processes applied during the research efforts as well as the replicability of the results when following these processes. Therefore the key of reliability in qualitative research can be found in consistency. (Carcary, 2009; Grossoehme, 2014) To ensure consistency the same steps and the same questions were asked in every of the first-round interviews, granting the consistency needed in terms of the methodology applied and the results gathered at least from methodological and structural perspective. The later discussed biases, as well as the time during which the data was collected do play a relevant role in this as well.

According to Gibbert et al. (2008) there should be a special remark on internal and construct validity. Internal validity is also identified as „logical validity" (e.g., through Cook & Campbell, 1979; Yin, 1994). It is about the "appropriateness" of the process followed, the method utilized and the data itself to answer the defined research question. The methodology chosen needs to support the process of identifying findings in the respective context. (Leung, 2015) This does hold for this research effort as by comparing a leader with a laggard based on grounded theory is clearly in line with the aim of the research to find concepts that make the difference between both.

Construct validity is created in this study by clearly stating unchanged quotes taken from the interviews, which are then further supported with additional arguments from the interviews or from the document analysis. Keeping the original statements and the interpretations made apart allows third party to evaluate the validity of our performed interpretation. Therefore a clear "chain of evidence" is drawn throughout the argumentation from the findings over the discussion to the conclusion (Yin,

1994, p. 102). Also triangulation has been performed using multiple sources and two different data collection methods (see 3 Research Methodology) to support single arguments as proposed by . Moreover, all quotes were sent to the respective interviewees, asking for confirmation and clarification. Third party can draw their own picture based on those statements while following our argumentation in this study. Still this research comes with limitations in its research context as discussed below.

This study analyses a specific context, in this case the context of a sustainability leader from the apparel industry and another from the painting tools industry who is classified as lagging in terms of SOI. By choosing a comparative case study design it was looked at the specific case of how SOI is driven in these two organizations. Due to the analysis of this specific case in these two specific contexts a generalizability of this study is questionable, similar to most qualitative research studies (Leung, 2015; Taylor et al., 2016; Yin, 1994). For a higher degree of generalizability, increasing the range of ventures involved, while increasing the variety of industries and employees interviewed could have been a solution. On the other hand, this would be posing conflict potential with the reliability of the study due to an increasing degree of complexity.

5.3.2 Limitations in the Research Context

In this study two organizations were considered for gathering data. Therefore, some elements that have not been discovered in theory yet might remain undiscovered due to this limitation in the number of organizations participating. Increasing the number of ventures from both leading and lagging nature has the potential to reveal wider and more detailed information on existing or novel elements to SOI.

Also, the comparability of the two studied organizations has some limitations. Even though both are the same in their ownership structure and very similar in their sourcing and value chain operations, there are major factual differences between both. This is not ideal for our research and the comparison, as it creates the risk of undetected externalities influencing the results. Ideally two or more companies with the same prerequisites should have been interviewed to exclude such externalities as influencing factors. Still, assuming to find the perfectly comparable organizations is not very realistic in the real world and would only work under laboratory conditions, not displaying reality.

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In terms of the chosen interviewees, which are primarily coming from the administration level of both companies, there are limitations as well. Even though it was reasonable to interview leading figures primarily, with the aim to get insights on the big picture, there might by insights from lower hierarchy levels as well which we could not cover asking only top-level personnel.

Biases also play a major role in qualitative research (Graebner et al., 2012). This does also hold for this study. Managers from both companies were interviewed on their companies' efforts towards ESG, which includes the risk of an informant bias as all involved would want to see their own company set in the best light as possible. An example observed is in the lagging companies' case in which the missing prioritization of sustainability in their actual day to day business took multiple interviews to be discovered, even though it is identified as one of their key strategic objectives. Also, biases can appear due to the way questions are framed as well as the atmosphere during interviews. To avoid that, the standardized questionnaire which was used in all first-round interviews remained unchanged, also supporting the reliability of the study.

Also, both organizations are based in Norway. Even though both are active across borders, to a different degree when compared but still both are, the strategic direction is set from this one country. Therefore, there might be limitations to the international generalizability as well, especially as Norway is often discussed as leading country in centering sustainability, not being representative for all other countries on the globe, but the ones that are similar in their efforts striving for more sustainability trough SOI. Norway's leading position can be observed through e.g. the UN's sustainable development report measuring the progress towards achieving the 17 SDGs. Here Norway ranks fourth after the other three Scandinavian countries out of 163 countries. (*Sustainable Development Report 2022*, n.d.)

Lastly the time in which this study was carried out might lead to some limitations reflecting upon the validity, reliability, and generalizability once more. The COVID-19 pandemic limited the research to digital interview exclusively. Despite the logistic advantages that allowed to meet from anywhere and opened the chances to interview individuals inaccessible without it, it has negative effects too. There were limited options to track body language as well as the tone of voice of interviewees. Also noticing the atmosphere changing during the interview is much more challenging when not sharing a physical space. Moreover, there might still be

individuals feeling uncomfortable being recorded and interviewed via video-call and leading to additional biases. Most interviewees still stated that they are comfortable with that communication channel, as the pandemic was already ongoing for about two years to the point in time the interviews were conducted.

5.3.3 Applicability

This study cannot be seen as a central document of single truth that is guiding a practitioner through the process of improving on SOIs. Neither can it be classified as document to learn about how the various dimensions with their sub elements relate and influence one another. This study does not provide insights on the weight the individual elements of the framework should have according to their impact on determined measures and how important they are individually to drive SOI.

It is still a rather specific comparison of two organizations from a specific context which applies the existing theory to analyze those two on their efforts to SOI, stating the differences between both. It assembles existing SOI theory into one framework. Moreover, it connects the realm of SOI to other areas of theory and therefore determines additional areas to look at towards driving SOI. Therefor it cannot be considered as the central truth but seen as further hypothesis generating to the realm of SOI.

5.4 Further Research

There are various options in terms of further research this study links to. A clear limitation of our study is the research context as it is limiting the study's results to two specific companies in two specific industries. Therefore, a first step can be to involve a more diverse set of ventures as object of analysis from different industries and at different states if it comes to SOI. Also including lower hierarchy roles could offer new insights, which might be less generalizable, yet more specific and detailed.

For such research efforts this study could be seen as starting point, when utilizing the displayed framework, as well as the methodological path chosen. Based on this one might either create new hypothesis on gaps of the framework with new qualitative studies to then reflect back into theory, e.g. on psychological safety and SOI or absorptive capacity and SOI (see 5.1 Theoretical implications), or alternatively specialize the framework. Specializing in this sense could be making

it more specific to individual use cases of ventures of certain type, size, industry etc. This could increase the frameworks applicability to specific players in the market and increase its usability for practitioners of such.

Besides there are options to research with a quantitative methodology based on the results of this study. Gaps to be filled are the following:

1. Construction of generalizability for the framework as such, or for single elements of it based on a quantitative survey with a wide reach, enabling true generalizability of results.

2. Adding to the understanding of the importance or weight that should be assigned the elements of the framework, adding to the debate on which activities to prioritize ahead of others when aiming for an increased engagement in SOI. Therefore, a similar research design as described under 1., but with a different focus, could be applied to do so.

3. Moreover, a quantitative study applied on the framework can be used to learn more about the correlation of single elements and their interplay based on this. As the framework's elements are not entirely mutually exclusive to one another there might be dependencies and influences existing. A study of this kind can therefore also have implications on the foreshadowing of potential conflicts that are existing between some of the elements.

4. Ultimately a quantitative study can be used to learn about the relation of the framework's elements and the triple bottom line theory. This will be highly valuable to practitioners, as it would allow to structure the SOI related efforts based on the goals relating to the TBP, while enriching the theoretical debate on the TBP.

All of the above described requires a fully developed framework, which is classified as central truth. Therefore, further developing the framework with qualitative studies, adding to its generalizability as described under 1. should be prioritized over 2., 3. And 4..

Based on our results and the importance of culture that was identified there is an option to further research on Edgar Shein's model of organizational culture and its relation to the culture needed to successfully drive SOI. Especially identifying the critical level of the model to SOI or observing prerequisites within SOI leaders to connect the SOI literature with the model via a qualitative study is a clear unexplored gap.

Lastly based on this study psychological safety is expected to be highly important to SOI in organizations. The connection of psychological safety and innovation as such is already explored, the connection and meaning of psychological safety to SOI has not. Even though their relationship might be very similar it would be interesting to learn more about the implications existing or missing psychological safety has to SOI.

6 Concluding remarks

The road towards reaching the ambitious goals of the Paris Agreement and successfully execute the green shift, is extremely complex and challenging. It will require enormous efforts from governments, companies, and individuals alike to succeed in the fundamental change process necessary. In line with existing empirical knowledge, our thesis argues that SOI plays an imperative role to successfully meet the challenges of the future. We provide important insights into the SOI debate by pointing toward central factors that explain why some companies are considered laggards in relation to SOI. Our findings point toward the lack of sustainability integration, collaboration, and sustainability at the deepest level of the organizational culture as important preliminary answers to this question. As our thesis is a qualitative comparative case study, our findings are mainly seen as hypothesis in relation to answering our research question. Both qualitative and quantitative research efforts need to be conducted in the future to confirm or disconfirm our findings. Our hope is that our findings can stimulate future theorizing and empirical work to be developed in this complex and increasingly critical field of sustainability-oriented innovation.

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Appendix

Appendix A – Norwegian Centre for Research Data - Assessment

Assessment

Reference number
152763

Project title
Master Thesis - Sustainability at Corporations

Data controller (institution responsible for the project)
Handelshøyskolen BI / BI Oslo / Institutt for strategi og entreprenørskap

Project leader
Alessandra Luzzi

Student
Benedikt Surkau

Project period
07.10.2021 - 01.07.2022

Notification Form 🔗

Date	**Type**
05.01.2022	Standard

Comment
Our assessment is that the processing of personal data in this project will comply with data protection legislation, so long as it is carried out in accordance with what is documented in the Notification Form and attachments, dated 05.01.2022 , as well as in correspondence with NSD. Everything is in place for the processing to begin.

SHARE THE NOTIFICATION FORM
It is mandatory for students to share the Notification Form with their supervisor (the project leader). To do this, please tap the "Share project" button in the upper-left corner of the form. Within a week, your supervisor must accept the invitation. In case the invitation expires, you have to repeat the procedure.

TYPE OF DATA AND DURATION
The project will be processing general categories of personal data until 01.01.2027

LEGAL BASIS
The project will gain consent from data subjects to process their personal data. We find that consent will meet the necessary requirements under art. 4 (11) and 7, in that it will be a freely given, specific, informed and unambiguous statement or action, which will be documented and can be withdrawn.

The legal basis for processing general categories of personal data is therefore consent given by the data subject, cf. the General Data Protection Regulation art. 6.1 a).

PRINCIPLES RELATING TO PROCESSING PERSONAL DATA
NSD finds that the planned processing of personal data will be in accordance with the principles under the General Data Protection Regulation regarding:

• lawfulness, fairness and transparency (art. 5.1 a), in that data subjects will receive sufficient information about the processing and will give their consent purpose limitation (art. 5.1 b), in that personal data will be collected for specified, explicit and legitimate purposes, and will not be processed for new, incompatible purposes

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• data minimisation (art. 5.1 c), in that only personal data which are adequate, relevant and necessary for the purpose of the project will be processed
• storage limitation (art. 5.1 e), in that personal data will not be stored for longer than is necessary to fulfil the project's purpose

THE RIGHTS OF DATA SUBJECTS
As long as the data subjects can be identified in the data material, they will have the following rights: access (art. 15), rectification (art. 16), erasure (art. 17), restriction of processing (art. 18), data portability (art. 20).

NSD finds that the information that will be given to data subjects about the processing of their personal data will meet the legal requirements for form and content, cf. art. 12.1 and art. 13.

We remind you that if a data subject contacts you about their rights, the data controller has a duty to reply within a month.

FOLLOW YOUR INSTITUTION'S GUIDELINES
NSD presupposes that the project will meet the requirements of accuracy (art. 5.1 d), integrity and confidentiality (art. 5.1 f) and security (art. 32) when processing personal data.

To ensure that these requirements are met you must follow your institution's internal guidelines and/or consult with your institution (i.e. the institution responsible for the project).

NOTIFY CHANGES
If you intend to make changes to the processing of personal data in this project it may be necessary to notify NSD. This is done by updating the Notification Form. On our website we explain which changes must be notified: https://www.nsd.no/en/data-protection-services/notification-form-for-personal-data/notify-changes-in-the-notification-form

Wait until you receive an answer from us before you carry out the changes.

FOLLOW-UP OF THE PROJECT
NSD will follow up the progress of the project at the planned end date in order to determine whether the processing of personal data has been concluded.

Good luck with the project!

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