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The relation between business orientation towards sustainability and innovation practices

An analysis of alignment from two Swedish firms

Master's thesis in the Management and Economics of Innovation Programme

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SUMMARY
This study explores the current level of alignment between sustainability and innovation efforts in companies and identifies development potentials for companies to enhance the alignment. Based on the analysis made with two case companies selected, it is found out that sustainability and innovation are indeed two important phenomena that companies invest in. They orient their businesses towards sustainability by including it in their mission, purpose, strategy, and work on their innovation practices heavily. While these two phenomena play big roles in their identities, the alignment between the two and the coordination of their activities are not very common. Based on the analysis made on two case companies, it is found out that initiatives for sustainability and innovation should be cooperated better through organizational change such as creating a role responsible for alignment or merging the departments of innovation and sustainability.
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Keywords: sustainability, innovation, alignment, strategy, change

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1. Introduction

1.1. Background and Context

Today, there is an increasing demand for companies to widen their objectives and include more stakeholders, such as society at large and the environment, than just the shareholders (Wolff, 2012). Traditionally, companies were solely interested in generating financial value for shareholders and creating a set of shared values within the organizations for a mutual goal within the organization. In this context, companies struggle to find a purpose and a balance between the traditional economic focus and societal and environmental concerns where issues such as social movements and climate change are included. The change from the shareholder perspectives to the stakeholder perspective is necessary as the world is undergoing a societal transformation due to ongoing technological developments, rapidly changing consumer behaviors, environmental problems and increasing awareness of limited natural resources. Therefore, it requires companies to transform their businesses towards more sustainable business models. They need to adopt sustainability throughout their organizations including their strategies, operations, organizational structures, cultures and reporting systems (Dyllick and Muff, 2016). In this change process, companies need to redefine their purposes, visions and missions by considering economic, social, and environmental goals and to create value where social, environmental and economic perspectives are included (Deryckere and Gauthier, 2018).

An important part in reorienting a company towards sustainability is innovation (Demircioglu, Audretsch, and Slaper, 2019). It is defined as "the multi-stage process whereby organizations transform ideas into new or improved products, services or processes in order to advance, compete and differentiate themselves successfully in their marketplace" (Baregheh, Rowley, and Sambrook, 2009). Companies engage with innovation activities in order to gain competitive advantage over their competitors to be able to survive in the market (Cefis and Marsili, 2006). As innovation efforts may encourage people to think beyond the boundaries and be more creative, it consequently may help organizations they are working in to create a culture which supports new ideas, strategies, and business models. Hence, this can lead organizations to work for creating a meaningful impact such as solving climate change or protecting natural resources rather than working for traditional corporate metrics. Therefore, the relationship between sustainability and innovation raises as an important matter in organizations.

Consequently, it becomes interesting to find out the relationship between companies' business orientation towards sustainability and practices of innovation. The business orientation in this context is referred to as companies' purpose, mission, vision, strategy, business model, values, and code of conduct since today companies can reflect on their ambition for contributing to sustainable development in either one or more of those concepts.

1.2. Aim and Research Questions

This study intends to understand the relationship between innovation and sustainability in practice and the current level of alignment between the two phenomena in companies. By evaluating how the companies' innovation practices and their current business orientation towards sustainability align, it is

aimed to identify development potentials for companies to align their sustainability and innovation efforts.

In order to reach the aim of the study, there are two research questions identified and answered throughout the study. The research questions are as follows:

1. How can innovation practices be aligned with business orientation towards sustainability?
2. What can sustainable innovation in companies look like?

1.3. Limitations

The case studies in this thesis work are done with the connections that The()Space provided from two main companies: Castellum and Göteborg Energi. Due to not having direct contact with company representatives, not all of the prospective interviewees have been found available for interviews. Moreover, the recent pandemic COVID-19 has made it even harder, at times, to reach out to the interviewees as well as affecting the quality of interviews that had to be conducted online.

The documents used for this thesis are only from the years 2018 to 2020, as well as interviewees representing and stating only the recent activities and developments from the companies. Therefore, the findings may not be very comprehensive to shed light on the companies' long journeys on their initiatives in regard to sustainability and innovations. Moreover, the type of the companies, public and private; and the industries they are operating in are not regarded in this study due to the scope of the project.

2. Sustainable Development, Alignment, and Innovation

In this section, relevant concepts and theories from literature review and related topics from today's societal challenges as well as business trends are presented.

2.1. Sustainable Development

Historically, human activities have always created an impact on nature. From the first existence, the human race became hunter-gatherers, started civilization through agriculture, and invented machines and technologies during the industrial revolution which impacted the environment (Hedenus, Persson & Sprei, 2018). However, environmental degradation is getting more severe nowadays than in the past due to massive population growth and technology development (Hedenus, et al., 2018). Industrial development activities in the 1960s were seen to have a close correlation with environmental destruction such as air pollution (Elliot, 2012). It later became clear that environmental degradation and resource shortages are increasing at a rate that no longer can be continued (Bartlett, 1994). Responding to these environmental issues, a group of scientists and concerned citizens in 1972, known as "Club of Rome", released a comprehensive report emphasizing that most of the ecological limits will be exceeded within decades if the industrial society continues to promote the 1960s' and 1970s' economic growth (Mebratu, 1998). The United Nations (UN) also arranged a conference in Stockholm at around the same time, which marked a major step in developing the concept of sustainable development (Mebratu, 1998). Furthermore, the idea of sustainable development was raised as a compromise between the environmental movement and the economic development movement (Hedenus, et al., 2018).

The most commonly known definition of sustainable development was released by the UN under the document of Our Common Future, stated as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (UN World Commission on Environment and Development, 1987). The concept of sustainable development is built on three pillars consisting of environmental, economic, and social dimensions. Concerns regarding ecological aspects are related to natural environmental protection such as energy, forest, and air (Weybrecht, 2013). Meanwhile, social concerns refer to issues in society, such as human rights, equality, and cultural diversity (Weybrecht, 2013). Lastly, the economic dimension of sustainability entails issues related to economic development, including poverty reduction and responsible consumption (Weybrecht, 2013). The three pillars of sustainable development can be depicted as interlocking circles with sustainable development in the center where all circles intersect, also as concentric circles where economic and social aspects are embedded in a wider circle of the environment (Figure 1) (Elliot, 2012). The interlocking circles' framework gives concerns to the 'win-win-win' gains within all three aspects of sustainable development that could maximize the overall goals; meanwhile, the concentric circles' framework shows the environmental aspect as setting the boundaries for social and economic aspects which illustrates that human activities depend on nature (Elliot, 2012).

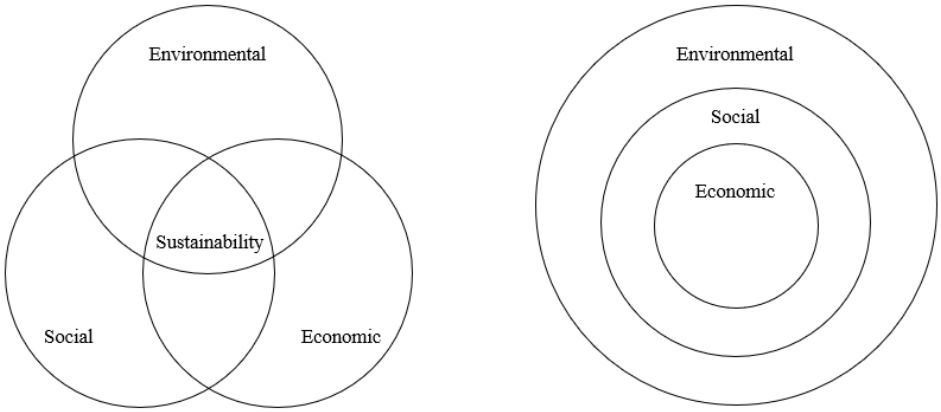

Figure 1: Depictions of Sustainable Development Concept

2.1.1. Agenda 2030

In 2015, the UN created the Sustainable Development Goals (SDGs) consisting of 17 goals and 169 targets (Figure 2). All the UN's country members adopted these goals and committed to work on the full implementation of this agenda by 2030. The Agenda 2030 constitute a set of goals and targets "to end poverty, protect the planet from degradation, ensure prosperity and foster peaceful, just, and inclusive societies" (Leisinger, 2015). The SDGs is considered as the successor to the Millenium Development Goals (MDGs) and included a much broader scope in order to measure the 'triple-bottom-line' approach to sustainability, which constitutes social, environmental, and financial performance (Frey and Sabbatino, 2018; Slaper and Hall, 2011). The SDGs also has universal goals influenced by the changes during the previous fifteen years and it is resulted from international negotiations that have involved high-income, middle-income, and lower income countries (Frey and Sabbatino, 2018). Therefore, goals and targets can be applied by multiple actors from all countries.

Figure 2: Sustainable Development Goals (UN, 2020)

2.1.2. The Role of Companies in Sustainable Development

The 2030 Agenda is based on global partnership among different actors (Frey and Sabbatino, 2018). The idea of sustainable development and Agenda 2030 is not only demanding the government to act

but also businesses as they are responding to the current challenge of the world to stay relevant. With those SDGs, many actors, including businesses and civil societies, are encouraged to be involved and apply creativity and innovation in tackling sustainable development challenges (SDG Compass, 2015). Businesses play an important role in the realization of sustainable development and Agenda 2030, especially large and international companies, as they are setting the standards for industry and market (Leisinger, 2015). From the consumer perspective, it is essential for businesses nowadays to take part in sustainable development as according to a study conducted by PricewaterhouseCoopers (PwC), 90% of citizens said that it is important for businesses to sign up for SDGs and 78% of them stated that they were more likely to buy products and services from companies that have signed up for SDGs (PwC, 2015). In addition, involvement in SDGs may also give companies some opportunities in some areas such as innovation and market development, efficiency and cost savings, business management, and risk reduction (Frey and Sabbatino, 2018).

Sustainable development is regarded as the starting point for sustainable business in companies (Government Offices of Sweden, 2016). Companies are called to act as development actors in order to advance sustainable development through their business practices, investments, and solutions (Frey and Sabbatino, 2018). It may be overwhelming for companies to tackle all seventeen goals of SDGs, thus companies need to map their impacts and focus on the most relevant SDGs (Frey and Sabbatino, 2018). A major international guideline for companies in order to transform to sustainable business is introduced below.

Global Compact's Guide to Corporate Sustainability

United Nations Global Compact (UNGC) as an entity under the UN, has released the guide for corporate sustainability, which states the five focus areas for companies: principled business, strengthening society, leadership commitment, reporting progress, and local action (UNGC, 2014). UNGC suggests ten principles in the areas of human rights, labor, environment, and anti-corruption, that should be respected by companies when conducting their business operations and supply chain. A detailed list of the ten principles developed by UNGC can be seen in Table 1.

In order to be sustainable, companies need to conduct their business responsibly, which means that while aiming to be financially successful, companies also need to maintain a high standard of ethics and treatment of employees, the environment, and the community. In terms of leadership commitment, UNGC encourages the top management level in companies to have long-term goals in sustainability. While orienting the business towards sustainability, companies are also encouraged to report the progress in order to create transparency and build trust with stakeholders. Reporting the progress in sustainability is also encouraged for businesses as investors, consumers, local communities, and civil society organizations are increasingly demanding more transparency (UNGC, 2014). The reporting format is quite flexible as several reporting frameworks serve as standards, for example the Global Reporting Initiative (GRI). However, UNGC (2014) suggests that the report should include a statement by the chief executive, description of practical actions or plans developed by the company in order to implement the Global Compact's ten principles, and measurements of the outcomes.

Table 1: Global Compact's Ten Principles (UNGC, 2014)

Human Rights	
Principle 1	Businesses should support and respect the protection of internationally proclaimed human rights
Principle 2	Make sure that they are not complicit in human rights abuses
Labor	
Principle 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining
Principle 4	The elimination of all forms of forced and compulsory labor
Principle 5	The effective abolition of child labor
Principle 6	The elimination of discrimination in respect of employment and occupation
Environment	
Principle 7	Businesses should support a precautionary approach to environmental challenges
Principle 8	Undertake initiatives to promote greater environmental responsibility
Principle 9	Encourage the development and diffusion of environmentally friendly technologies
Anti-Corruption	
Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery

2.1.3. Corporate Social Responsibility (CSR)

There are four outstanding trends for change in society today: pace of innovation, globalization, information technology and social issues (Fredberg and Kalling, 2013). The pace of innovations makes markets and technology change quickly nowadays and organizations require the ability to maneuver and adapt to gain a competitive advantage. Globalization started in the 1980s and 1990s has led to discussions about the tradeoff between global integration and local adaption. Moreover, global information flows and supply chains exposes companies to higher risks concerning their operations. The global supply chains create complex organizational structures where functions such as finance and R&D are geographically separated from other functions such as products and services. A company's mismanagement of the supply chain can lead to headlined scandals and reputational damage. Information technology influences how organizations coordinate and communicate. It requires the organization to understand their operating context to be able to coordinate co-workers in different time zones and respond to stakeholder demands of maintaining a high performance. Social issues become increasingly important in a globalized world and that the company take its social responsibility towards society through behaving ethically by respecting human rights, avoid child labor take a responsible stance toward the environment. A company's governance through the CSR becomes increasingly important.

The foundation of CSR views companies as entities of an ecosystem of its natural and social environments and argues that there is a need for them to adapt to and maintain that ecosystem (Grant, 2016). There can be three reasons identified for CSR to be an interest for companies: the sustainability argument, the reputation argument and the license-to-operate argument (Porter and Kramer, 2006). The

sustainability argument claims companies' mutual interest in sustaining the ecosystem in which they operate so that they can survive their businesses. The reputation argument is about the enhancement of the reputation for consumers and other third parties. The license-to-operate argument refers to the companies' need for support from their constituencies in order to continue operating. Regarding the selection of CSR processes for companies to engage in then, it is a critical task because it requires companies to find the intersection between the interests of themselves and the society such as activities that create competitive advantage and result in some kind of positive social outcome. This intersection, in fact, can be seen as shared value (Porter and Kramer, 2006). The concept of shared value is concerned with enlarging the total of economic and social value by creating economic value that also creates value for society. In order to create a shared value, companies need to reconceptualize their organizational boundaries and their relationships with their environments.

2.2. Alignment

Alignment is one of the recent approaches used when explaining organizational efficiency and it aims to create coherence among organizational components such as culture, structure, processes and strategy (Quiros, 2009). Alignment is a process of connecting an organization's mission or purpose, strategy, capabilities and resources, and management systems (Trevor and Varcoe, 2017).

In a globalized world, alignment becomes important since external stakeholders such as consumer demands, demographics, geographic markets, competition, regulations, NGOs securitize the company's actions (Galpin and Hebard, 2018). And today, external stakeholders play an essential role in shaping the company's business strategy towards sustainability, hence in their sustainability agenda. When a consistent purpose between the company's missions, values, goals, and strategy are achieved, the company may communicate its sustainability agenda to both internal and external stakeholders (Galpin and Hebard, 2018).

2.2.1. Perspectives and Types of Alignment

Alignment is described in different ways, it can be described as the perspectives: *process, relational* and *strategic* (Alagaraja, Rose, Shuck and Bergman, 2015). It can also be described as the types: *vertical* and *horizontal* (Kathuria, Maheshkumar and Porth, 2007). In the *process perspective*, alignment is a dynamic process and it is about gaining a collaborative view (Gulledge and Sommer, 2012). Alignment is achieved when organizations ensure that departments work smoothly (Kanter, 1994). Thus, understanding of functional processes and having a systematic agreement regarding optimization plays a crucial role for organizational alignment. Organizations that pursue alignment in their business processes within and between departments can better improve overall performance (Alagaraja, et. al., 2015).

In *relational perspective*, alignment refers to the organization's ability to experience congruence between different components of the internal and/or external environment. As to the internal components, their performance is motivated by the alignment of different linkages of concepts such as: strategy and structure (Mintzberg, 1979), organizational size and strategic planning (Mintzberg, 1973), and strategy and culture (Mintzberg, 1989, 1991). Besides, other perspectives remarked organizational fit with the external environment through the interactions between the organization and its external environment (Alagaraja, et. al., 2015). Thus, this view of organizational alignment puts emphasis on

the importance of flexibility of the organization and its adaptation and ability to respond to changes well both in external and internal environments.

As to the *strategic perspective*, proponents of this perspective argue that strategy has a high potential to influence the way organizations achieve alignment. In this view, what decides the organizational performance is the consistency of processes and organizational components with the strategy (Alagaraja, et. al., 2015). Therefore, creating unique strategic alignments can lead to competitive advantage. As such, this approach has gained a number of empirical supports in regard to the positive relation between strategic alignment and organizational performance. Some examples include Burn and Szeto (1999) comparing success factors in pursuit of achieving strategic alignment and Bergeron, Raymond and Rivard (2003) determining ideal patterns of strategic alignment and performance.

Vertical alignment refers to the configuration of organizational components such as strategy, mission, and objectives throughout different levels of the organization (Quiros, 2009). It remarks the alignment within each function and concentrates on the orientation of the functional goals of different departments to the organization's goals. In literature, there have been many studies examining the relation between vertical alignment and performance. For instance, Smith and Reece (1999) found out that the alignment between business strategy and operational elements i.e. logistics increases the performance. Sun and Hong (2002) also had a similar finding in their study in which they gathered data from across multiple countries. They found out that fit between manufacturing and business strategy increases firm performance. Moreover, increase in the alignment positively influences the performance of the manufacturing function too.

Companies will be mostly affected by sustainability indirectly through the shifting market preferences, newly competitive technologies, and bolder regulations (Hargadon, 2015). Therefore, they need to adopt sustainability throughout the organization including their strategies, operations, organizational structures, cultures, even reporting systems (Dyllick and Muff, 2016). Companies then need to redefine their purposes, visions and missions by considering economic, social, and environmental goals, where profitability is seen as a way to achieve social and environmental goals (Deryckere and Gauthier, 2018). In order to understand the sustainability operationalization in companies, Galpin and Hebard (2018) introduced a framework that could help to understand how companies incorporate sustainability through alignment (Figure 3).

Figure 3: Vertical alignment (Galpin and Hebard, 2018)

Horizontal alignment includes "coordination of efforts across the organization" (Kathuria, et. al., 2007) and can be defined as cross-functional and intra-functional integration (Quiros, 2019). Horizontal alignment across various activities of organizations rather than a couple of key activities is critical for

performance (Porter 1996). In horizontal alignment (Figure 3), roles and responsibilities among different work groups and departments are emphasized, and separate elements of structure are linked with the business processes in the organization (Alagaraja et. al., 2015). The linking of functional areas such as marketing management and operations management for strategic fit becomes more critical to organizational performance (Rhee and Mehra, 2006).

When critical factors that are internal to organizations are aligned, there can be found new opportunities and potential partnerships, collaborative integration of different functions, processes, and products (Alagaraja, et. al., 2015). Similarly, it can also enhance cross-functional fit between departments (Lawrence and Lorsch, 1967) in the value chain. Therefore, alignment can also be seen as an outcome of a studiously managed enterprise value chain (Trevor and Varcoe, 2017) as represented in Figure 4. The chain consists of purpose, strategy, capabilities, resources, and management systems that are respectively connected to one another. Aligning the purpose to strategy, the strategy to capabilities and so on eventually creates a management system that drives the performance of the resources in the organization and contributes to a better performing organization.

Figure 4: The Value Chain in Organizations (Trevor and Varcoe, 2017)

2.2.2. Alignment in Practice

Alignment can work best for organizations when it is not only a one-time event but rather and an ongoing process. While the current models of organizational alignment create simplicity as well as common sense, they do not explain why alignment works, how it can be created, measured, or improved (Quiros, 2009). From a practical point of view many businesses face misalignment (Alagaraja et. al., 2015; Trevor and Varcoe, 2017). The reasons behind misalignment can be explained by unawareness, no ownership of non-alignment, complexity and activity is mistaken for progress (Trevor and Varcoe, 2017).

Unawareness of the risks of misalignment is most common in organizations where the focus primarily is on organizational charts and structure rather than a part of a coherent value chain. The primary value components are seen as the operating units. No ownership for the enterprise alignment in organizations, generally is seen when there is a lacking in strategic leadership such as no group or individual assigned to oversee the arrangement of the organization from end to end. The sub-optimizations come from leaders protecting and optimizing their own domains rather than aligning and improving the whole organization.

Complexity as an inhibitor for alignment in an organization is a result of four factors: variety of business lines, number of employees, variety of expectations from different customer groups and geographical dispersion. In globalized businesses this put demands on leaders. Activity is mistaken for progress and

the alignment is lost over time and due lack of a vision to guide decisions and choices. This happens in busy organizations where the focus is on efficiency on time, energy, and courage, in short investment.

Alignment in practice can be complicated since there are a lot of aspects and views to consider and many components to align in such complex environments that businesses operate. It is a must for leaders and managers to understand organizational alignment because essentially, they are the ones to facilitate this alignment within organizations. Alagaraja, et. al. (2015), suggested focus points for different types of managers and leaders: executive leadership, operations and human resources (Table 2). Operational managers who are working in the center of business can have more influence on vertical and horizontal process alignment as well as relational alignment due to their contiguity to the work. As to the executive leaders they should be engaged with the strategic alignment due to their responsibility towards strategic work. Finally, human resources can be more influential on horizontal alignment from a strategic perspective since they have connection to each employee and function of the organization.

Implementation of alignment requires a plan including the components of process, structure, and systems but most importantly a shared understanding of the organizational goals among leaders and employees. That shared understanding will help to ensure that there is a true alignment between the important organizational elements Alagaraja et. al. (2015).

Table 2: Suggested focus points in practice (Adopted from Alagaraja et. al., 2015)

	Alignment type	
Alignment perspective	**Vertical**	**Horizontal**
Process	*Operations*	
Relational		
Strategic	*Executive leadership*	*Human resources*

2.3. Business Orientation: Purpose, Mission and Strategy

2.3.1. Purpose or Mission?

In alignment the concepts Purpose and Mission are used both interchangeably but also with slightly different meanings. Purpose can be treated as a grounding for the mission and it symbolizes an inclusive commitment to society declaring broader aims such as “changing lives” or “making a difference” (Cardona, 2008; Hollensbe, Wookey, Hickey, George and Nichols, 2014). Purpose is becoming a necessary key element for establishing meaningful organizations in competitive environments where there exist inconsistency and uncertainty for businesses (Rey, Bastons and Sotok, 2019). Many are confused over the concept mission and that is an important cause of failure in businesses (Drucker, 1973). There are several ways to understand the mission, it can represent an organization’s vision of where and in which position to be in future (Strong, 1997), a concept that sets the tone for the climate and culture of the organization (Van der Weyer, 1994), a statement answering the fundamental questions of “Why do we exist?”, What for are we here?” and “What is our purpose?” (Bar, 2013) or a cultural glue enabling the organization working as a collective unity (Verma, 2009).

The common goal of business enterprises is to create value while having distinct purposes, and traditionally the best indicator of the value created is considered as maximizing the enterprise value, in short profit (Grant, 2016). Today, organizations seek for a more humanistic approach such as taking care of their employees well-being or solving the climate change through their operations for managing and it leads to a greater and intentional focus on purpose in the field of management (Hollensbe, Wookey, George and Nichols, 2014). It states the positive impact that a company intends to make in the world (Rey, Bastons and Sotok, 2019). Therefore, it can be considered as inspiring and helpful for companies to go beyond their limits and expectations. For instance, Google's purpose can be a relevant example for that: "organizing the world's information and making it accessible and useful universally".

There have been many benefits of purpose found such as productivity, financial performance, and innovation, thus there has been an increasing interest from organizations about purpose (Yemiscigil, 2018; Hollensbe, et. al., 2014). For gaining such benefits like increased performance and competitive advantage companies invest in formulating their corporate purposes that represent their core values as well as main goals to the public (Rey, Bastons and Sotok, 2019).

The Ashridge Model as represented in Figure 5 helps organizations to build a definition of mission (Campbell and Yeung, 1991).

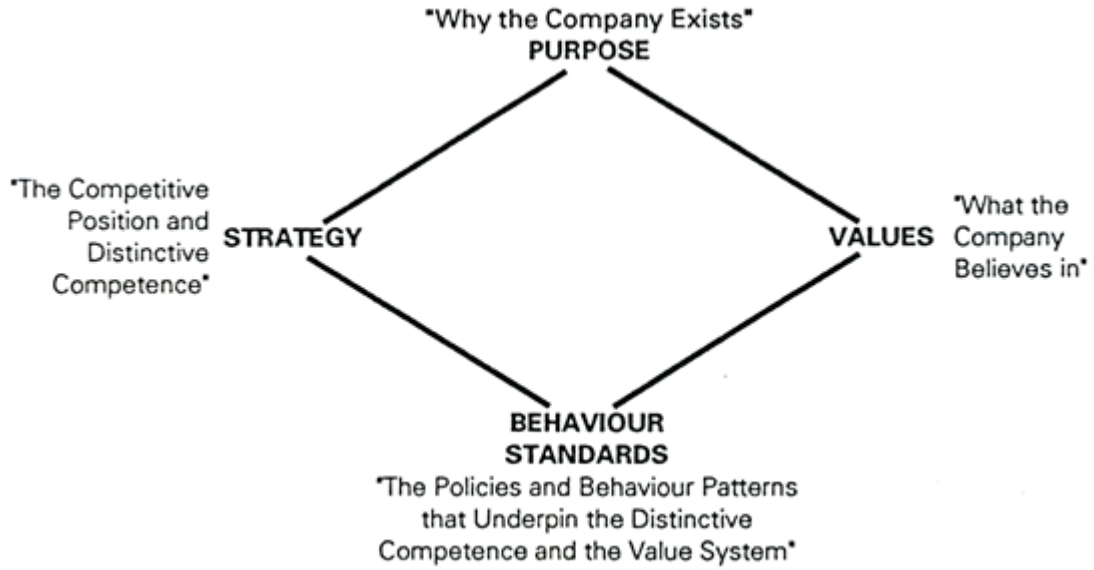

Figure 5: The Ashridge Model (Campbell and Yeung, 1991)

The fundamental of the model is: "A strong mission exists when the four elements of the mission link tightly together, resonating and reinforcing each other" (Campbell and Yeung, 1991). Because when those elements are aligned, an organization can unite under one mission and direct itself clearly for a certain purpose. This clarity can make employees feel and believe the reason why that organization exists and in which way they contribute to the world by working at that company.

Purpose can be identified as an answer to questions such as "What is the company for?", For whose benefit is all the effort being put in?" These questions can lead to many different directions since they are very philosophical. Thus, there are many companies that do not even seek for a conclusion regarding what their overall purpose is. Yet, there is an overall idea of purpose and there exist three categories for companies in regard to their purpose (Campbell and Yeung, 1991). The traditional companies exist for the benefit of shareholders therefore their purpose is maximizing the shareholders' wealth. Another way

to describe purpose is to include companies that exist to satisfy all the stakeholders or companies exist to satisfy the stakeholders' needs. There also exist a type of company that aim for a higher ideal such as sustainability through which they can identify a purpose that is greater than the combination of the needs of all stakeholders.

Mission is concerned with the purpose of an organization, thus it should be seen as an organization's strategic tool (Campbell and Yeung, 1991). Strategy is needed for achieving a purpose while competing with other organizations since it provides the company with a logic for commercialization. It will state the business in which the company is operating and the position the company seeks for within that business as well as the competitive advantage that the company aims for. As to the behavior standards, they stand for the action policy and behavior guidelines that are created by the influence of strategy and purpose; they guide people on their daily work when making decisions. Values mean the moral principles that lie behind the company culture; norms and behavior standards are given meaning by the values. Consequently, an important question rises up when reviewing the mission statements of companies: "Are the important behavioral standards central to both strategy and value system?" (Campbell and Yeung, 1991).

2.3.2. Strategy

Strategy theory, in the 1960s, emerged as a subset of management and organization theory and it was acknowledged more widely with the release of Strategy and Structure written by Alfred Chandler in 1962 (Fredberg and Kalling, 2013). Because, in his work he brought light upon the idea of separating strategy from structure and highlighted the importance of it. That idea claimed that strategy comes first, and structure symbolizes the way the organizations are organized which suits the ambition level of the corporate decision maker, in other words he claimed that structure follows strategy. Therefore, because of the varying nature of markets and the functions of businesses today, it becomes essential to design the organizations or implement new ways of working for companies.

Strategy has been used in different ways even though there has been a formal definition explaining it (Mintzberg 1987). For example, it has been described in many ways with the purpose to show superior performance over competitors. Other descriptions are determination of the objectives of an enterprise and acceptance of actions as well as the allocation of resources in pursuit of reaching those goals (Chandler 1962), a cohesive response to a challenge (Rumelt, 2011) Further, strategy is described as the means by which organizations as well as individuals achieve their objectives through a common view on consistency, integration and cohesiveness in regards to actions and decisions (Grant, 2016) or as "to gain competitive advantage" by the ability to create a better customer value to offer through either lower prices or greater benefits and services than competitors (Porter 1998).

Mintzberg (1987) identified different types of strategies: strategy as -plan, pattern, perspective, ploy, position. Strategy as Plan has two essential characteristics: it is made prior to actions and developed purposefully. For example, a pedestrian crossing a road has a plan on how to reach the other side of the street as well as a corporation having a certain plan on how to capture a market to survive. These examples indicate that strategies can be very general plans. However, they can be specific too, such as specific maneuvers to win over competitors. For example, a corporation threatening to have a geographical expansion to prevent a competitor from entering a new geographical market can be addressed as a Ploy since the strategy in that case is the threat and not the expansion itself.

Defining strategy as a plan may not be enough because either plan or ploy, they always have an intended outcome. Therefore, it is also relevant to define strategy as a Pattern to comprehend the result of either the plan or the ploy. Strategy as Pattern represents a flow of actions and consistency of behavior such as a company's successful actions merging into a pattern of actions which results as a strategy i.e., The Ford Motor Company's offer of Model T only in black.

Each time a corporation repeats the same thing to beat a competitor, it becomes implicitly a strategy as a pattern. Then, one day that consistency can be combined with an intention which may or may not imply that there is a plan behind that pattern. Therefore, the two definitions, strategy as plan and strategy as pattern can be very independent because plans may be unrealized as patterns may be undetermined. For example, if strategy as a plan is labeled as "intended strategy" and strategy as a pattern as "realized strategy", it may be easy to distinguish between deliberate and emergent strategies (Figure 6).

Deliberate strategies occur when previous intentions are realized such as Apple breaking the status-quo and investing on touch screens and emergent strategies occur based on the patterns developed when there was no intention or in spite of intentions such as the way Viagra found; it was developed as a high-blood pressure medication but in the end, it was repositioned around its side effects that were reported.

While strategies can be defined as plans/ploys or patterns there is still one question to be answered: "Strategy about what?". It is agreed by many that it is about the deployment of resources however, then there is another question: "Which resources and for which purposes?" In the end, what is strategic depends on who is making the strategy and the timing of it; someone's strategy may not be a strategy to another one or today's strategy may not seem as a strategy tomorrow but rather just a tactic. Accordingly, strategy can be about anything: customers, products, self-interests, or services. However, there are two other aspects of content of strategies that are distinguished in the literature due to their importance: strategy as position and strategy as perspective.

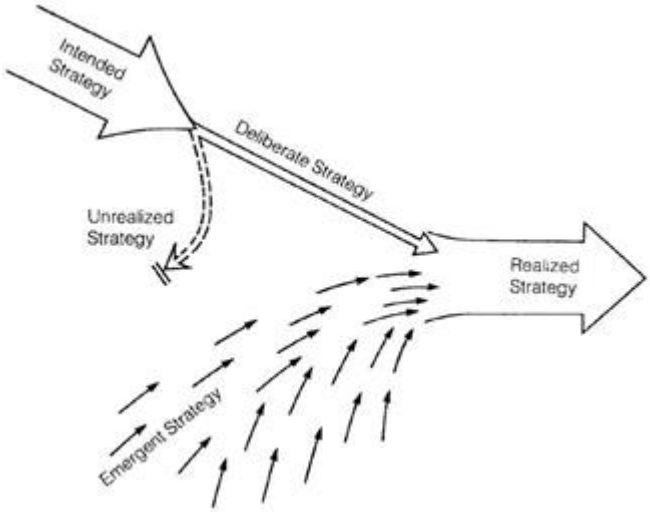

Figure 6: Concepts of Strategy (Mintzberg, 1987)

Strategy as Position means situating an organization in an environment. This definition turns strategy into a mediating force between the organization and the organization's context. It can be compatible

with the previous definitions of strategy, for example, a position can be selected through a plan or a ploy and/or can be found as a pattern of behavior. Therefore, in its essence strategy is an idea that comprehends the choice of a niche and primary decision rules of the organization on that niche.

Strategy as Perspective is an internal strategy that is a way of perceiving the world and shared through the intentions and actions of the members of an organization. It represents the collective mind: a common thinking that unifies individuals. However, what becomes a major issue in that regard is understanding how intentions diffuse, be shared, and exercised, in short reading the collective mind.

The relationship between the strategies can be comprehensive, for example perspective can be equivalent to a plan i.e. a vision of future alignment can be seen as a perspective but at the same time may be described as it is giving rise to future plans. A pattern can form a perspective, for example organizations may do certain things in similar ways over a period of time and gradually develop a perspective with skills, interests and tendencies. The strategies are interconnected, sometimes competitive but represent important elements of vital questions about organizations (Mintzberg, 1987).

2.4. Strategic Management

Strategic management is about managing both internal factors such as resources and capabilities; and external factors such as customers, competition and stakeholders (Fredberg and Kalling, 2013). It involves administration, leadership, power, control, analysis, formulation, implementation, and many other aspects when explaining performance whose meaning has evolved throughout the history of strategy.

The beginning of modernization of strategy theory can be justified with Porter's work on business strategy in 1980, 1985 and 1991 (Fredberg and Kalling, 2013). In his work, he focused on identifying industry forces behind the firm behavior and performance and it is called *industrial organization perspective.* According to Porter (1980), there are five external forces that affect the attractiveness of an industry: the bargaining power of customers, the bargaining power of suppliers, the threat from substitutes, the intensity of competition among existing rivals and the threat from new entrants.

Once the external environment is analyzed, different strategies should be developed in order to master those industrial forces through four possible ways (Porter, 1980):

- Positioning in a way that the capabilities can contribute to the best defense against external forces
- Strategic change to leverage the balance of forces
- Exploiting opportunities before the competitors: anticipate the change and respond fast
- Exit or diversification from the current industry

Through these four possible ways companies can succeed in strategic management. By acting upon their strategies, for example changing their directions, responding fast or using their resources in new ways, they can make their strategy happen. Accordingly, rather than staying only as a plan or perspective and such, in other words a strategy: it turns into a management style, so called strategic management.

Porter had focused solely on external factors. However, according to the theory of resource-based view (RBV) industries are heterogeneous and firms are not identical. The organizational differences are due

to that resources that cannot be transferred across firms which means that firms' performances are dependent on the internal resources such as employees, facilities, financial status rather than the industry positions (Barney, 1991). Successful firms possess valuable, rare, costly-to-imitate and well organized (VRIO) resources which generate competitive advantage (Barney, 1994). In this view strategy is identified as a means of arrangement of resources as well as management of and investment in those resources to make them *VRIO*.

There have been many more different views for strategic management and the meaning of performance. One understanding of performance is adaptability and new competitive advantage as Reeves and Deimler (2011). The era we live in today is about adaptability to instability and risk. Recent developments and trends such as globalization and digitalization lead to new technological developments and make the world more connected. Every day, we are waking up to new products that are changing our way of living and each day we are closer to information and learn more about what is going on around the world. Therefore, instability increases and adaptability gains much more important than yesterday to survive. Consequently, it disrupts businesses too, hence strategy change stands out as a way for them to adapt themselves to the changing business environment today.

2.4.1. Strategy Change

Current developments, such as the UN's SDGs, are causing new demands from organizations. For example, companies today may need to meet the requirements of public authorities in terms of sustainability or the desires of customers to buy more environmentally friendly products. Therefore, the context of strategy and organizations are changing.

Organizational change is a response to the internal and/or external environment (Aravopulou, 2016). There are two main reasons standing out for strategy change: growth and fragmentation of the stakeholder environment (Galbraith, 2014). First, it is a common desire for publicly traded companies to grow and drive their stocks. When there is growth, as traditionally believed, the stock price can get higher, or it can as well attract new talents to work in a growing company. Because, those talents look for companies that have bright futures to join. While growth brings a lot of benefits; the process, without a doubt, is challenging. The ambition for growth has made the limits of a lot of things reached such as the natural resources. That is why we need a sustainable development, circular economy etc. and that need causes the emergence of new strategies. Secondly, stakeholder pressure is becoming a key driver for companies to pay attention to their purpose and related social, economic, governance, ethical and environmental activities since they want to work for or buy from or sell to companies that are contributing to society positively (Dhanesh, 2020). Since the value created by companies is shared by a variety of parties such as employees, government, owners, customers (Grant, 2016), companies balance the interests of multiple stakeholders through changes in their strategies.

2.4.2. Change Management

The management of change is strongly linked with the making of strategy; because the change process embodies the process of strategy-making (Leidtka and Rosenblum, 1996) Since the core idea of strategy is creating a competitive advantage, in order to stay competitive, organizations renew themselves all the time and change, as they are surviving in an unstable environment (Fredberg and Pregmark, 2018). For a successful change, the whole organizational system needs to be taken into account. In fact, organizational change will not succeed as long as the whole system has been changed for keeping up

with the new conditions (Mintzberg and Waters, 1985; Beer, 2009). Therefore, the importance of alignment should be taken into account during times of change.

Different organizational forms function under different conditions of environment (Galbraith, 1973). Therefore, change in organizational design has a critical role for organizational effectiveness and growth (Aravopulou, 2016). Organizational design is the configuration of structures, processes, reward systems, and people practices for creating an effective organization that can achieve its business strategy (Kates and Galbraith, 2007). Thus, an organization is a vehicle for businesses to carry out their strategic tasks and organizational design is a decision-making process with a great many steps to take as well as choices to make. In the 1960s, the framework "Star Model" (Figure 7) was developed by Galbraith Management Consultants to facilitate decision making for organizational design to help organizations design their strategy Kates and Galbraith (2007).

In a process of change there is a need to realign in the organization. The ability to realign during the times of change creates efficiency. A static alignment can turn into a constraint. Therefore, alignment for organizations is a must but it needs to be flexible to be able to recognize and respond to the opportunities and threats. Hence, the principal of the Star Model is "alignment", each component of the model should together support the strategy (Kates and Galbraith 2007). The structure, processes, rewards, and people practices strengthen the desired actions and behaviors and it enables organizations to better achieve their goals. The Star Model framework is a foundation on which design choices are made by companies (Galbraith, 2011). Those policies fall under five categories: strategy, structure, processes, rewards, and people. When one of the elements in the Star Model changes, the others should be adopted accordingly. The meanings of those in relation to organizational design are as follows:

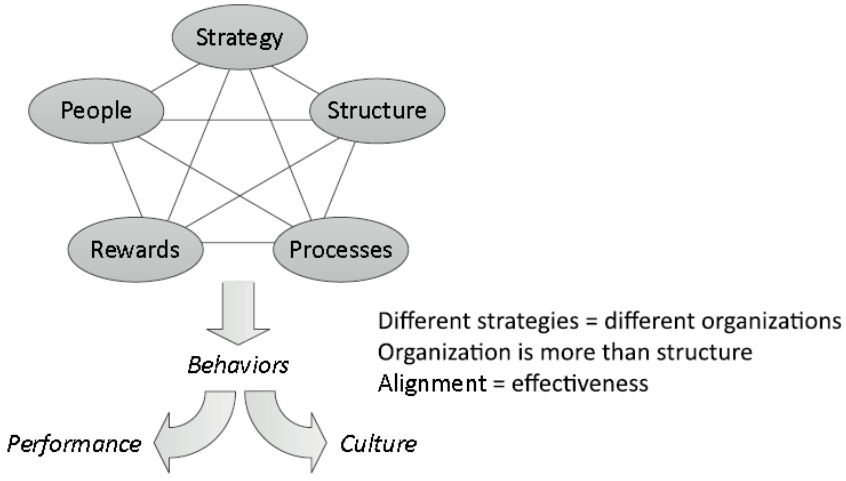

Figure 7: The Star Model (Galbraith, J. R., 2012)

Strategy sets the direction of organizations to achieve a competitive advantage while encompassing their vision and mission together with short- and long-term goals and it is the basis for the organizational design process. Internal organizational capabilities i.e., skills, processes, and technologies etc. differentiate companies since they are internal and specific to each company, and they are not easy to replicate as also explained by the resource-based view.

The structure specifies the location of the power of decision-making in organizations. The organizational chart represents the hierarchical structure of the organization that specifies functions,

products, customers or geographies that is approximately right to make the alignment of other elements with the strategy. The structure demonstrates the reporting relationships, power distributions and channels of communication, so it designates who is in contact with whom.

Processes describes the flow of information in organizations i.e., interconnected activities that carry out information across the organization such as work processes or management processes. Organizations often work in "silos" i.e., described as invisible towers surrounding groups of people that are vertically stacked inhibiting people from interacting and sharing perspectives. To be able to create collaborative environments, the silos and barriers need to be broken and bridged so activities can be integrated.

Rewards influence the motivation of people to perform on the organizational goals and align individual performances and behaviors. A company's scorecard and reward system are considered as a communicator of the company's values.

People means the human resource policies created to form the necessary capabilities and mind-sets to be able to carry out the strategy such as selection, staffing, development and training. Complex organizations do not only need a sophisticated management team for a superior performance but also employees at all levels who are competent to interact across organizational boundaries, contribute to teams and be able to consider multiple perspectives when making decisions.

2.5. Innovation

Innovation is an important part of today's business and it is regarded as one of the most discussed topics in business, economics, and management studies (Demircioglu, Audretsch, & Slaper, 2019). On a multidisciplinary perspective, innovation is defined as "the multi-stage process whereby organizations transform ideas into new or improved products, services or processes in order to advance, compete and differentiate themselves successfully in their marketplace" (Baregheh, Rowley, & Sambrook, 2009). Companies engage with innovation activities in order to gain competitive advantage over their competitors. Moreover, innovation is said to have a positive and significant effect on a company's ability to survive in the market (Cefis and Marsili, 2006).

2.5.1. Types of Innovation

According to the Organization for Economic Cooperation and Development (OECD) (2019), there are several types of innovation related to the object, for example product innovation and business process innovation. The former refers to the improvement of final outcomes in the form of goods and services. The second type is business process innovation, which indicates the process improvement in one or more business functions, such as production, distribution, logistics, marketing and sales. In terms of its innovativeness, innovation is often described as incremental and radical. Incremental innovation refers to the small improvements of existing products or services, while radical innovation indicates the significant improvements of new products usually by utilizing new technology. Table 3 below shows the four types of innovation along with its definitions and characterizations.

2.5.2. Value Creation of Innovation

As being faced with competition, companies started to improve their products, services, and cost structure in order to gain competitive advantage. Successful companies are going far beyond the competition and aiming for new ideas that could serve the market by providing exceptional values for their customers through value innovation, which emphasize innovation on buyer value (Kim and Mauborgne, 1999). However, companies nowadays should aim for creating value not only for customers but also society in general by embedding social purpose and developing innovations that can help solve social problems (Pfitzer, Bockstette and Stamp, 2013).

Table 3: Types of Innovation (OECD, 2019; Garcia, 2015; Norman and Verganti, 2014)

Innovation Category	Types of Innovation	Definition	Characterization
Based on the object	**Product Innovation**	"A new or improved goods or services that differ significantly from the firm's previous goods or services and that has been introduced to the market" (OECD, 2019)	*Types of products:* 1. **Goods:** tangible objects 2. **Services:** intangible activities that change users' conditions
	Business Process Innovation	"A new or improved business process for one or more business functions that differs significantly from the firm's previous business processes and that has been brought into use in the firm" (OECD, 2019)	*Types of business processes:* 1. **Production of goods or services:** activities that transform inputs into goods or services. 2. **Distribution and logistics:** transportation, service delivery, warehousing, order processing. a. Transportation and service delivery b. Warehousing c. Order processing 3. **Marketing and sales:** a. Marketing methods b. Pricing strategies and methods c. Sales and after-sales activities 4. **Information and communication systems:** a. Hardware and software b. Data processing and database c. Maintenance and repair 5. **Administration and management:** a. Organising work responsibilities b. Corporate governance c. Accounting and financial activities d. Human resource management e. Procurement f. Stakeholder management 6. **Product and business process development** Activities to develop or adapt products or a company's business processes, conducted within the company or obtained from external sources

Based on the innovativeness	**Incremental Innovation**	Improvements of existing solutions or innovations in terms of performance, costs, desirability, or model. (Garcia, 2015; Norman and Verganti, 2013)	● Predictable and low risk ● Strengthen the capabilities of incumbent firm
	Radical Innovation	Innovation that offers dramatic improvement which caused transformation of existing markets or creation of new markets (Garcia, 2015).	● Driven by technology changes ● Satisfies unmet needs of customer for the first time ● Requires organizational changes of the innovating organization

2.6. Sustainable Innovation

The growing demand for sustainability has brought new opportunities and threats to many business sectors. Sustainability may give companies growth opportunities in a new market, while for some other companies, sustainability may promote new strict regulations which could affect the business process. Therefore, businesses are responding to the emerging opportunity and threats caused by sustainability through sustainable innovation. Besides, commercial success is likely to be achieved by addressing innovation that supports transition to a greater sustainability since it will create value for business (Dearing, 2000). In fact, innovation is a key element for companies with sustainability-oriented strategy, in order to become more sustainable, companies need to have new ways to do old things as well as new ways to do new things (Placet, Anderson, and Fowler, 2005). Moreover, radical new approaches to innovation are needed in order to deliver SDGs that keep human societies within a "safe operating space" (Leach, et al., 2012).

Taking into the definition, sustainable innovation is basically taking the triple-bottom line consisting of economic, environmental, and social dimensions into consideration (Lubberink, Blok, Van Ophem, and Omta, 2017). Sustainable innovation has a market orientation that satisfies customers' needs with least environmental impact while also taking the social aspects into account (Lubberink, et al., 2017). Sustainable innovation can be described as "the development of products or processes that consume fewer environmental resources, foster the health of individuals and communities, and are financially viable for producers and consumers alike" (Hargadon, 2015). In addition, it is also about sustaining the pace of organizational capability to innovate over a decade or even more (Hargadon, 2015).

There are many sustainable innovation practices applied by organizations and companies. In order to clearly understand the characterization of sustainable innovation practices, a literature about sustainable business models is regarded as the starting point for sustainable innovation. Sustainable innovation has a special characteristic since it has to fit from a technical, organizational, and economical perspective, and also contribute to solving sustainability problems, which makes the sustainable innovation topic discussed as a business model challenge (Boons and Lüdeke-Freund, 2013). Moreover, Bocken, Short, Rana, and Evans (2014) developed eight archetypes of sustainable business models which are divided into three groupings: technological, social, and organizational. Organizations that apply certain sustainable business model characteristics may also reflect sustainable innovation practices as the innovations are done within the business model. For instance, low carbon manufacturing business models have innovations such as reusing and recovering of material so that the CO2 contribution over the product life cycle is kept low. Some other examples are the social enterprise business model where the profit is reinvested, and the base of the pyramid business model that aims at creating markets in

developing countries. Figure 8 further shows the sustainable business model archetypes and more explanation regarding each archetype is explained in the following subsections.

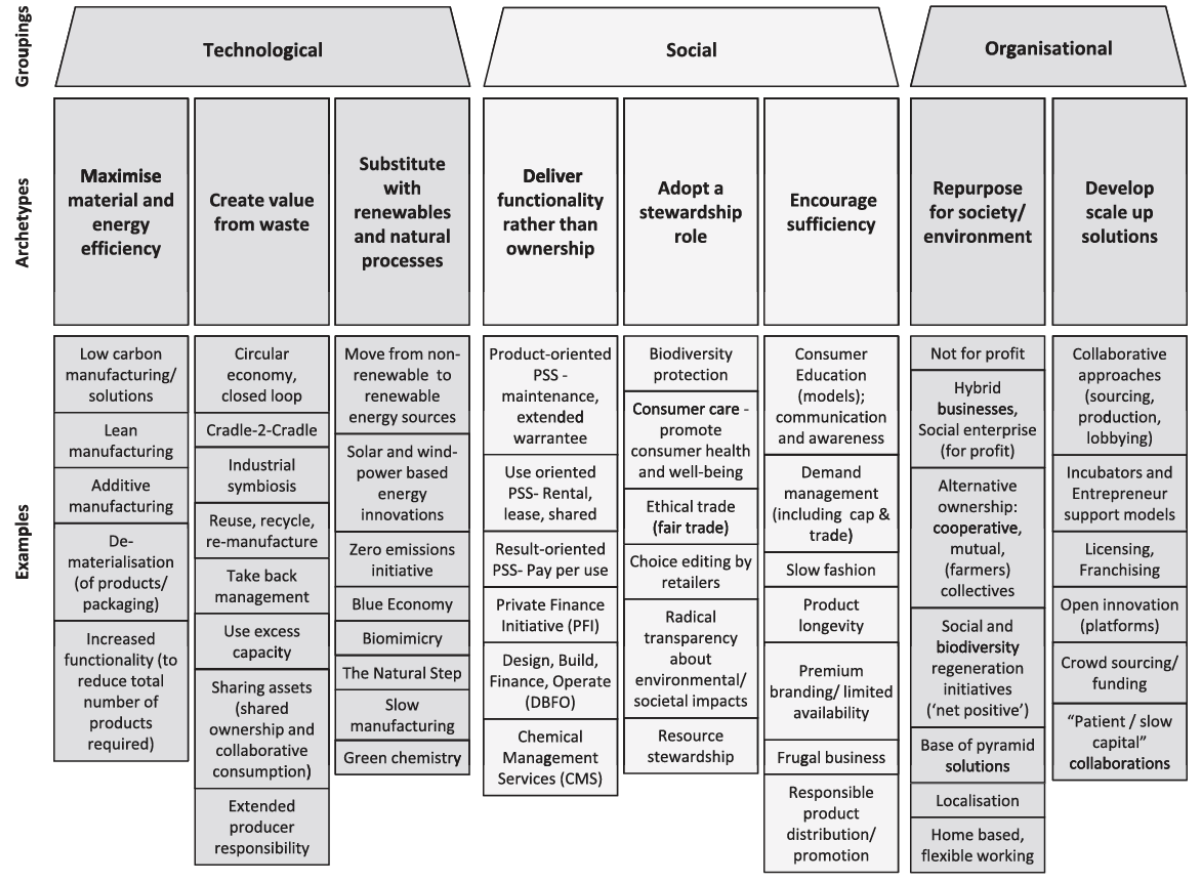

Figure 8: The Sustainable Business Model Archetypes (Bocken, et al., 2014)

2.6.1. Technological Innovation

Technological innovation groupings are the type of business model innovation with significant technical innovation components, which consists of three archetypes: maximize material and energy efficiency, create value from waste, and substitute with renewable and natural processes (Bocken, et al., 2014). Through maximizing material and energy efficiency, companies create products or services with fewer resources, generate less waste and emissions and make less pollution, for instance, by applying eco-efficiency, lean manufacturing, or a cleaner production approach. Meanwhile, by creating value from waste, companies seek to eliminate waste results from the product life cycle, for example through a closed-loop system, where waste at the end of the life cycle is used to create new value. Lastly, by substituting the current process with renewable and natural processes such as renewable energy solutions, companies aim to reduce the environmental impacts for example by applying solar energy to generate electricity for the manufacturing process.

2.6.2. Social Innovation

Social innovation groupings are the type of business model innovation with dominant social value creation, which consists of three archetypes: deliver functionality rather than ownership, adopt a

stewardship role, and encourage sufficiency (Bocken, et al., 2014). When delivering functionality rather than ownership, companies provide services that allow users to satisfy their needs without owning the products through Product Service Systems (PSS) and servitizations, such as car sharing systems. Meanwhile, by adopting a stewardship role, companies are proactively engaging all stakeholders to ensure long-term well-being for example through premium pricing for products with certain supplier accreditations program in order to promote more ethical and sustainable business. Finally, by encouraging sufficiency, companies try to influence the consumption behaviors through reduction of demand which will affect the production for example through product redesign for durability and incentives systems when consumptions are reduced.

2.6.3. Organizational Innovation

Organizational innovation groupings are the type of business model innovation with dominant organizational innovation change component, which consists of two archetypes: repurpose for society/environment, and develop scale up solutions (Bocken, et al., 2014). According to Bocken, et al. (2014), repurposing the company can be done by prioritizing social and environmental benefits rather than the maximization of economic profit, for instance through developing social enterprises and not-for-profit organizations where a specific social mission is fulfilled. Meanwhile, developing scale up solutions aim to enlarge the sustainability solution, for example through franchising, collaborations, crowd-sourcing, and open innovation, where the company may attract other like-minded individuals, firms, and investors.

2.7. Case Study Companies: Castellum and Göteborg Energi

This thesis work is done under the roof of the company First to Know Scandinavia AB that works for sustainable business development and value-based transformation in order for their clients to improve and become more sustainable. The company's role in this thesis is to provide the authors of this master's thesis with contact companies through its client network. Hence two case companies selected in order for the authors to base their study on: Castellum and Göteborg Energi. In the following subsections the two case companies are introduced.

2.7.1. General Overview

Castellum

Castellum was founded in the early '90s with the pursuit of creating a financially stable real-estate corporation. By the year of 1997, Castellum had achieved that objective and become a corporation with properties in chosen growth areas. May 23rd, 1997 was the day Castellum was listed on the Stockholm Exchange's "O-List" and in the Nasdaq Stockholm Large Cap. Today, as being one of Sweden's largest property companies for commercial properties, Castellum has expanded its operations to Copenhagen and Helsinki. Currently, the company encompasses 4.2 million square meters of office and logistics Thus, the company owns 632 premises, accorporating 4.2 million square meters of space utilized for offices and logistics serving around 5100 customers. Every day more than 250,000 people spend time on those premises working. The operations consist of three areas: property management, project development and transactions. In those areas, Castellum works with lease management; investing in new portfolios and developing new portfolios; and works for strengthening the company's position in Nordics through continual development of the company's property portfolio. As of 2020, the company

has MSEK 3,146 income from property management with a 7% increase in dividend and SEK 95.2 in property value.

Göteborg Energi

Göteborg Energi is an energy company that has provided energy in Gothenburg, historically since over 150 years ago. Later in 1990, Göteborg Energi AB was formed and fully owned by the municipality under the parent company Göteborg Stadshus AB. Therefore, the company is obliged to collaborate actively with the parent company Göteborg Stadshus AB in realizing sustainable development in the city of Gothenburg. Göteborg Energi operates its businesses within production, distribution, sales and delivery of energy and communication infrastructures in the Gothenburg region. As a group company, Göteborg Energi AB currently has seven subsidiaries within energy supply and communication in the western part of Sweden, consisting of Göteborg Energi Gothnet AB, Göteborg Energi Din El AB, Göteborg Energi Nät AB, Göteborg Energi Gasnät AB, Göteborg Energi Backa AB, Ale Fjärrvärme AB, and Sörred Energi AB. By 2019 Göteborg Energi had 938 employees in the Gothenburg region and generated Net sales of 5,799 Million SEK, which makes the company the largest municipal energy company in Sweden. As a municipal owned company, Göteborg Energi has contributed 348 Million SEK from its profit in 2019 to the city of Gothenburg.

Information for Castellum and Götebrog Energi regarding their ownership, number of employees, scope of operations, and operations is presented in Table 4 (Castellum, 2020a; Göteborg Energi, 2020).

Table 4: Company Information for Castellum and Göteborg Energi

Company	**Castellum**	**Göteborg Energi**
Ownership	Private	Public (Municipality)
Total Employees	~400	~900
Net Sales	3,146 MSEK	5,799 MSEK
Scope of Operation (Location)	17 cities in Sweden (HQ Göteborg), Copenhagen, and Helsinki	Göteborg Region, West Sweden
Operations	• **Property management:** Through management, in close relationships with customers, that is built on good business conduct, sustainability and innovation, enabling customers reach their business goals. • **Project management:** Investing in existing portfolios and developing new portfolios, resulting in a quality shift to a more sustainable and stable portfolio, as well as increased earning power. In addition, promoting urban development and growth. • **Transactions:** Continual development of property portfolio to strengthen the company's position in Nordics	• **Electricity network and trading:** Selling electricity to both corporate and private customers. • **Gas network and trading:** Selling and distributing natural gas and biogas (Fossil and renewable methane gas), which are used such for transportation, industry, and restaurant. • **District heating:** Selling and distributing district heating supply. • **Solar and wind energy:** Owning wind power and solar park to generate electricity and offering customers to rent solar panels. • **District cooling:** Selling and distributing cold water. • **City fiber:** Owning and operating the city's fiber network in Gothenburg with high delivery security as part of digital society. • **Energy services:** Providing energy services to reduce customers' operating costs and energy costs.

2.7.2. Business Orientation, Environmental Management and Innovation Activities

In this section, three tables are represented in order to present each case company's business orientation, environmental management and innovation activities at once. Table 5 represents the components of business orientation by summarizing both companies' statements of mission, purpose, values, strategy and behavioral standards as declared in their documentations (Castellum, 2020a; Castellum 2020b; Göteborg Energi, 2019; Göteborg Energi, 2020).

Table 5: Alignment in Castellum and Göteborg Energi

Components of Alignment	Castellum	Göteborg Energi
Mission	To create **workplaces where people and enterprises thrive**. To promote and create successful workplaces and offer **new ways of working**.	Conducting production, distribution, and selling in the energy field, ensuring the **environmental and climate sustainability, safe delivery and affordable energy** and communication infrastructure for the citizens and businesses in the city of Gothenburg.
Purpose	To be **the most sustainable** real estate **company** in Europe and actively promote sustainable development.	To integrate and develop the energy and urban fiber operation in urban development while at the same time contribute to the **development of a sustainable Gothenburg society.**
Values	Personal, passionate, proactive, reliable	Responsibility, sustainability, development
Strategy	**Strengthening** customer **relations** with **priority customer segments**, developing service offerings, and improving property and development portfolios. Three main perspectives: customers, offerings, and the company performance.	Cooperation and collaboration with the city's other committees and companies, also with academia, businesses, and other actors to **create conditions for a desirable development**. Aim to ensure **stable economic development** that allows economic space for **long-term and sustainable actions.**
Behavioral Standards	Human rights, working conditions, the environment, business ethics and anti-corruption.	Promotion good working environment and counteract discrimination, basic principles in the UN Declaration on Human Rights and the ILO (International Labor Organization) Convention.

In Table 6, how both case companies do their environmental management is presented. To do so, their sustainable development strategies, sustainability agendas, sustainability goals, environmental accountings, and top priority aspects from materiality matrices are summarized in the table (Castellum, 2020a; Castellum 2020b; Göteborg Energi, 2019; Göteborg Energi, 2020).

Table 6: Environmental Management at Castellum and Göteborg Energi

Environmental Management	Castellum	Göteborg Energi
Sustainable Development Strategy	Operations will contribute to sustainable development, and sustainability efforts will be integrated with all business actions and result in tangible results. Operations conducted in a responsible manner are vital for the company's short- and long-term success, as **sustainability action drives profitability and long-term shareholder value**.	Making the greatest possible benefit for the society in Gothenburg by knowing what it can and should influence through continuously learning more about the company's impact on the **city's sustainability**.
Agenda for Sustainability	**Sustainable City 2030** Four areas of focus: *the planet, future-proofing, well-being,* and *social responsibility*. For instance, 100% use of non-fossil fuel powered vehicles, 60% gender equality in all occupational categories, 20% of employees with international backgrounds, becoming carbon dioxide neutral and using 100% non-fossil energy.	**Fossil Free 2025** Setting the target to be fossil-free by 2025, five years ahead than what they had set earlier. Göteborg Energi redirects their activities mainly in the district heating systems that will need to be able to operate fossil-free through the use of renewable or recycled sources.
Sustainability Goals	The relevant goals for Castellum are UNSDGs' number 3, 4, 5, 6, 7, 10, 11, 12 and 13, which were implemented in Castellum's Agenda for Sustainable City 2030.	Environmental work is generally based on the Twelve Environmental Quality Goals adopted by the city of Gothenburg, specifically focused on four goals: reducing climate impact, non-toxic environment, clean air, and well-built environment.
Environmental Accountings	● Guide and target business operations in accordance with the UNSDGs and the Global Climate Change Agreement. ● Certified ISO 14001 for maintaining structured environmental work. ● Sustainability reporting according to the GRI guideline. ● Sustainability indicator based on the European Public Real Estate Association (EPRA) Sustainability Best Practice Recommendation (sBPR).	● Calculate CO2 emissions, energy and raw materials used, residues, and non-hazardous waste. ● Applies environmental management systems, such as the ISO 14001, ISO 9001, and ISO 45001. ● Biofuels compliance with The Biofuels Sustainability Criteria. ● Emissions trading based on the EU common system. ● Sustainability reporting according to the GRI guideline.
Top Priority Aspects from Materiality Matrix	● Efficient use of resources ● Increased diversity and equality ● Increased investment in renewable energy, including solar cells ● Healthy premises that increase tenants' well-being ● Creating smarter workplaces through digitalization, innovation and modern technology ● Adapting properties for climate change ● Attractive workplace for employees ● Sustainable building materials ● Collaborate with customers for higher sustainability performance ● Environmental certifications of buildings	● Emissions to air and climate impact ● Raw material use ● Energy use ● Employment, attractive employer ● Employee health and safety ● Diversity and equality ● Availability ● Invest in infrastructure ● Research and development

Table 7 describes the latest innovation activities of the companies. The activities include strategic decisions made by the companies consisting of acquisitions, partnerships, and projects. (Castellum, 2020a; Castellum 2020b; Göteborg Energi, 2019; Göteborg Energi, 2020).

Table 7: Innovation Activities at Castellum and Göteborg Energi

Innovation Activities	
Castellum	**Göteborg Energi**
● **Acquisition - Säve Airport** Acquired Säve Airport to create and develop new and modern logistic hubs, and further create an innovation cluster for sustainable transportation and mobility solutions. ● **Acquisition - United Spaces** Acquired coworking business company aiming to contribute in the acceleration of the creation of new co-working places in the Nordic region. ● **Project - 100 på sol** A project to install nearly 100 solar cells on the Castellum's buildings by 2025. ● **Data-driven knowledge through AI** An innovation lab working to enhance the efficiency of operation, reducing energy use and creating possibilities for digitized maintenance. ● **Project - Sustainable City Agenda** An agenda for 2030 consisting of four areas of focus: the planet, futureproofing, well-being, and conduct. ● **The Innovation Laboratory** The first innovation labs for digital services development aiming to expand internal innovation efforts and continue to bring projects from the innovation lab into Castellum's offering in services. ● **European expert group** Castellum was inducted into a European group of experts on sustainability and innovation.	● **Nya Solevi Solar Farm** The first solar farm which allows customers to subscribe electricity from renewable energy sources, rent solar panels and join the renewable conversions. ● **Super Speed Charger for Heavy Vehicles** Super speed charging spot at Falutorget, Gothenburg in collaboration with Volvo. ● **Smart Electricity Meter** A new generation of smart electricity meters for more detailed information. ● **Smart Maintenance** The use of new digital tools to better maintain the company's energy production. ● **Riksbyggen Positive Footprint Housing** A Research and housing project aims to create a holistic approach to sustainable housing and urban development. ● **HSB Living Lab** Test and research the solution of the future, especially related to its district heating and energy storage. ● **Key2Future** A mentorship program as a way to concretely work to reduce gaps and increase equality in Gothenburg. ● **Tänk:Om** Scholarship available for individuals, startups, and companies for ideas and projects that contributes to a sustainable Gothenburg.

3. Method

In this chapter, the selection of methods for conducting this study which consists of research design, research method, data collection, data management, analysis strategy and validity, are presented.

3.1. Research Design

This study will be based on qualitative research with two cases from two organizations in Gothenburg. Since this study is built upon the current trend of companies to be more sustainable and aims to investigate how business orientation towards sustainability can be aligned in organizations, particularly with practices of innovation, it requires an extensive explanation from existing practices, and hence a multiple-case study is preferred. The choice of companies was based on the public statements such as purpose, mission and strategy, declaring some kind of ambition for orienting their business towards sustainability.

Furthermore, due to the complex problem of sustainability (Brønn and Brønn, 2018), a qualitative research was preferred in order to give a better explanation for more comprehensive understanding. In order to have a proper investigation for this research, empirical data was collected by interviewing representatives from the companies selected who are responsible in at least one area within sustainability and/or innovation and working as managers. During the interviews, questions related to sustainability view, innovation view, organizational structure, and the outcomes of sustainability efforts were asked in pursuit of achieving the aim of the study. Moreover, review of annual reports, sustainability reports, press releases, and other reports were collected and studied to present a better understanding for each case study. Additional interviews with expertises from other companies related to the case companies, such as Gothenburg's municipal agency and a consulting firm in the innovation area, were conducted in order to gain another perspective by the authors related to sustainability and innovation in companies.

The literature review of this study was carried out within the field of organizational alignment, strategic management, sustainable development and innovation. The analysis was performed by assessing the companies' objectives and efforts in the areas of sustainable development as well as initiatives and projects in regards to innovation.

3.2. Research Method

Multiple-case study was selected as the research method for this study. According to Yin (2018), case study allows researchers to investigate a phenomenon in depth within real-world context. Moreover, by conducting multiple-case study, researchers may have more compelling evidence and more robust results through cross-case analysis (Yin, 2018). Multiple-case study may require extensive resources and time; therefore, it is recommended for a multiple-case study to follow replication design (Yin, 2018; Yin, 2013). Therefore, in this study, the same data collection method was applied for both case studies and the analysis for each case study is done by using the same theory. Besides, the selection of companies used as case studies was following the same criteria.

3.3. Literature Review

Literature review constructs the theoretical framework for this study. In order to find relevant and reliable articles, the literature review was done by accessing and collecting articles through the search library database of Chalmers University of Technology, Proquest, Science Direct, as well as Google Scholar. The literature review is divided into several topics consisting of sustainable development, organizational alignment, strategic management, innovation and sustainable innovation. Some keywords used for literature search in this study can be seen in Table 8 below.

Table 8: Keywords for Literature Search

Topic	Keywords
Sustainable development	Sustainable development, sustainability, Sustainable Development Goals (SDGs), agenda 2030
Business orientation	Purpose, mission, strategy
Organizational alignment	Organizational components, change towards sustainability
Strategic management	Strategy, profit, organizational change, change management
Innovation	Innovation, business innovation, corporate innovation, role of innovation, innovation types, value innovation
Sustainable Innovation	Sustainable innovation, innovation for sustainability, sustainable business model innovation

3.4. Data Collection

Several data collection methods are explained in this section consisting of interviews and documents.

3.4.1. Interviews

Semi-structured interviews were used as the primary source of data for this study. This means that a set of questions is prepared in advance to guide the interview sessions. The set of questions are generally open-ended questions and embodies four topics: sustainability view, innovation view, organizational structures, and the outcomes of sustainability efforts. More detailed information regarding the set of questions can be seen in Appendix 1. During each interview, one of the authors was assigned to be responsible mainly for asking questions while the second is mainly responsible for taking extensive notes. Both authors were responsible for keeping track of the topics discussed based on the set of questions prepared earlier and asking some follow up questions during the interview. Most of the interviews were recorded and transcribed later in the process thus, they serve as the main source for empirical findings. However, some interviews were not recorded since the authors omitted to ask respective interviewee's consent. In that case, the extensive notes taken during the interviews were used as the primary source when presenting the empirical findings for those interviews. In the beginning of the study, some interviews were conducted through face-to-face communication. However, because of the limitations to interact physically due to COVID-19 pandemic during this study, most of the interviews later in the process were conducted through video call through various tools such as Zoom,

Microsoft Teams, and Skype. It is also important to be noted that the COVID-19 pandemic situation also affected the number of interviews that could be arranged with companies and organizations for this study.

Due to limited access and knowledge to both companies, snowball sampling was performed in this study in order to gain access to the relevant respondents in the company. Snowball sampling happens when selected respondents recruit or recommend other participants within their network (Easterby-Smith, Thorpe, and Jackson, 2015). The selection of respondents is based on their roles and positions in the companies that work in the field of sustainability and/or innovation. Moreover, additional interviews were also conducted with sustainability and innovation experts from other relevant companies and organizations, such as Business Region Göteborg, Göteborg Municipality, Unicornsulting Innovation, and Ericsson, in order to give additional perspective to the authors in understanding the topics of sustainability and innovation in companies, hence those findings are not represented separately in the study. Table 9 below shows the detailed list of interviews conducted in this study and the details for the interviews.

Table 9. List of Interviews for Empirical Findings

Organization	Respondent	Position	Date	Duration	Setting	Recording
Castellum	Anonymous 1	Project Developer	10/02/2020	10 minutes	Face to Face	No
Castellum	Anonymous 2	Head of Development	11/02/2020	60 minutes	Face to Face	No
Castellum	Anonymous 3	Head of Sustainability	17/04/2020	25 minutes	Video Call	Yes
Castellum	Anonymous 1	Project Developer	28/03/2020	50 minutes	Video Call	Yes
Göteborg Energi	Anonymous 4	Director of Sustainability	13/02/2020	87 minutes	Face to Face	Yes
Göteborg Energi	Anonymous 5	Business Developer	24/03/2020	75 minutes	Video Call	Yes
	Anonymous 6	Coordinator Quality, Environment and Safety				
	Anonymous 7	Environmental Strategist				
Göteborg Energi	Anonymous 8	R&D Strategist	15/04/2020	73 minutes	Video Call	Yes
Business Region Göteborg	Anonymous 9	Head of Industry and Commerce Strategic Development Program	23/03/2020	76 minutes	Face to Face	Yes
Business Region Göteborg	Anonymous 10	Area Manager Innovation	27/04/2020	50 minutes	Video Call	Yes
Göteborg Municipality	Anonymous 11	Politician (Miljöpartiet)	24/04/2020	57 minutes	Video Call	Yes
Unicornsulting Innovation	Anonymous 12	Innovation Mentor, Workshop Facilitator and Founder	02/04/2020	56 minutes	Video Call	Yes
Ericsson	Anonymous 13	Technology for Good Program Director	28/03/2020	51 minutes	Video Call	No

3.4.2. Documents

In addition to interviews, further data was also collected through assessing annual reports, sustainability reports, and other relevant reports for both case studies. The data extracted from these documents are mainly regarding the business orientation of both case companies which consists of their purposes, visions, missions, business ideas, business models, business strategy, sustainability strategy, and environmental management. In addition, data regarding their activities were also extracted. Those activities are mainly the projects, collaborations, initiatives and others that present either some kind of sustainability view or innovativeness. Some documents were written in Swedish and are translated by using online tools in order to understand the content. The list of various documents used for empirical findings in this study can be seen in Table 10.

Table 10: List of Documents for Empirical Findings

Organization	Report Name	Year of Publication	Number of Pages	Language
Castellum	Annual Report 2019	2020	244	English
Castellum	Company Website	-	-	English
Castellum	Corporate Governance Report 2019	2020	24	English
Castellum	Code of Business Conduct	2018	7	English
Göteborg Energi	Års Och Hållbarhetsredovisning 2019	2020	108	Swedish
Göteborg Energi	Års Och Hållbarhetsredovisning 2018	2019	55	Swedish
Göteborg Energi	Ägardirektiv för Göteborg Energi AB	2020	2	Swedish
Göteborg Energi	Bolagsordning för Göteborg Energi AB	2020	2	Swedish
Göteborg Energi	Company Website	-	-	Swedish

3.5. Data Management

Collected data in this study were managed according to the topic consisting of two subsections: business orientations and activities, also perspectives and insights.

3.5.1. Business Orientations and Activities

Findings related to business orientations and activities of case companies that are collected from assessing documents were categorised based on its general theme. Several themes that are presented in the empirical findings are business orientation, environmental management, operationalization of sustainability, and activities of the companies. Furthermore, data from each company is presented separately in the empirical findings section order to generate a comprehensive and in-depth view of each of the case companies.

3.5.2. Perspectives and Insights

Profound insights regarding sustainability and innovation views and operations within those fields of the companies were gained through interviews from the company representatives. Relevant information related to sustainability and innovation in each company are extracted from the interview transcripts and are presented in the empirical findings section under the section titled “Perspectives and Insights from the Castellum and Göteborg Energi”. It is classified into three main categories, consisting of Sustainability, Innovation, and Connection between Sustainability and Innovation. Findings from interviews with each company’s representative are treated and presented separately. In addition, relevant information was also extracted from interviews with experts from other relevant organizations. For example, information regarding the connections of their organizations with the case companies and interviewees’ experiences when working together with the case companies. These information serve as additional perspectives from organizations in seeing the issue of sustainability-oriented strategy. Later, it may be added to the related case company when relevant and will also be used by the authors in understanding about the topics. Moreover, the identity of interviewees is kept anonymous and all respondents are mentioned as “our respondent”.

3.6. Analysis Strategy

In order to understand the collected data and answer the research question, a content analysis approach is chosen for this study, where collected data are classified by their category and then analyzed. In content analysis, the following steps are followed: determination of a number of criteria to select relevant information from the collected data, then analyze the selected information based on relevant theoretical framework in order to answer the research question (Easterby-smith, et al., 2015). Two criteria determined in this study for selecting relevant information are sustainability orientation and innovation activities in the case companies, which are classified into certain topics such as SDGs, stakeholders, sustainability and innovation (Figure 9). The selected information from empirical findings that are collected through document assessment and interviews are then compared with the theoretical framework gained from literature review.

Figure 9: Classifying Relevant Information

3.6.1. Analysis for Research Question 1

The analysis is organized in two subsections in order to answer the research question "How can innovation practices be aligned with business orientations toward sustainability?". Each subsection is dedicated to one company in order to analyze the alignment in each company separately. The Star Model (Galbraith, J. R., 2012) is used as a main theoretical reference in order to understand the current level of organizational alignment within companies. By comparing different organizational elements such as strategy, structure and activities of the company, the current level of alignment is identified. While doing so The Ashridge Model (Campbell and Yeung, 1991) is also used to understand the current alignment within the business orientation such as between the strategy, purpose and mission.

The reason behind this approach was to firstly understand how companies align the elements of business orientation such as strategy, purpose, values and behavioral standards since those elements can be affected by a variety of stakeholders, hence may be misaligned when stating to the public. Also, this part of the analysis aimed to be helpful when further analyzing the organizational alignment based on the strategies. Therefore, while doing the analysis firstly, the statements of purpose, strategy, behavioral standards and values of each company are compared and contrasted with each other to see if they highlight and focus on the same values. Then this understanding was utilized to understand if the companies' missions are strong as argued by Campbell and Yeung (1991). Further, by using The Star Model (Galbraith, J. R., 2012), it is compared how aligned the companies are in their organizational design. More specifically, it is compared how their strategic statement is aligned with their activities.

3.6.2. Analysis for Research Question 2

In order to answer the research question "What can sustainable innovation in companies look like?", innovation activities from each case company are identified and analyzed based on the types of innovation with regards to its objects, either product innovation or business process innovation, and its level of innovativeness, either incremental innovation or radical innovation. Furthermore, an analysis of each company's innovation activities is conducted by identifying whether each innovation activity incorporates the value of sustainable innovation by referring from the sustainable business model archetypes developed by Bocken et al (2014). Finally, after analyzing each case separately, the section is concluded with the overall analysis on the connection between sustainability and innovation.

3.7. Validity

In order to construct validity of this study, data collection was done by the use of multiple sources by assessing related public documents for each case company and interviewing respondents who act as representatives for the company. Besides, during the period of this study, most of the information gained in the interview was recorded with the consent of the respondents and transcribed.

4. Empirical Findings

In this chapter, collected data from interviews and documents are presented. The chapter is divided into four sections respectively: *alignment in business orientation for sustainability and innovation, sustainability in innovation activities, environmental management,* and *perspectives and insights*. In order to present both of the companies' views and activities individually while enabling comparison, findings from both companies are represented together under each section.

4.1. Alignment in Business Orientation for Sustainability and Innovation

Both companies are found to emphasize sustainability in their business orientation (Table 5). For instance, while Castellum states their purpose as to operate for offering new ways of working and aims to be the most sustainable company in the industry it operates in; Göteborg Energi claims that it exists in order to ensure sustainability, deliver safe and affordable energy and aims to contribute to the development of a sustainable city. Despite there are similarities found out in the two companies' business orientations, such as including sustainable development in their purpose, there are also differences in their ways of reasoning for those orientations. For example, Castellum points out that it aims to be the most sustainable company among its rivals, whereas Göteborg Energi's purpose is to contribute urban development and sustainable city development. As to their strategies, it appears to be important for Castellum to strengthen the relationships with customers while improving the portfolio and the performance. For Göteborg Energi then, the company's strategy is emphasized more on creating conditions for sustainable development of the society and taking actions on that for long-term vision.

In order to clearly see how each company addresses sustainability and innovation in their business orientation, Table 11 is presented below. In the table, it is represented how innovation and sustainability are incorporated in each statement of alignment components. It is seen that Castellum has based its orientation in an ordinary business agenda. Several parts lack addressing sustainability with the focus mainly on financial and social sustainability issues. However, it is seen that there is an ambition to do innovation. As to Göteborg Energi, alignment based on sustainability values. The company's focus is more on development rather than innovation.

Table 11: Alignment of the companies with the focus on sustainability and innovation

Components of Alignment	Castellum	Göteborg Energi
Mission	• Sustainability: N/A • Innovation: New ways of working	• Sustainability: Safe delivery and affordable energy • Innovation: N/A
Purpose	• Sustainability: Promote sustainable development • Innovation: The most sustainable real estate company	• Sustainability: Development of a sustainable Gothenburg society • Innovation: Integrate and develop the energy and urban fiber operation.
Values	• Sustainability: N/A • Innovation: N/A	• Sustainability: Responsibility, sustainability • Innovation: Development

Strategy	• Sustainability: N/A • Innovation: Developing service offerings	• Sustainability: Ensure stable economic development that allows economic space for long-term and sustainable actions • Innovation: Create conditions for a desirable development.
Behavioral Standards	• Sustainability: Human rights, working conditions, the environment, business ethics and anti-corruption. • Innovation: N/A	• Sustainability: Good working environment and counteract discrimination, basic principles in the UN Declaration on Human Rights and the ILO (International Labor Organization) Convention. • Innovation: N/A

4.2. Sustainability in Innovation Activities

In terms of innovation, both Castellum and Göteborg Energi are engaging with digitalization as part of their innovation strategy. However, as Castellum is focusing the digitalization as part of their effort in order to develop new digital services for their customers, Göteborg Energi is utilizing the digitalization as a way to measure and understand the data so that they may influence their behavior when producing energy and customer's behavior when consuming energy. For example, Castellum established "The Innovation Laboratory" to develop digital services that can be utilised in Castellum's offering in services, and as to Göteborg Energi an example is "Smart Maintenance" that utilizes new digital tools to better maintain the energy production of the company (Table 7).

As to the governance of their innovation work, the companies follow different ways of structuring it. Table 12 below further shows the innovation efforts at Castellum and Göteborg Energi.

Table 12 Innovation Efforts at Castellum and Göteborg Energi

Innovation Efforts	Castellum	Göteborg Energi
Innovation strategy	Focusing on digitalization and aiming to be an industry leader in digitalization. Proactively pursue technology-based business development, adapt the business offerings, developing new digital services.	Creating innovations for efficient and reliable energy solutions while also working on digitalization to capture, measure, analyze, and understand data sets, and influence both the company's behavior in production and the customer's behavior.
Governance for Innovation	Operationalized under the digitalization department and managed by the Chief Digital Officer (CDO).	There is no separate innovation department but has an R&D and innovation functions under the strategic function.

Regarding innovation activities, both Castellum and Göteborg Energi have ambition for sustainability through their innovation activities. However, it can be pointed out that not every activity performed is directly related to sustainability, some of them are aimed to offer better services for customers. There are some similarities and differences regarding the sustainability aspects of innovation activities for both companies. Table 13 further describes the aspects of innovation and sustainability activities at Castellum and Göteborg Energi.

Both companies are engaged to involve new technologies and digitalization in order to improve their operational activities. These digitalization activities are performed in order to improve energy efficiency within their operations. In addition, they are also engaged in collaboration with their partners, and have

invested in infrastructure projects that inherited sustainability aspects. However, some differences can also be identified from Castellum and Göteborg Energi in terms of their acquisition activities and collaboration programs with the society.

Table 13: Aspects of Innovation and Sustainability Activities at Castellum and Göteborg Energi

Aspects of Innovation and Sustainability Activities	
Castellum	**Göteborg Energi**
• **Data-driven knowledge through AI** Data collected will provide information for more energy-efficient property management. • **The Innovation Laboratory** Innovation lab for digital services development. • **European Expert Group** A joint effort to drive development in sustainability, innovation, property tech and co-working. • **Acquisition - Säve Airport** The area is planned to have a combination of energy supply with locally produced renewable energy and have access to various mobility services and charging for electric vehicles. • **Acquisition - United Spaces** Coworking spaces which offered flexible sharing spaces for customers to meet the increased customers' needs for networks and working cooperatively. • **Project - 100 på sol** The installation of photovoltaic systems (solar parks) in 100 Castellum's buildings is claimed as an effective way to move towards a climate-neutral business by relying more upon locally produced renewable energy. • **Project - Sustainable City Agenda** In terms of the planet, this agenda aims for efficient use of resources and energy, reducing waste, and reducing water consumption. In terms of futureproofing, it aims for sustainability certifications for Castellum's portfolios. In terms of well-being, this agenda aims for equality and a sustainable working environment. Lastly, in terms of social responsibility, it values code of conduct and community development.	• **Smart Electricity Meter** Improving energy efficiency through the installation of new smart electricity meters. • **Smart Maintenance** Improving the energy production and enhancing its energy efficiency. • **Riksbyggen Positive Footprint Housing** Participating in research around housing projects in order to improve its energy efficiency. • **HSB Living Lab** Participating in research around new building optimization systems in order to improve its energy efficiency. • **Nya Solevi Solar Farm** Locally produce renewable electricity through solar farms and offer consumers to transition their electricity source. • **Super Speed Charger for Heavy Vehicles** Providing sustainable mobility infrastructure. • **Key2Future** Reducing gaps and promoting equality in Gothenburg. • **Tänk:Om** Supporting research and development around sustainability projects in Gothenburg by involving the citizens.

4.3. Environmental Management

Castellum and Göteborg Energi have different approaches in orienting their business towards sustainability. Table 14 further shows the environmental management for both companies. With regards

to its sustainable development strategy, Castellum focuses on its business operations through sustainability actions which are seen as the driver for profitability and long-term shareholder value. Meanwhile, Göteborg Energi states about the company's impact on the city's sustainability. Since both companies operate in a different industry, Castellum and Göteborg Energi have different priority aspects to focus on according to its materiality matrix. While Castellum prioritizes the effort around energy efficiency and raw material use, Göteborg Energi is doing much more by also focusing on air emissions and society.

Differences are also seen from both companies' sustainability goals and environmental assessments. When determining the focus goals of the company, Castellum refers to the United Nations' Sustainable Development Goals (UNSDGs), while Göteborg Energi reflects to the Environmental Quality Goals set by the city of Gothenburg. This affects the way Castellum and Göteborg Energi measure their environmental impacts. As Castellum uses the UNSDGs, they stated the environmental assessments in accordance with the UNSDGs and the Global Climate Change Agreement, while Göteborg Energi stated the environmental assessments based on several criteria such as the International Standards Organization (ISO), the Biofuels Sustainability Criteria and Emissions Trading.

Despite their differences, both companies have already set an agenda for sustainability. Castellum sets the agenda called Sustainable City 2030 where the company aims to improve their performance on several metrics such as gender equality, diversity, and the use of non-fossil energy. Meanwhile, Göteborg Energi sets the agenda named Fossil Free 2025 where the company aims to be fossil-free by 2025.

4.3.1 Sustainability in Corporate Governance

Both Castellum and Göteborg Energi are found to emphasize sustainability in their businesses for example in their purpose statements, sustainability agendas and projects. In terms of the governance for sustainability, Castellum has its own centralized sustainability organizations, while at Göteborg Energi, there is no separate sustainability division, but sustainability functions are integrated instead within its current operations. In terms of environmental aspects, environmental engineers and strategists are positioned within each business operations and are responsible in pursuing environmental sustainability. However, there is a director of sustainability at Göteborg Energi, positioned under the communication division, who is responsible for communicating the company's sustainability efforts. Table 14 represents environmental management for both companies in detail.

The fact that Göteborg Energi is owned by municipality creates a unique position for the company when arranging its goals and targets. Our respondents stated that due to this fact, Göteborg Energi then needs to follow the goals, directions, and instructions from the municipality. In this case, during some dialogues with many other companies owned by the city of Gothenburg, the politicians may give suggestions to Göteborg Energi on things to do. At the same time during those dialogues, the company can also speak their concerns related to certain issues to the politician. However, politicians will still assess the issue based on the perspective of economic, social, and environmental dimensions. Therefore, having status as a municipal-owned company could give Göteborg Energi benefits in terms of complying with regulations and policies when initiating projects.

Table 14: Environmental Management Strategies and Goals at Castellum and Göteborg Energi

Environmental Management	Castellum	Göteborg Energi
Sustainable Development Strategy	Sustainability efforts will be integrated with all business actions and result in tangible results.	Knowing and learning about the company's impact on what can and should influence the city's sustainability.
Governance for Sustainability	Sustainability efforts are operationalized by a centralized sustainability organization consisting of the Head of Sustainability and dedicated sustainability coordinators in each region. The Head of Sustainability is positioned under and reports to the CEO.	There is no separate sustainability division. Sustainability functions are integrated within current operations. Director of Sustainability is positioned under the communication division of the group company, and in charge of communicating the company's sustainability efforts. Environmental engineers and strategists are positioned within each business operation.
Sustainability Goals	The relevant goals for Castellum are UNSDGs' number 3, 4, 5, 6, 7, 10, 11, 12 and 13, which were implemented in Castellum's Agenda for Sustainable City 2030.	Environmental work is generally based on the Twelve Environmental Quality Goals adopted by the city of Gothenburg, specifically focused on four goals: reducing climate impact, non-toxic environment, clean air, and well-built environment.

4.3.2. Environmental Activities

In achieving their sustainability goals, both companies have set several environmental accounting activities. Table 15 shows the environmental activities at Castellum and Göteborg Energi as part of their environmental management. Both companies are calculating the energy usage, gas emissions, and generated waste from their operations. However, there are some differences in environmental accounting activities between Castellum and Göteborg Energi due to their industry type, such as Sustainable certified building that is done by Castellum and raw material usage of energy production that is done by Göteborg Energi. According to each company's materiality analysis, Castellum found to be prioritizing efficient use of resources, using clean energy at their construction sites and mainly complying with the requirements by authorities. For Göteborg Energi materiality matrix focuses more on research and development as well as measuring its and its customers' impact on environment.

Table 15. Environmental Activities as Part of Environmental Management

Environmental Activities	Castellum	Göteborg Energi
Environmental Accounting Activities	● Calculate energy usage (Electricity, district heating and cooling, fuels) ● Calculate greenhouse gas emissions (direct and indirect) ● Measure water usage ● Measure generated waste by tenants ● Sustainable certified building	● Calculate emissions to air (Carbon dioxide, sulphur, nitric oxide, particles) ● Measure raw material usage (proportion of renewable and fossil energy raw material goods, produced electricity and district heating, use of energy by the company and customers) ● Calculate energy usage ● Measure generated waste (hazardous and non-hazardous)

Top Priority Environmental Aspects from Materiality Matrix	● **Efficient use of resources** Measuring energy consumptions and choosing Energy efficient products, such as LED lighting and A-certified goods. ● **Increased investment in renewable energy, including solar cells** Installing solar cells and using non-fossil fuel powered vehicles at construction sites. ● **Adapting properties for climate change** Measuring greenhouse gas emissions. ● **Sustainable building materials** Choosing materials in compliance with the environmental building certifications criteria. ● **Environmental certifications of buildings** Environmentally certify Castellum's properties to reduce the property portfolio's climate impact and risks, reduce costs, attract customers and businesses, and improve safety and working environment for customers.	● **Emissions to air and climate impact** Calculating air emissions caused from production of heating, cooling, and electricity. ● **Raw material use** Reduce the use of raw materials for energy production, mainly through recycling recovery of energy from refineries and waste incineration. Measuring raw material consumptions. ● **Energy use** Measuring and reducing the company's energy consumptions, offering advice on energy efficiency and energy services to customers. ● **Invest in infrastructure** Investing in the company's infrastructure, such as electricity grid and district heating, also investing on charging infrastructures for passenger cars and buses. ● **Research and development** Research and development activities such as aims to create reliable and sustainable electricity.

4.4. Perspectives and Insights from Castellum and Göteborg Energi

In this section, findings from the interviews are presented mostly in forms of quotes in order to fully picture the individuals' thoughts. While these findings reflect on single voices from the companies, they are representative of current issues and potential development points for companies when aligning their sustainability and innovation activities. In order to understand the views, thoughts and ideas particularly about sustainability, innovation as well as their linkages, this section is divided by three: *sustainability, innovation* and *linking sustainability and innovation.*

4.4.1. Sustainability

Sustainability in organizations could be described in many ways such as creating value for different stakeholders, ways of working or conducting business or increasing reputation. The interviewees from both companies highlighted that sustainability for them (as individuals) is perceived as a way to do business with some similarities as well as differences in regard to their ambitions. Our respondent from Castellum argued that sustainability is a way to do business for them, and further stated: *"There are different ways to look at properties and areas today: how the employees get to work, where the location is and what facilities surround it. The reason behind this: sustainability."* Moreover, the reason behind it also relates to ethics/morals and money, as our respondent further agreed, it has just recently also been about minimizing the risk. That was not the issue in the beginning. Today that is a big driving force to do that. Furthermore, sustainability is seen also as a way to increase the reputation of the

company. For example, our respondent stated: *"Now, some of the biggest challenges are to attract the talents."* Because the next generation of co-workers take a look at the companies and what they actually do. They don't only look at something that is mentioned on the website. Our respondent further shares: *"I am pretty sure that the most sustainable companies will attract the best talents."*

As to Göteborg Energi, the company has to become profitable in order to give benefits to the city which will be used for social services within the city of Gothenburg. However, economic gain is not seen solely as the end goal of the company, instead it is treated as a necessary tool to build environmental and social values. In the end, some profits generated by Göteborg Energi will be sent back to the city for its social programs and facilities. Additionally, politicians will take a role in determining how much of Göteborg Energi's profit should be invested in new infrastructures and R&D. As our respondent stated that: *"Our company's sustainability actions historically are more about political ambition rather than the realization that this has some kind of economic value for the company. There is a municipal term called "jämlikt göteborg" or "Equal Gothenburg". Those political goals came from the research showing that cities and countries with higher values of equality are also the most successful part of the world."* They hope to become an attractive employer by offering meaningful employment where people can develop, grow, take care of themselves, but still also have a balance with family and live a good life. Therefore, in the end it is not only chasing a high income but also aiming at the higher social values. Moreover, our respondent also explained that the sustainability work not only aims to reduce the company's environmental impact but also encourage their customers to reduce their own energy usage. In addition, the value of environmental sustainability is also adopted by their employees' operational cost, for instance by changing vans with cargo bikes in order to reduce emissions from their own daily activities.

As to the role of sustainability in their organizations, according to our respondent Castellum aims to integrate sustainability in all business functions and our respondent reflected on that vision with the following statement: "*Sustainability is quite a wide area, you should argue that everyone works with sustainability as a part of their role, because sustainability in general is about integrating it into the day-to-day business. If you don't have that approach, you would only do sustainability measures when there is extra time and money."* Our respondent from Göteborg Energi emphasized on their activities for sustainability: "While environmental sustainability has been included since a long time ago, social sustainability is considered new in Göteborg Energi as the issue is getting more and more important over time. The social sustainability programs in Göteborg Energi are perceived in both external and internal sides of our company. On the internal side, we have been putting much focus on employee diversity and equality, especially related to gender and background. For instance,we aim to employ women as many as men and undertake 35% of employees with foreign backgrounds. On the external side, we engage in collaborations with students on new innovation projects." For Castellum then, our respondent stated: *"Castellum follows the trend of sharing economy and co-working. For example, all these offices are all empty during weekends, night time; so how can we start sharing the space? But we also have co-working space, so can we co-everything else? We, (the society) need to think more of sharing. So, we need to build less in the future. So instead of building three, maybe we can just build only 2 instead, and use them more efficiently."*

4.4.2. Innovation

The interviewed respondents' views in regard to innovation in their organizations show some similarities as they see it as a way/tool to bring more value to their customers. For example, our

respondent from Castellum states that *"We try to think of what people living here want. We need to make sure that people in Gothenburg are happy people, because then it will attract businesses here, as well as the investments. We need to figure out smarter ways (innovation), how to make things smarter, more efficient, and cheaper. Innovation is part of the culture. It should be a common thing when we need to develop things."* According to our respondent there is a huge need for innovation right now and they should make employees understand how they can give more value to the customers. Castellum has an increasing focus on servitization in its offerings. According to our respondent: *"In the future, money will be made with much more services, rather than only places to lease. It will not only be about the best locations but the best office spaces."* Moreover, our respondent stated that "The board in Castellum, they already see that in 2030, 40 % of the revenue increase will be in services that we're not providing today. It's up to us to do it, we need to go back to the company culture, and have people from our companies who come up with ideas. Today 400 employees think of increasing value for customers."

Similar to the Castellum example, our respondent explained that innovation has to be a part of Göteborg Energi's identity in order to create value for customers through an example: *"Göteborg Energi engages in digitalization for its operations by installing digital sensors for smart maintenance. Thus, instead of having a checklist of equipment that needs to be removed or changed, we now have sensors which allows us to analyze the data in order to give a much better forecast on when the equipment needs to be replaced."* Connected to its value on sustainability, our respondent further added that by having digital sensors, it would help the company to understand their energy system in a more detailed way and allow them to make a better decision for the environment. By redirecting the innovation towards digitalization, the company aims to give their customers a better way in understanding their own energy consumption as more customers are interested to participate actively. Our respondent added, *"We had a lot of hope and looked a lot into digitalizations, and all of this technology, to become more innovative when it comes to running our businesses but also what can we offer to customers. Because our customers are less and less interested in just buying energy, they want to be involved in some form in the energy itself."*

4.4.3. Connection between Sustainability and Innovation

In both case companies, there is a relation between sustainability and innovation through energy efficiency, change and shift in society. As the interviewees were asked about sustainability and innovation separately, their view and understanding of those two concepts were also questioned and they are represented in this section. Results have shown that each and every interviewee agreed on the common values of sustainability and innovation as well as the connectedness of the potential activities under those areas. Furthermore, they all reflected on the lack of and need for coordination between these two areas at their organizations.

In regard to the relation between sustainability and innovation, sustainability is seen as a necessary part of innovation at both companies. Our respondent from Castellum stated: *"I think many of our innovations are almost all the time sustainable somehow, for example 100 på sol or acquisition of Säve airport. Many of our innovations have come from energy savings. But now they also come from resource savings, recycling, and alternative economic business models."* Similarly, a respondent from Göteborg Energi stated: *"Our company's innovations are driven by sustainability purposes and sustainability is actually steering the innovation projects."* According to the respondent, one thing that is important when it comes to innovation is that sustainability is a necessary part in innovation. There haven't been many projects, in years, that haven't used sustainability as their reason. Most of their innovations at

Göteborg Energi are driven by sustainability purposes, basically to create a sustainable energy system for Gothenburg as explained by the respondent.

According to one of our respondents from Castellum, *change* is the road to go for the company. By change our respondent points out the need of aligning their innovation activities with their sustainability actions, since they are not currently working in that way. For example, Säve airport purchase is the first and only time they bring sustainability and innovation together on purpose according to the respondent. Because that investment is an initiative on self-sustaining energy, off grid and in order to establish this, the company needs innovation. Our respondent is responsible for bringing the sustainability issues into the development. For example, when it comes to energy solutions, water solutions or waste solutions etc., our respondent makes sure that they have both an innovation and sustainability eye. More specifically, our respondent states: *"For example Säve; there's no structure there for energy supply so we have to build that from the beginning. And then what we do is we ask around different companies, when we describe what we want, we have the description that is "effective user energy, etc," but also bringing in innovative methods."* Our respondent highlights that they have demands for sustainability when it comes to the buildings such as having solar cells, creating co-working places, but they don't actively connect it to innovation. As working closely with the Säve airport initiative in regard to sustainability and innovation, our respondent says that the role is new, it is for bringing the sustainability issues into the development and they are currently working on establishing this role widely in the company.

One major innovation project that is currently on going is related to digitalization in many parts of Göteborg Energi and our respondent stated: *"I see a very close connection between digitalization and sustainability, there are lots of projects and research money spent on how to make the energy system more sustainable with new kinds of digital solutions."* HSB Living Lab can be exemplary as utilizing digitalization for sustainability by offering a mobile building that is evaluated to understand how resources and energy can be saved by monitoring the loves of tenants i.e., how much energy is consumed by one etc. As our respondent further explained, with regard to its customers, Göteborg Energi wants to provide their customers with easier ways to make a choice and shift towards more responsible living.

One respondent from Castellum reflected on the current challenges with integrating sustainability and innovation efforts as well as the shift that we are facing today with following words: *"There are a lot of innovative ideas, political will from companies and society to drive forwards but we have economic models that are for the old world."* Our respondent further explained that today companies use such old models, for calculating projects. According to the respondent, what they need to do is to look at these models and see what is being calculated and what the other effects that are not seen For example, seeing how a sustainability initiative enables an innovation and how to to manage them". Lastly our respondent from Castellum highlights the importance of connecting two areas: *"What is interesting now is to connect the innovation leg with sustainability. A lot of innovation that is going on is connected to sustainability in many areas. Maybe we are not used to working like that, but we need to be consistent in working in that way."*

5. Analysis

The analysis section is divided by two and each sub section is dedicated to answer a single research question. Each research question is answered through analyzing each company individually.

5.1. Alignment between Business Orientation Towards Sustainability and Practices of Innovation

In order to answer the first research question, which is "How can innovation practices be aligned with business orientation towards sustainability", firstly an analysis of alignment is essential within the business orientation of each company itself. Both companies show an orientation towards sustainability in their businesses. For example, both include sustainable development in their purposes and invest in a variety of innovation projects with sustainability vision as presented in the Empirical Findings section such as 100 på sol and Nya Solevi Solar Farm.Therefore, it is important to understand the essence of those orientations so that a further analysis can be made on the alignment of business orientation towards sustainability and practices of innovation.

As discussed in the literature, the components of business orientation: purpose, mission, vision, strategy, values, and behavioral standards are all connected; a strong mission exists when strategy, purpose, behavior standards and values are linked tightly together, resonate and reinforce each other (The Ashridge Model - Campbel and Yeung, 1991). Therefore, as a first step of alignment analysis, the alignment between those statements is analyzed by comparing what value they each focus on. As today companies orient their businesses towards sustainability, which is represented in those statements, they also create and develop sustainability strategies to act on their goals. This generally results in a variety of activities in their environmental management as well as developing their materiality matrices to prioritize the environmental aspects they have. Therefore, when analysing the alignment, it also becomes interesting to consider those elements to see the alignment between their statements, strategies and initiatives for the sake of sustainability.

Strategies then also need to be aligned with certain elements of organizations such as structure, people, processes and rewards (Galbraith, J. R., 2012). Therefore, this alignment is also analyzed for both companies by mainly understanding their current strategies, structures, and people. Instead of processes, the activities are used as data points since activities may be critical for processes to shape. As regards to the rewards element, it is disregarded in this study due to not having sufficient data points.

After those analyses are made, and a good understanding of companies' work on sustainability is achieved, the current level of alignment between the business orientation towards sustainability and practices of innovation is analyzed. Based on those analyses, suggestions and motivations are presented for the research question.

5.1.1. Alignment at Castellum for Sustainability and Innovation

When analysing the alignment for sustainability and innovation, The Star Model (Galbraith, J. R., 2012) as represented in section 2.4.2 together with The Ashridge Model (Campbell and Yeung, 1991) is used. In both models, strategy plays a big role when analysing alignment in organisations. Looking at the

strategy of Castellum, developing the priority customer segments, service offerings and portfolios are highlighted as the overall objective. Castellum states that it focuses mainly on three aspects: customers, offerings and the performance. It gives the message that the company's strategy is focused on economic growth through innovation. According to Campbell and Young (1991), strategy is something critical for organizations when achieving a purpose therefore, it becomes interesting to understand the purpose of the company while understanding the strategy. In its purpose (Table 5) Castellum states that the company aims to be the most sustainable company in its market and to promote sustainable development. It can clearly be seen that while aiming to contribute sustainable development the company also sees it as a way to to gain competitive advantage in the market. As Porter and Kramer (2006) argue, for CSR purposes companies try to find the intersection between the interests of themselves and the society such as activities that create competitive advantage and result in some kind of positive social outcome. Castellum's statement of purpose can be seen as a true example of that as the company highlights its ambition to become the most sustainable company in its market and to promote sustainable development. When compared with the purpose then, the strategy does not really reflect on sustainable development as the purpose does. The strategy focuses more on innovation by developing new services. Although the company has a separate sustainability strategy (Table 6), its focus is creating tangible results for the company such as long-term shareholder value and profitability, rather than contributing to sustainable development. Therefore, Castellum should align those statements better in order to create a coherency about its ambition with sustainability such as if it is about contributing to sustainable development or gaining economical value. While the main objectives highlighted by purpose and strategy are sustainability, sustainable development, innovation, competitive advantage, profitability etc., the values of the company (personal, passionate, proactive, reliable) do not directly reflect on those values. The behavioral standards then found to be focusing solely on sustainability (Table 11).

Looking at the big picture, as Campbell and Young (1991) argue, for a strong mission the four elements -purpose, strategy, behavior standards and values- (Figure 5) should be linked tightly together, resonating and reinforcing each other. For Castellum then, it can be clearly seen that the focuses of each of the four statements (strategy, purpose, values and behavioral standard) are not very aligned, they are not even clearly linked to each other (Table 11). For instance, while some of them solely focus on sustainability, others focus on economic growth or innovation, or else competitive advantage through sustainability. Then, it becomes important to understand what the mission says. When looking at the Castellum's mission, it can clearly be seen that it is focused on innovation for example by aiming to create new workplaces and ways of working (Table 11). As Campell and Young (1991) address the mission as a strategic tool, Castellum's mission can function as a strategic tool by spotlighting innovation. However, overall, the mission does not seem to represent values of the other components. Consequently, it cannot be argued that the company's mission which is stated to the public is a strong one. Therefore, Castellum may need to make changes on those statements and direct itself more clearly towards its ambition to exist.

As the strategy's link to other components of mission is important according to Campbell and Young (1991), it is also important that it is tightly linked to some tangible elements of the organization such as people, structure, rewards, processes (Galbraith, J. R., 2012). While strategy sets the direction of a company, it also creates a basis for the organizational design process and hence affects the behaviors at the company, which then influences the company culture as well as the performance. As discussed previously, the strategy of Castellum is focused around economic growth through innovation, while the whole business orientation has other focuses too such as sustainability.

When looking at the structure of Castellum, specifically from the perspective of how innovation and sustainability is governed internally it can be seen that decision making for sustainability related issues are under the leadership of the Head of Sustainability and for innovation-related ones under the under the digitalization departement and managed by the Chief Digital Officer (CDO). When it comes to the operationalization of these two concepts that are highly focused on the company's business orientation such as in the strategy, the purpose etc, they are not connected in the structure i.e. sustainability department reports to the CEO, while digitalization department to the CFO. In fact, the linkage of functional areas for strategic fit is critical for organizational performance (Rhee and Mehra, 2006) and in Castellum, sustainability and digitalization departments are not functionally connected and do not have connections in people they report to. Moreover, as our respondent mentioned, the processes for the efforts of sustainability and innovation are not collaborative between the two departments in an every-day work. As there is no cross-functional integration, it can be seen as a sign for misaligned horizontal alignment as Quiros (2009) argues. As these two concepts play a big role in the development of the company and discussed by our respondent greatly, their connection within the organizational structure may play a big role too. As our respondent explained, Castellum currently doesn't connect innovation and sustainability activities although they are almost all the time connected and the aspects and influences of those two are always in the projects. However, our respondent is aware of the need and importance of connecting them in the structure and operations. Perhaps, this view should be acknowledged not only by individuals but by the whole organization so that alignment can be established in the structure.

Structure can be related with the people dimension of The Star Model easily since it is about the human resource policies established for the sake of carrying out the strategy by creating critical capabilities and mind-sets. From the interviews held, individual voices reflect on the value of sustainability and innovation and the value of their linkage at their daily work as well as for the company's strategic actions. It seems that Castellum's employees, at least the sample we were able to reach out to, is having the critical mindset as well as capabilities for the company to move forward with sustainability-oriented business while connecting it with innovation practices. For example, our respondent stated: "You should argue that everyone works with sustainability as a part of their role, because sustainability in general is about integrating it into the day-to-day business." As the Star Model explains then, it is very beneficial for Castellum to have such employees who can interact across organizational boundaries and consider multiple perspectives when making decisions. However, in order for that to happen the structures should be organized accordingly so that the mind-sets and capabilities are utilized at the company. Processes can enable structures to change since they are the flow of information in organizations such as interconnected activities that carry out information across the organization (Galbraith, J. R., 2012). Today, it is very common to see many organizations working in silos but to be able to create higher levels of collaboration, barriers should be broken. On that point, activities within organizations may be critical. When activities in the organizations are not well connected, it may strengthen the silos. For example, when looking at the activities of Castellum, in our case specifically related to innovation and sustainability (Table 13 and Table 15), there can be seen connections on the idea level however they are not connected on the structure level. Similarly, our respondent highlighted the need of aligning their innovation activities with their sustainability actions, since they are not currently working in that way. For example, Säve airport purchase is the first and only time they bring sustainability and innovation together on purpose according to the respondent and there should be more examples of this in future.

At Castellum, there are many activities having connections with sustainability and innovation. For example, creating co-working places is a product innovation in their offerings to the customers while in essence it serves social and environmental sustainability by creating diversity and efficient use of resources in offices. Besides, similar to this example, our respondent reflected on: "All these offices are all empty during weekends, nighttime; so how can we start sharing the space? But we also have co-working space, so can we co-everything else? So instead of building three, maybe we can just build only 2 instead, and use them more efficiently." This way of thinking clearly shows a connection to innovation in regard to creating something new which is useful as well as a clear connection to sustainability in terms of the idea of sharing. In their innovation activities there are more examples of sustainability orientation such as "100 på sol" where the company relies upon more locally produced renewable energy in their buildings or "data-driven knowledge through AI" where the company aims for a more energy-efficient property management. However, these activities seem to focus mostly on tangible results such as energy efficiency in their buildings or eco-labeling for their brand. This can be linked with our respondent's statement: "I think many of our innovations are almost all the time sustainable somehow. Many of the innovations come from the energy savings". It can be understood that energy savings is important when contributing to Castellum's growth. Furthermore, as to their environmental activities, it is also seen that tangible results such as "efficient use of resources" comes as first on their materiality matrix. While they also prioritize diversity, equality, and tenants' well-being, most of their top property aspects can be connected with the company's goal for long-term profitability and creating shareholder value i.e., efficient use of resources, sustainable building materials, renewable energy for their buildings. An example for this can also be seen in our respondent's statement: "We need to figure out smarter ways (innovation), how to make things smarter, more efficient, and cheaper. Innovation should be a common thing when we need to develop things. In the future, money will be made with much more services, rather than only places to lease. It will not only be about the best locations but the best office spaces." This can be also seen as an example of how Castellum utilizes innovation for reputation and branding purposes too. Similar for sustainability as our respondent mentions: "I am pretty sure that the most sustainable companies will attract the best talents." As to their environmental accounting, Castellum complies with UNSDGs, Global Climate Agreement, ISO and GRI guidelines and in their agenda for sustainability their four main focuses are *the planet, future proofing, well-being* and *social responsibility* (Table 9). However, when compared with activities that are more focused on energy efficiency and enabling long-term profitability the alignment can be found weak. This can be related to and perhaps caused by the stakeholder pressure argued by Dhanesh (2020) and Grant (2016). As the value created by companies is shared by different stakeholders such as employees, customers, shareholders and more, companies try to adjust their strategies in line with all of them. However, then as in the Castellum's case it might cause misalignment among perspectives, aims, statements, compliances and activities, especially in such complex organizations like Castellum. As our respondent stated: "There is a shift we are facing today. There are a lot of innovative ideas, political will from companies and society to drive forwards but we have economic models that are for the old world."

Overall, it can be concluded that the alignment in the business orientation at Castellum is not very strong due to having various focuses with different purposes such as aiming to contribute to sustainable development while seeing it as a way to gain long-term profitability. The company should clear its ambition in their statements. As to the organizational design then, as sustainability and innovation are two important phenomena for the company the structure needs to be adjusted so that these two critical factors can be aligned in operations and activities. Moreover, since the activities also share common

values from innovation and sustainability, it becomes more important for the company to govern sustainability and innovation jointly which will require them to change their processes too.

5.1.2. Alignment at Göteborg Energi for Sustainability and Innovation

The same logic of analysis is followed for Göteborg Energi by mainly referring to The Star Model (Galbraith, J. R., 2012) together with The Ashridge Model (Campbell and Yeung, 1991). The company's purpose represents an ambition for innovation through urban development and for sustainability through sustainable development of the city. In regard to the strategy, cooperation and collaboration within different actors in the city is highlighted with the objective of ensuring an economic development so that sustainable actions can be taken in the long run. It can be seen that similar to purpose, the strategy also focuses both sustainability and innovation. As sustainability is covered largely on the overall strategy, it becomes interesting to see how Göteborg Energi strategizes and communicates its sustainability actions. The sustainability strategy focuses around the company's impact on the city's sustainability which is in line with the components of the business alignment. For example, on its overall strategy it is also a focus for Göteborg Energi that stable economic development is reached for the sake of long-term and sustainable actions. Then when comparing with the company's purpose of developing a sustainable Gothenburg society, it can be analysed that the strategies of Göteborg Energi can be sufficient tools for reaching its purpose (Campbell and Young, 1991). Furthermore, the values of the company reinforce strategy and purpose as they are stated as responsibility, sustainability and development. In regard to behavioral standard, Göteborg Energi concentrates mainly on sustainability without innovation. The company tries to be relevant to their efforts of sustainable development by stating values in regard to sustainability and responsibility as well as following the principles from the UN. Nevertheless, referring to the argument of Campbell and Young (1991) that the four elements' (strategy, purpose, behavioral standards and values) link represents a strong mission, it can be clearly identified that those four elements are tightly linked to each other and all together connected to mainly the value of sustainable development as well as innovation (Table 11). Then looking at the mission of the company, Göteborg Energi implies the company's aim to contribute to ensuring environmental and climate sustainability as well as offering affordable energy to the citizens and businesses in the city. Overall, it can be summarized that the elements of business orientation of Göteborg Energi represents a common perspective and supports the mission which is in line with the ambition to contribute to sustainable development. However, the company still needs to consider reflecting on innovation on its mission since it is reflected on the majority of the business orientation.

According to Galbraith, J. R. (2012) strategy should be aligned with structure, people, processes and rewards. The strategy of Göteborg Energi is focused around both sustainability and innovation (Table 5). When critical factors that are internal to organizations are aligned, there can be found new opportunities and potential partnerships, collaborative integration of different functions, processes, and products (Alagaraja, et. al., 2015). Then looking at the governance of both sustainability and innovation, there is no connection between them in the structure. For example, while the head of sustainability is working mainly with communication with the external stakeholders in regard to sustainability related issues, the R & D department mainly works with development projects and only occasionally works with the environmental strategist whenever there are some environmental targets or perspectives that need to be set for a particular project. However, as these two phenomena are important for the company, it may be beneficial for the company to have collaboration or joint effort between the two in order to increase organizational performance (Rhee and Mehra, 2006). In regard to the people element of The Star Model, similar to the Castellum case, it seems that employees of Göteborg Energi, our sample, are

having the critical mindset as well as capabilities for the company to move forward with sustainability-oriented business. Moreover, the company works with educating its customers too, on the topic of sustainability. For example, our respondent stated: "The sustainability work not only aims to reduce the company's environmental impact but also encourage our customers to reduce their own energy usage. In addition, the value of environmental sustainability is also adopted by our employees' operational cost, for instance by changing vans with cargo bikes in order to reduce emissions from their own daily activities." As our respondent further explained: "With regard to its customers, Göteborg Energi wants to provide their customers with easier ways to make a choice and shift towards more responsible living." It seems that Göteborg Energi is having the mindset of integrating sustainability-oriented views to individuals which can be very powerful when making the strategy happen which will be eventually through the efforts of those individuals. Furthermore, this approach may also help increase the company's reputation, similar to Castellum, as our respondent stated: "We hope to become an attractive employer by offering meaningful employment where people can develop, grow, take care of themselves, but still also have a balance with family and live a good life."

In regard to the activities performed by Göteborg Energi (Table 13 under the section 4.2.), there are interesting connections between sustainability and innovation. For example, the Smart Maintenance initiative clearly bonds sustainability and innovation by looking at the digital tools and their use in maximizing material use and efficiency. As stated by our respondent, "I see a very close connection between digitalization and sustainability, there are lots of projects and research money spent on how to make the energy system more sustainable with new kinds of digital solutions." Furthermore, our respondent stated that: "We had a lot of hope and looked a lot into digitalization, and all of this technology, to become more innovative when it comes to running our businesses but also what can we offer to customers. Because our customers are less and less interested in just buying energy, they want to be involved in some form in the energy itself." Riksbyggen Positive Footprint Housing is another example for a pursuit of sustainability through a business process innovation which involves a partnership for a research project. As a similar argument, our respondent stated: "One thing that is important when it comes to innovation is that sustainability is a necessary part in innovation… I haven't seen projects, I think in years, that haven't used sustainability as their reason… Most of our innovations are driven by sustainability purposes. For example, Smart Electricity Meter is innovated as a new generation of smart electricity meters for developing clean energy. Within their environmental accounting, Göteborg Energi complies with the Twelve Environmental Quality Goals adopted by the city of Gothenburg with a focus on *reducing climate impact, non-toxic environment, clean air* and *well-built environment.* When compared with the innovation projects, it can be seen that those values are also reflected on the activities. Moreover, the high priorities on the materiality matrix such as emissions to air, climate impact, and raw material use also supports the activities as well as the adopted goals.

Overall, Göteborg Energi is found to be more aligned between their statements and activities. Although, the company still needs to align its mission more with the other statements in the business orientation. In contrast to Castellum's case, it can be argued for Göteborg Energi that the company doesn't have various interests by different stakeholders therefore it may be less challenging for them to align. However, regarding the alignment between sustainability and innovation activities, it can also be suggested for Göteborg Energi to align them by cooperating and collaborating these two legs that are playing a big role in the company's presentation.

5.2. Sustainable Innovation

In order to understand the companies' approach to sustainable innovation at the current state, identification and analysis of the company's activities are conducted. Identification of the companies' innovation types are performed by analyzing each activity referred to the definition of innovation types according to its object, either product innovation or business process innovation or both, and also analyzing each activity based on its innovativeness, either incremental or radical innovation. Moreover, the analysis is conducted by identifying the sustainable innovation types from every activity for both companies.

5.2.1. Sustainable Innovation at Castellum

Castellum has taken several actions to develop their product offerings for their customers, some of which can be classified as radical innovations while the others are having more incremental approaches. Referring to Garcia (2015) who stated that radical innovations offer dramatic improvement that caused the transformation of existing market and the creation of new market, Castellum's activity by acquiring the Säve airport can be considered as a radical product innovation since Castellum aims to develop new areas for businesses and organizations that engage in sustainable transport while still running the airport. The acquisition of Säve Airport is claimed as part of Castellum's long-term strategy in order to expand its operation in the logistics segment (Castellum, 2020b). Moreover, the area will become a logistic hub for the business community, academia, and the public sector, to develop future technology in sustainable transportation and mobility (Castellum, 2020b). Our respondent stated that renewable energy solutions, such as solar panels, will be available in that area. However, as it is not considered innovative anymore to only install solar panels, the company is approaching more innovative solutions, for instance, to distribute and transform the energy. Additionally, through this project, as our respondent also added, the company has made some organizational changes by assigning a dedicated team to engage in sustainability and innovation at Säve airport. According to Garcia (2015), organizational change of the innovating organization is considered as one characteristic of radical innovation, which confirms the innovation activity at Säve by Castellum as having a radical approach.

In addition to their radical approach, Castellum has also performed incremental product innovation practices. Taking the definition of incremental innovation as the improvements of existing solutions or innovation in terms of performance, costs, desirability and model (Garcia, 2015; Norman and Verganti, 2013), Castellum engaged in 100 på sol project, AI, Co-working space, and digitalization. In the 100 på sol project, Castellum initiated a project to build 100 solar cells on their buildings by 2025 which is considered as an incremental approach since they leverage existing solutions, i.e., solar cells, as their source of electricity. In another activity, Castellum also invests in another incremental product innovation through the use of Artificial Intelligence (AI) on buildings, which will allow their customers and employees to enhance the efficiency. Another incremental product innovation has also been made through the acquisition of United Spaces, which gives Castellum the opportunity to offer their customers co-working spaces. Some innovation activities at Castellum were also taken to enhance their business process, for instance by establishing Innovation Laboratory and joining European expert groups, both of which could strengthen their innovation capabilities.

Referring to the sustainable business model archetypes by Bocken et al. (2014), Castellum incorporates four sustainable innovation values within the streams of organizational, social, and technological

innovation. Those sustainable innovation values identified are substitute with renewable and natural processes, develop scale-up solutions, repurpose for society/environment, encourage sufficiency, and deliver functionality rather than ownership. Table 16 further describes the specific sustainable innovation values identified from each innovation activity along with its innovation types.

Table 16: Innovation Types and Sustainable Innovation Values at Castellum

Activity	Innovation Types		Sustainable Innovation Value
	Object	Innovativeness	
Acquisition - Säve Airport	Product Innovation - Goods & Services	Radical	Develop scale-up solutions (Organizational)
Project - 100 på sol	Product Innovation - Goods	Incremental	Substitute with renewables and natural processes (Technological)
Data-driven knowledge through AI	Product Innovation - Services	Incremental	Encourage sufficiency (Social)
Acquisition - United Spaces	Product Innovation - Goods	Incremental	Deliver functionality rather than ownership (Social)
Project - Sustainable City Agenda	Business Process Innovation	Incremental	Repurpose for society/environment (Organizational)
The Innovation Laboratory	Business Process Innovation - Product and business process development	Incremental	-
European expert group	Business Process Innovation - Product and business process development	Incremental	Develop scale-up solutions (Organizational)

The first sustainable innovation value that is incorporated in Castellum's innovation activity is to substitute with renewables and natural processes which is reflected through their 100 På Sol project. This is considered as a part of technological approach as the company leverages the use of existing technology. As a real-estate company that owns and leases buildings and spaces, Castellum takes the initiative to shift towards renewable electricity through the use of solar panels on their buildings. Through this initiative, the company may gain direct environmental value which can be captured by showing the reduction use of non-renewable electricity. Moreover, this would give Castellum new value networks based in renewable resource supply (Bocken, et al., 2014). Furthermore through this project, Castellum also contributes to the realization of UNSDGs Goal 7 "Affordable and Clean Energy" as they can provide their tenants the access to renewable energy once the solar panels are installed on their buildings.

The second sustainable innovation value that is incorporated in some of Castellum's innovation activities is by developing scale-up solutions. According to Bocken, et al. (2014), developing scale-up solutions aim to enlarge the sustainability solutions through several ways including collaborations with other stakeholders. Through collaborations, companies may scale their sustainability solutions in order

to maximise advantages for society and the environment (Bocken, et al., 2014). At Castellum, this is reflected through their acquisition of Säve airport and affiliation with the European expert group. In the case of Säve airport project, Castellum will develop it as a logistic hub and dedicate the place for businesses and organizations that engage in sustainable mobility agenda and the company aims to build an innovation cluster for sustainable transportation and mobile solutions by attracting relevant stakeholders and collaborating with them. Through this activity, Castellum will provide the space for companies, academia, and the public sector to perform research and study on sustainable mobility, such as electric cars and planes. By conducting this project, Castellum needs to collaborate with other stakeholders from different industries in order to bring new innovative methods, as our respondent also confirmed that they need to ask some different companies. In the case of the European expert group, Castellum engages with other stakeholders to drive research and development in order to become a more sustainable real-estate company. Through these collaborations, Castellum promotes partnerships with multi-stakeholders in order to mobilize and share knowledge and expertise, which contributes to the realization of sustainable development with UNSDGs' Goal 17 "Partnership for The Goals".

The third sustainable innovation value is encouraging sufficiency by providing data-driven knowledge for their customers through AI. Through this action, Castellum wants to educate their customers and employees so that they can understand their own energy and resource usage and take actions to reduce it. Although this action may face another challenge in terms of data privacy and data collection, this initiative by Castellum contributes to the realization of UNSDGs Goal 12 "Responsible Consumption and Production". Bocken, et al. (2014) argue that one of the key characteristics of encouraging sufficiency is that the company tries to influence the consumption behaviors through reduction of demand. However, in Castellum's case, the company only tried to influence the consumption behaviors of their tenants by providing data on how much energy they consumed and how to take actions to reduce it. Furthermore, the company has not yet exactly reduced the demand consumption of energy or incentivized the reduced consumption behavior.

Another sustainable innovation value in Castellum is delivering functionality rather than ownership by offering customers co-working space through their newly acquired United Spaces company instead of regularly leasing. Taking the perspective from sustainability, coworking space initiative could contribute to a sustainable world through maximal use of product without users having to own a bigger space. Our respondent added that more carbon emissions are produced when building things. Arguably, if the decisions to build things can be reduced since the customers' demand for office buildings are decreasing since there is another solution such as coworking spaces, this will contribute to the reduction of carbon emission in general. This will also contribute to the realization of UNSDGs Goal 11 "Sustainable Cities and Communities" as it relates to the sustainable urbanization and capacity for participation.

The last sustainable innovation value incorporated in Castellum's innovation activity is repurposing for society/environment through their Sustainable City Agenda. Although this activity is not intended to become a social enterprise or not for profit entity, the Sustainable City Agenda is built upon environmental and social missions including the focus for planet, well-being, and social responsibility.

5.2.2. Sustainable Innovation at Göteborg Energi

Innovation activities in Göteborg Energi are done mostly business process innovation and through incremental innovation approach. However, some product innovations can still be considered as having radical approaches. For instance, the development of Nya Solevi solar farm, which allows the company

to offer customers with renewable energy while having the possibility for individuals to invest in solar panels, is categorized as a product innovation with radical approach since it is driven by technology change and satisfies customer needs to shift towards renewable electricity. In another project, the company's initiative to build super speed chargers for heavy vehicles is also considered as radical product innovation due to its technology. However, in another activity, Göteborg Energi's project to replace electricity meters with smart technology is considered an incremental approach since it improves the performance of the existing product. Besides product innovations, Göteborg Energi also engages with some business process innovation, including smart maintenance which aims for better efficiency in their production systems, Riksbyggen positive footprint housing and HSB living lab to strengthen the company's research and development capabilities, also Key2Future and Tänk:Om that bridges the company with local communities in Gothenburg.

Referring to Bocken et al. (2014), Göteborg Energi incorporates six sustainable innovation values in three streams: organizational, social, and technological innovation. Those six sustainable innovations are: substitute with renewables and natural processes, encourage sufficiency, maximize material and energy efficiency, repurpose for society/environment, adopt stewardship roles, and develop scale-up solutions. Table 17 further informs the specific sustainable innovation values from each innovation activity.

Table 17: Innovation Types and Sustainable Innovation Values at Göteborg Energi

Activity	Innovation Types		Sustainable Innovation Values
	Object	Innovativeness	
Nya Solevi Solar Farm	Product Innovation - Goods & Services	Radical	Substitute with renewables and natural processes (Technological)
Super Speed Charger for Heavy Vehicles	Product Innovation - Goods	Radical	Substitute with renewables and natural processes (Technological)
Smart Electricity Meter	Product Innovation - Goods	Incremental	Encourage sufficiency (Social)
Smart Maintenance	Business Process Innovation - Information and communication systems	Incremental	Maximize material and energy efficiency (Technological)
Riksbyggen Positive Footprint Housing	Business Process Innovation - Product and business process development	Incremental	Repurpose for society/environment (Organizational)
HSB Living Lab	Business Process Innovation - Product and business process development	Incremental	Repurpose for society/environment (Organizational)
Key2Future	Business Process Innovation - Administration and management	Incremental	Adopt a stewardship role (Social); Repurpose for society/environment (Organizational)
Tänk:Om	Business Process Innovation - Administration and management	Incremental	Adopt a stewardship role (Social); Develop scale-up solutions (Organizational)

The first sustainable innovation value that is incorporated in Göteborg Energi's innovation activities is the substitution with renewable and natural processes, which is reflected through Nya Solevi solar farm and super speed charger activity. For an energy to invest and shift towards renewable energy sources seem reasonable following the trend in the energy industry. Through these activities, Göteborg Energi creates value for their customers by offering them renewable electricity sources which further will benefit both society and the environment. In addition, by offering the option for individuals to invest in solar panels will encourage customers to actively participate in the transition towards a sustainable world. In another activity, the company's initiative with partners to build super speed chargers for heavy vehicles also benefit other businesses to switch to renewable energy sources. Connecting it with the city's environmental goals, these activities contribute to the realization of reduced climate impact and poison-free environment.

The second sustainable innovation value is encouraging sufficiency, which is reflected through Göteborg Energi's Smart Electricity Meter program. With digitalization, Göteborg Energi will provide their customers more detailed information about their energy consumption. Thus, will educate the customers and allow them to contribute with reducing their own consumptions. Reflecting it to the UNSDGs, this innovation activity contributes to the realization of Goal 12 "Responsible Consumption and Production".

n addition, Göteborg Energi's innovation approach to digitalization also incorporates a sustainable innovation value, that is maximizing material and energy efficiency. Bocken, et al. (2014) argued that in maximizing material and energy efficiency, companies create products with fewer resources and generate less waste. Moreover, our respondent also explained that through smart maintenance, the company could maximize their energy system to its full potential and reduce unnecessary waste. Therefore, this activity could contribute to the realization of one of the city's environmental goals, that is reduced climate impact. Furthermore, it also contributes to the realization of UNSDGs Goal 12 "Responsible Consumption and Production".

Another sustainable innovation value that is reflected in Göteborg Energi's innovation activities is repurposing for society/environment through Riksbyggen Positive Footprint Housing and HSB Living. Both activities are dedicated for the company's research and development in sustainable living and sustainable housing. Therefore, the company redirected their goals to prioritize social and environmental benefits which correspond to the value in repurposing for society/environment (Bocken, et al., 2014). Although the company is not declared as a social enterprise, Göteborg Energi puts social and environmental missions for sustainability as their core focus in performing these activities.

Lastly, Göteborg Energi's action in engaging communities through their Key2Future and Tänk:Om activities are reflecting two sustainable innovation types: adopting a stewardship role and developing scale-up solutions. These two actions can benefit the company in the terms of brand value (Bocken, et al., 2014). Through Key2Future, the company engages with local communities and gains perspectives from them. Meanwhile in the Tänk:Om, the company gives opportunity for local actors to contribute actively in realizing their vision, that is to make a sustainable Gothenburg society.

5.2.3. Is there a connection between Sustainability and Innovation?

From both cases, it can be argued that both companies have established sustainable innovation indeliberately based on their activities. However, sustainable innovation is not only about incorporating sustainable values into innovation activities and taking initiatives, but also about sustaining those

initiatives (Hargadon, 2015) into strategic actions that will enhance the company's product and service offerings to their customers.

From the internal perspective of a company, alignment between the company's business orientation and innovation practices is needed, not only in terms of strategy (vision, mission, and values) but also in terms of the operationalization. For instance, ensuring working collaboration between the innovation and sustainability function in the company could be one thing.

From the external point of view, in order to sustain the economic performance of the company, it is also important to ensure the demand from customers, engagement and collaborations with relevant stakeholders. With regards to demand, companies may need to take initiative to educate customers with their radical sustainable innovation offerings. Meanwhile, engagement and collaborations with stakeholders should still be taken into account. For instance, regulations towards sustainable solutions such as renewable energy could give the company that is shifting towards renewable energy gain a much competitive advantage. Therefore, engagements and collaborations should not be focused only on businesses but also local authorities.

In order to be able to understand the question of "how to align" then, it is essential to understand the "why". That is to say, while aiming to find and propose ways to align, it can be very critical to see the reasons behind the current level of alignment. As Trevor and Varcoe (2017) argue, there might be four common reasons behind misalignment: unawareness of the risks of misalignment, no ownership for the enterprise alignment, complexity in the organizations and mistaken activities. As it is observed through interviews, in case of the two case companies, there is not a clear and common understanding for alignment, especially regarding concepts of sustainability and innovation. As the operational managers from innovation and sustainability departments explain, when they work, start initiatives, develop projects they are not in communication with each other as long as there is a clear connection point for them. For example, as in the case of Göteborg Energi, the R&D strategist and the environmental strategist meeting occasionally when there is an obvious need.

As Trevor and Varcoe (2017) argue, companies should have awareness in their organizations towards alignment. They should see themselves as a value chain rather than focusing on their organizational chart and seeing their operating units as primary value components, so that they can adopt a good understanding of alignment and acknowledge the risks of misalignment and act on that.

From the interviews conducted with the organizational managers in both companies, it is observed that there are no regular ways for sustainability and innovation departments to coordinate or integrate their processes. In that regard, the importance of horizontal alignment in organizations reveals as Porter (1996) argues. Because horizontal alignment is about coordination of efforts and integrating cross- and intra-functionally across the organization. For example, just as Alegre and Chiva (2004) found out that it is essential to ensure a fit between product innovation and manufacturing for success, for the sustainability and innovation departments it can play a similar crucial role due to their commonalities in their logics and encounters of ideas of initiatives, projects and objectives. In order to do so, they can consider assigning a person who acts as the owner of alignment issues in those departments as Trevor and Varcoe (2017) claims that lack of that role is one of the reasons for misalignment. Although there is no clear misalignment in the departments of sustainability and innovation in both companies, there is also no evidence for a clear alignment. Therefore, they can also consider recruiting "an aligner" for those departments. Just like in the example of Säve airport acquisition by Castellum, the company can create a similar role description this time for working for the alignment of sustainability and innovation

on a scale of the whole company. Ensuring the alignment of the whole organization should be a usual process for organizations and they should have an idealized vision as well as an understanding of their best selves so that they see a direction and have an ambition (Trevor and Varcoe, 2017). As to the question of "who" as the responsible for alignment, the study of Alagaraja et. al. (2015) can be an example. They argue that operational managers such as innovation managers can be responsible for the horizontal alignment in process and relational perspectives of alignment. As the process perspective is about gaining a collaborative view and ensuring that the departments are working closely (Gulledge and Sommer, 2012; Kanter 1994), it can be argued that in the case of aligning sustainability and innovation, those departments can work more in collaboration such as creating work processes for executing projects together, creating time slots for updates from each department and so on. Another way of creating an alignment can be locating the departments under the same functional group or merging the departments so that activities can have.

6. Discussion

In this section, overall understanding is summarized through discussing strengths and weaknesses of the study in regard to the selection of industries and company types, literature and data collection and method.

6.1. Insights from the selection of industries and company types

During the time of this study, we observed that regardless of their industry or ownership type, companies put a lot of effort and start a variety of initiatives to work with sustainability and innovation. Castellum and Göteborg Energi both publicly have shown, through their vision, missions, purpose, and strategy, that they orient their businesses towards sustainability. As to our choice of selecting companies from both different industries and different ownership types, it brought more variables when making the comparison which made it challenging to be able to compare. Yet, this challenge has become a strength of this study since it provided rich content. For example, we brought perspectives from a private company, a public company, the real-estate industry and energy industry. These have all contributed to the diversity in the literature and data collection section.

According to the findings, corporate ownership has a significant influence on shaping that orientation. For Castellum, as a private company, its business orientation towards sustainability is derived from its ambition to be the leader in the real-estate industry. Therefore, sustainability is regarded as its business orientation that will give more shareholder value and profitability. Meanwhile, Göteborg Energi as a public company owned by the municipality, has its business orientation towards sustainability being derived from the city's ambitions towards a sustainable Gothenburg and thus sustainability is considered as the value that will benefit society and the environment. Therefore, it can be an interesting perspective to have when analysing the alignment towards sustainability because for different types of ownerships there can be different motivations. For example, for Göteborg Energi, the stakeholders being the citizens, the municipality, the government etc., they have a common objective for a better city for citizens to live in. However, for Castellum there are a variety of stakeholders with separate economic stakes such as customers looking for not only sustainable but also affordable offices to rent, shareholders having a stake on the revenue. Therefore, for private companies it can be harder to have a clear alignment while aligning under different influences. There are also differences observed in regard to innovation practices, that are caused by the types of industries that Castellum and Göteborg Energi are operating in. For example, as operating in a heavily invested and heavily regulated industry, Göteborg Energi is observed to perform more incremental innovation than radical whereas Castellum also performs more incremental approach through some projects while initiating one radical innovation project. Consequently, this can be connected in their potential for sustainable innovations since for example radical innovations can create greater opportunities for sustainable innovation to sustain.

6.1. Insights from literature and data collection

There has been a wide range of literature that is relevant to this study. Due to studying two popular and greatly discussed phenomena as well as their connection, there had been an abundance of resources to

reference from. Therefore, this study covers extensive literature i.e., from Mintzberg's strategy management (1985) to Galbraith's (2015) change management and from sustainable development to types of innovation. For the documents used in empirical findings then, it has been more limited in number due to having only the latest two years' documentation from companies. Since both case companies were large organizations, their published documents were quite extensive hence the number of documents needed to be limited.

Throughout the study, one of our greatest insights has been understanding the connection and relation between sustainability and innovation. Especially during data collection as we interacted with the interviewees, discussed and read through a variety of documents, we have observed and understood that innovation and sustainability are fundamentally quite similar. All discussions held throughout the interviews or brainstorming sessions have revealed that they are very compatible and complementary to each other. Sustainability is about meeting today's needs through responsible behaviour to our environment, economy and society and efficient use of resources without compromising the future resources. It is to bring value to people of today and tomorrow by creating good living standards. Innovation, likewise, is about meeting today's and tomorrow's needs with a similar manner such as improving tools, products or services through creativity and efficient use of resources. These concepts, therefore, can be given time and effort collectively. For example, on one hand, as sustainability is about using resources responsibly it can create a good environment for innovation to happen since limited resources can support creativity. On the other hand, innovation, through development of new and alternative ways to current ones and creating ideas, can contribute to a sustainable today and tomorrow.

6.2. Insights from method

Executing interviews as a method has brought this study both strengths and weaknesses. On one hand, the insights we have gotten from individuals were abundant and extremely eye-opening. So that we could dive deep into the role of innovation and sustainability in companies to a great extent. Especially by being relatively new to the issue of sustainability we have discovered and learnt so much about it. On another hand, notwithstanding, having all those valuable insights have become challenging to sort out. Therefore, some of the insights gained were used as complementary to our learnings rather than points of data in the study. The most beneficial part of having interviews has been using the snowball selection method. As we have done this study by using our network, this network has helped to a high extent for us to be able to talk to more relevant stakeholders hence increased the chance to talk to the right ones. For instance, we have always tried to leave an interview with a new contact from the current interviewee. In the end, it benefited us with concluding 13 interviews which was sufficient especially during times of COVID-19 when companies start to have a lot of changes in their daily routines. As regards to the way the interviews were held and data points created, voice recording was chosen over note taking, unless the interviewee's content is taken. This has led to having an enormous amount of data to clean afterwards due to transcribing interviews of on average 1 hour time span. Overall, having a qualitative research method provided us with more details and deeper understanding about the topic of our study since we have had long chats with interviewees. Therefore, it helped us better explore issues, discuss and have and platforms to contemplate. In spite of those benefits, challenges were mostly faced when booking and hosting interviews as it required a collaboration with many interviewees during times of COVID-19, mostly on a remote setting. Therefore, at times it has been time inefficient. We believe, interviewing mainly the stakeholders that are internal to the organizations might have given us a biased view. Therefore, it can be seen as a weakness in this study. Since the employees have had

similar views, thoughts and insights, it could have given us a broader picture to interview also customers, partners, shareholders etc.

7. Conclusion

The aim of this study was to suggest companies how to align their practices of innovation with their business orientation towards sustainability based on the two research questions: “How can innovation practices be aligned with business orientation towards sustainability?” and “What can sustainable innovation in companies look like?” In order to answer the research questions two case studies conducted with the following companies: *Castellum* and *Göteborg Energi.*

In the end of the study, it is suggested for companies to create an awareness for alignment and especially in regards to the risks of misalignment. Furthermore, in order to align their practices of innovation with their business orientation towards sustainability one of the suggestions is to assign a role that is responsible for the alignment between the sustainability and innovation department. Another way of creating an alignment can be done by locating the departments under the same functional group or merging the departments so that activities can adapt the perspectives of sustainability and innovation collaboratively. As to the sustainable innovation in companies, it can be applied simply by incorporating sustainability values to their innovation activities such as digital knowledge through AI as done by Castellum and smart maintenance as done by Göteborg Energi where both companies use it as a way to improve their energy efficiency level. However, in order for sustainable innovation to sustain, it should be taken into strategic actions that will enhance the offerings of products and services for customers.

Overall, this study highlights the importance of the relation between sustainability and innovation and their operationalization in collaboration within companies in order for effectiveness and growth through alignment and most importantly for sustainable development.

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Appendix 1 - Set of Questions

Sustainability View

- What are your responsibilities at (your company or organization)? What do you work with?
- How do you work with sustainability at (your company or organization)?
- When did it all start? When do you think this sustainability view has become important for (your company or organization)?
  → What do you want to achieve as a company by going more sustainable?
  → What value sustainability initiatives create and for whom?
    → for (your company or organization)?
    → for society?
- How do you work specifically with three different types of sustainability (environmental, economical, and social)?
- How do you ensure/measure the development of sustainability in (your company or organization)? Are there some indicators that are used in (your company or organization) for example, SDGs/GRI?

Innovation View

- What is innovation to you? And what do you think it is for (your company or organization)?
- What do you think drives innovation?
- Do you think sustainability is a strong driver for innovation? Do you have examples?
- How do you think sustainability efforts affect/influence innovation in companies?

Organizational Structure

- Who do you work closest to within the hierarchy?
  - Who reports to you? Who do you report to when it comes to sustainability? How?
  - How closely do you work with the innovation or sustainability department?

The Outcomes of Sustainability Efforts

- How do you think sustainability efforts affect innovation at (your company or organization)?
- More specifically, do you have examples of projects or initiatives in the pursuit of sustainability that have changed your business model or processes at the company or led you to produce a new product or new knowledge, etc.?
- Regarding sustainability and innovation, what are your biggest challenges lately?
- Regarding sustainability and innovation, what are the opportunities lately?

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