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Building a Sustainable Future: The Role of Dynamic Capabilities in Engineering Consultancy Firms

Master's thesis in Design and Construction Project Management

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Abstract

The Architecture, Construction, and Engineering (ACE) industry is moving towards more sustainable practices, but is still characterized by its high environmental impacts. Given the significant environmental impact of the ACE industry and its potential to transition towards greater sustainability, the concept of Dynamic Capabilities in sustainability efforts has received increased attention from both industry practitioners and researchers. It has been argued that Dynamic Capabilities increases the chances of generating and maintaining sustainable practices in the industry. The aim of this study is to map Dynamic Capabilities of consultancy firms and to investigate which capabilities support the transition towards more sustainable building practices and if demonstrating Dynamic Capabilities can lead to competitive advantages. The research process included a literature review, where existing theories on Dynamic Capabilities were explored in different contexts, including the ACE industry, consulting, and sustainability. In addition, semi-structured interviews were conducted with roles such as sustainability and market managers, sustainability strategists and management consultants with a sustainability niche at smaller, medium-sized and large industry-leading engineering consultancy firms in Sweden. The results revealed that consultancy firms in the ACE industry demonstrate several sustainability-related Dynamic Capabilities that facilitate a sustainable transition, and that courage and collaboration are capabilities required to challenge established practices and drive sustainable development forward. However, there are contrasting narratives regarding the link between demonstrated Dynamic Capabilities and competitive advantage. This study contributes to the field of Dynamic Capabilities in the ACE industry by mapping sustainability-related Dynamic Capabilities. Additionally, it presents key capabilities that industry practitioners consider crucial to drive their sustainability agenda forward as well as a discussion of potential competitive advantages.

Keywords: ACE industry, Dynamic Capabilities, Competitive advantages, Engineering consultancy firms, Sensing, Seizing, Reconfiguring.

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Introduction

1.1 Background

The Architecture, Construction, and Engineering industry, hereafter abbreviated ACE industry, is a sector that currently has a significant impact on the environment (Crawford, 2022). The sector represents almost 40% of global carbon emissions on an annual basis, reaching record highs despite global efforts to reduce them. Stanca (2023) points out that sustainability has now become a cornerstone throughout the corporate world, realizing that buildings designed with a social and sustainability mindset throughout all stages of development, including the design, construction and maintenance phases, can significantly contribute to sustainable development. The ACE industry is one of the sectors that is known to have the potential to contribute significantly to the development towards a more sustainable society, given that it is currently considered to have a large amount of unreleased potential (Deloitte, 2022; Deloitte 2023). Although the importance of sustainability is acknowledged on a global arena, it is now only at the beginning of a journey which will be characterized by rapidly changing and constantly evolving environments (McKinsey, 2020). This indicates that companies in the industry will need to consider the impact of sustainability on their business.

In the business world, it has so far been very common for sustainability work to be increasingly influenced by regulatory requirements as a result of the EU's focus on sustainability integration (Olsen, 2022). In recent developments, however, companies have moved from being driven by requirements to an increasingly proactive approach to sustainability (Bari et al., 2022). This shift has to do with the ability of companies to include sustainability principles in their business model in order to be better equipped to navigate through changing conditions and be a contributing player in achieving greater sustainability (Bartocci Liboni et al., 2022). This inclusion means that companies adopt a dynamic approach rather than a static one to address sustainability challenges, from which the concept of Dynamic Capabilities has emerged. Companies' demonstration of Dynamic Capabilities is strongly linked to solving problems, identifying opportunities and threats, and modifying existing resources, which increases the chances of generating and maintaining sustainable practices over time (Zollo & Winter, 2002; Bari et al., 2022).

This introduction has revealed the growing importance of sustainability in the ACE industry and how companies are striving to integrate and demonstrate Dynamic

Capabilities to address these challenges. Next, the topic will be problematized to analyze and identify research potential in this area. By focusing on these issues, it is intended to lead to an aim for the study and the formulation of research questions.

1.2 Problem Formulation

Given the significant impact the ACE industry has on the environment and its potential to transition towards greater sustainability, and considering an increasingly proactive approach to sustainability, the concept of Dynamic Capabilities in sustainability efforts has received increased attention (Bari et al., 2022). Aghimien et al. (2021) are among those who argue that firms in the ACE industry need to demonstrate Dynamic Capabilities to address rapid changes in the surrounding environment. For example, it is emphasized that adopting and demonstrating these kind of capabilities is a necessity to keep up with industry developments, and potentially gain competitive advantages. This is also deemed relevant in a sustainability context, as these capabilities are crucial for firms to respond to the sustainability challenges (Bartocci Liboni et al., 2022; Yi & Demirel 2023). The authors argue that firms in the ACE industry need to demonstrate Dynamic Capabilities to adapt their operations to climate change and changing regulatory requirements, but also to demonstrate proactivity and innovation in the field of sustainability. Therefore, there is a growing interest in exploring and mapping these capabilities among firms in the ACE industry and the role they play in sustainability development.

Until now, only a few studies have been conducted on Dynamic Capabilities within the ACE industry, with studies mainly focusing on the contractor or client side of the industry, such as those conducted by Adam & Lindahl (2017) and Choi et al. (2018). However, previous studies, including those previously mentioned and also Aghimien et al. (2021), indicate that future research is recommended to be done on consultancy firms' Dynamic Capabilities. Although engineering consultancy firms have a central role in facilitating the transition towards increased sustainability, there have been few previous studies on demonstrated Dynamic Capabilities of consultancy firms in the ACE industry. Previous studies examining consultancy firms include Ning & Kwak (2022), which focused on project-based firms, Plattfaut et al. (2012), which focused on the IT sector, and Charielli (2021), which examined small consultancy firms or self-employed individuals. Thus, a current gap in the Dynamic Capabilities literature regarding the consultancy side of the ACE industry is identified, which is intended to be addressed in this thesis.

Consultancy firms in the ACE industry plays a pivotal role in integrating and implementing sustainable technologies in buildings to promote the transition to increased sustainability (Pim-Wuzu et al., 2022). These firms often offer specialized services and possess expertise in areas such as project management and sustainable construction, as well as in services related to energy efficiency and more environmentally friendly design. Their contributions can be considered increasingly crucial to the creation of a future sustainable ACE industry where possibilities of integrating and promoting sustainable innovations are realized.

1.3 Aim

This master thesis aims to map sustainability-related Dynamic Capabilities demonstrated by engineering consultancy firms in the ACE industry in their transition towards a more sustainable sector. Additionally, it is sought to investigate how adopted Dynamic Capabilities affect firms' ability to develop sustainable solutions.

The intended outcome of this thesis is to get an understanding of consultancy firms' capability to sense and seize opportunities as well as reconfigure resources and competencies to drive a sustainable transition. By applying the conceptual lens of a Dynamic Capabilities framework the thesis intends to contribute by increasing the understanding of needed capabilities to develop and implement sustainable practices. Furthermore, it is aimed to discuss if Dynamic Capabilities, at an organizational level, generate a competitive advantage on the consultancy market.

1.4 Research Questions

To accomplish the intended outcome, the aim has been broken down into the following research questions:

1. What Dynamic Capabilities can be identified in engineering consultancy firms within the ACE industry?

2. Which Dynamic Capabilities support the transition towards more sustainable building practices?

3. How do engineering consultancy firms perceive that Dynamic Capabilities can generate competitive advantage in their sustainability efforts?

1.5 Limitations

This thesis explores engineering consultancy firms in the ACE industry in Sweden, thereby excluding other sectors as well as other disciplines within the sector. While narrowing down the focus could provide an in-depth view in one particular context, it may limit the generalizability of the findings in a broader context where similar aspects could be deemed relevant. In addition, there is a limited evidence base of previous research on the Dynamic Capabilities of engineering consultancies in the ACE industry in Sweden, which may further limit the generalizability of the results. The investigated consultancy firms also represent a relatively small sample size, which is a further limitation. This implies that the findings must be compared with studies of consultancy firms' Dynamic Capabilities in other contexts. The scope of this thesis also only addresses environmental aspects of sustainability with the argument that a more limited focus will have more coherent findings. A limitation is therefore that social and economic aspects are not considered.

2

Literature Review

Initially, in Chapter 2.1 of this literature review, the complexity of the current theoretical landscape of Dynamic Capabilities will be outlined. The purpose of outlining the complexity of the concept is to show the different ways in which Dynamic Capabilities can be interpreted, as well as to identify potential common factors for interpreting the concept. Chapter 2.2 will encompass a theoretical framework of Dynamic Capabilities including its components, followed by chapter 2.3 which contains theoretical contributions on why Dynamic Capabilities are important. The final chapters will include previous research on Dynamic Capabilities in specific contexts. In Chapter 2.4, there will be a review of previous literature on Dynamic Capabilities in the ACE industry and in consulting, while in Chapter 2.5, the concept will be explored in a sustainability context.

2.1 Defining Dynamic Capabilities

Defining Dynamic Capabilities is a complex endeavor due to a vast amount of perspectives and interpretations in the theoretical landscape. Some authors emphasize the relationship between Dynamic Capabilities and the dynamic nature of an organization's skills, while others focus more on the resource and routine-based aspects of this concept (Adam & Lindahl, 2017; Green et al., 2008).

According to Adam & Lindahl (2017), there is a lack of consensus in the literature regarding a precise definition of Dynamic Capabilities. Instead, previous research has made its interpretations or modified previous definitions. Given the absence of an agreed-upon definition, Laaksonen & Peltoniemi (2018) conducted a study on the essence of Dynamic Capabilities, analyzing highly cited and influential theoretical contributions to compare a theoretical ideal. It showed that the majority of these studies underlined Teece et al. (1997) and Eisenhardt & Martin (2000) in their definition of Dynamic Capabilities. Adam & Lindahl also highlight the theoretical contribution of Teece et al. as significant, especially the well-quoted definition (p. 516) of Dynamic Capabilities described as "*the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.* ". Teece et al. view Dynamic Capabilities as strategic skills or routines that firms utilize to form new configurations of resources when navigating through a change in the business environment. Such skills and routines consist of sensing opportunities that might add value to the firm, seizing those opportunities, and the

ability to transform the firm. Similarly to Teece et al., Eisenhardt & Martin define Dynamic Capabilities as "*the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die.*".

Although the definition of Dynamic Capabilities by Teece et al. (1997) and Eisenhardt & Martin (2000) is well-used, some authors want to make alterations to the definition or have contrasting viewpoints. Exemplified in a study by Zollo & Winter (2002), it is recognized that the definition by Teece et al. presents what Dynamic Capabilities are and how they work, the definition also leaves a lot to interpretation and is very context-specific. Zollo & Winter specifies that the necessity of a rapidly changing environment for Dynamic Capabilities to exist is not necessarily true, but instead argues that organizations can use such capabilities even in environments where change does not occur as quickly. With this in mind, Zollo & Winter emphasize, through a solely routine-based variant to the proposal by Eisenhardt & Martin, that the definition of Dynamic Capabilities relates to a learned and established sequence of operations wherein the organization revises its routines intending to increase efficiency.

The disagreement in the literature on Dynamic Capabilities and its definition can be considered evident, as can be seen in Table 2.1. Peteraf et al. (2013) point out, as mentioned earlier, that Teece et al. (1997), Eisenhardt & Martin (2000), and later Zollo & Winter (2002), are the most recognized theoretical contributions regarding Dynamic Capabilities. The difference between the theories has to do with different perceptions of the concepts nature, which is why later research has studied Dynamic Capabilities from a broader perspective. The same view is depicted in Green et al. (2008), where the interpretation of the concept has to do with different schools of thought, resulting in later research choosing a specific definition or altered prior ones. In later work, Teece (2023) realizes that the theory behind Dynamic Capabilities has created confusion, but that convergence towards a common definition is getting closer and that it is important to look for common denominators when the concept is to be examined, such as change processes in organizations. This aligns with the claims by Adam & Lindahl (2017), making a similar interpretation, stating that the common denominator in the theory behind the definition of Dynamic Capabilities is to manage organizational change. Another notable example is the proposal by Wang & Ahmed (2007), suggesting that Dynamic Capabilities is to do with reconfiguring and reconstructing core capabilities in response to a changing environment.

Table 2.1: Various definitions of Dynamic Capabilities

Author(s)	Definition
Teece et al. (1997)	*"The firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. "*
Eisenhardt & Martin (2000)	*"The organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die."*
Zollo & Winter (2002)	*"A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness"*
Wang & Ahmad (2007)	*"We define dynamic capabilities as a firm's behavioural orientation constantly to integrate, reconfigure, renew and recreate its resources and capabilities and, most importantly, up-grade and reconstruct its core capabilities in response to the changing environment to attain and sustain competitive advantage."*

2.1.1 Interpretation of a Dynamic Capabilities Definition

Based on previous research of Dynamic Capabilities and the many attempts to define the concept, such as those mentioned in Table 2.1, it is intended to identify a common ground that is applicable for the aim of this study.

From the reviewed literature, a common denominator can be identified, as interpreted by Adam & Lindahl (2017), in that Dynamic Capabilities relate to organizational change. However, there are disagreements as to whether or not organizational change occurs in response to the environment in which companies operate (Zollo & Winter, 2002). With the exception of the definition of Zollo & Winter, many others, including Teece et al. (1997), Eisenhardt & Martin (2002), and Wang & Ahmad (2007), point out that the capabilities address the requirements of the surrounding environment.

Since this study is aimed at mapping sustainability-related Dynamic Capabilities in engineering consultancy firms' transition towards a more sustainable ACE industry, it entails that one has to look at firms' change efforts in going from less sustainable practices to more sustainable ones. Hence, the following interpretation of Dynamic Capabilities is made: Dynamic Capabilities are a proactive orientation to constantly adapt, evolve, and reconstruct their resources and competencies to meet the demands of a changing environment. These capabilities include generating and modifying processes and procedures to take advantage of identified market opportunities, which in turn can lead to a competitive advantage over its competitors.

2.2 Theoretical Dynamic Capabilities Framework

Within the concept of Dynamic Capabilities there are three central categories of capabilities according to Teece (2011): sensing, seizing and reconfiguring capabilities. Each of these three components demonstrates different aspects and activities of how organizations can adapt and respond to changing environments. The framework of Dynamic Capabilities is illustrated below in Figure 2.1.

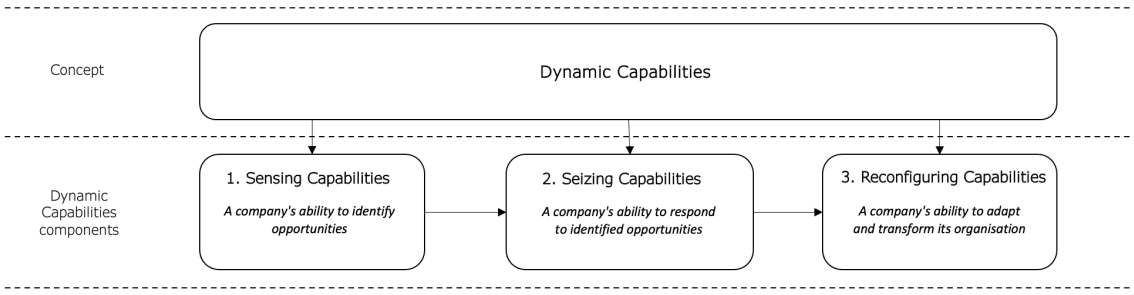

Figure 2.1: *Dynamic Capabilities Framework, adopted from: Teece (2011).*

2.2.1 Sensing Capabilities

Sensing capabilities are, according to Schoemaker et al. (2018), defined as a company's ability to detect opportunities which are considered particularly important in periods characterized by uncertain, turbulent and volatile markets. A company's ability to sense opportunities and threats internally and externally is dependent on engagement and activities such as scanning and creation, as well as learning and interpretation (Teece, 2007).

Sensing capabilities consist, as noted by Teece (2007), of various activities that build up elements constituting components of a larger analysis ecosystem. These elements largely consist of various processes designed to sense changes in the market and external environment. The processes include identifying new innovations among suppliers, sensing the development of new technologies, but also processes to detect changes in customer behavior, market segments, and customer innovation.

Schoemaker et al. (2018) describe some underlying activities that build up sensing capabilities, which together give firms a toolbox to be able to identify, recognize both opportunities and threats in the external market. These activities include external scanning, planning for possible scenarios and integrated dashboards which are a cornerstone for communicating and more efficiently supporting decision-making.

2.2.2 Seizing Capabilities

The seizing activities include aligning the business model with the identified market change by selecting a new customer base, designing a new revenue stream and designing actions to capture customer value (Teece, 2007). Furthermore, to conduct such a change it is deemed crucial to focus on activities such as building loyalty and commitment through leadership, communication, and company culture in order to get the company on board with change. Once the change process is approved companies go into the next phase to accommodate change, which according to Teece could include seizing activities such as optimizing resource utilization, controlling bottlenecks and streamlining various decision-making processes to avoid mistakes and inappropriate actions.

2.2.3 Reconfiguring Capabilities

Feiler & Teece (2014) define reconfiguration capabilities as the process that describes a firm's ability to both adapt and reconfigure its resources and capabilities to respond to changes a firm encounters either externally or within the organization. Reconfiguring capabilities, according to Teece (2009), are considered to be of far more complex nature to a firm in comparison to sensing and seizing capabilities, as reconfiguration may involve developing, or in some cases, require the firm to redesign its business model from an entirely new perspective.

As noted by Teece (2007), reconfiguring capabilities consist of a number of common activities. These activities include stimulating the firm's open innovation processes, developing integration, communication and coordination skills as well as adapting the firm's strategy to better fit the changing environment. This strategic fit is called cospecialization and demonstrates the ability to combine internal and external skills to create and enhance value. Besides these activities, Teece also highlights activities related to knowledge management, which involves learning, knowledge transfer, know-how integration and intellectual property protection.

2.3 Why are Dynamic Capabilities important?

In the most recognized theoretical contributions, as noted by Peteraf et al. 2013, the importance of demonstrating Dynamic Capabilities is considered to be great because it is an ability to create new forms of competitive advantage (Teece et al., 1997; Eisenhardt & Martin, 2000). Eisenhardt & Martin provide insight into this context and emphasize that competitive advantage, the primary source of Dynamic Capabilities importance, can be achieved by enabling new value-creating activities by transforming Ordinary Capabilities into dynamic ones. In the study by Teece et al. it is acknowledged that whilst Ordinary Capabilities, which determine a firm's current state, contribute to operational effectiveness, they rarely support long-term competitive advantage to the same extent as a demonstration of Dynamic Capabilities, which involve sensing and seizing new business opportunities. In a later study

by Teece it was argued that the Dynamic Capabilities framework is used to look beyond the traditional way of understanding competitive advantage (Teece, 2007). This is explained by not only emphasizing a company's necessary processes to obtain a good market position, but also reviewing strategic intentions and decision-making processes in a changing environment to take advantage of opportunities over time. Fainschmidt (2019) builds on this line of reasoning, where the findings included that a company's demonstration of Dynamic Capabilities can increase the chances of a strategic fit to the changing environment the firm operates in, which could be linked to competitive advantages.

Further support for the importance of demonstrating Dynamic Capabilities in achieving competitive advantage is outlined in Too et al. (2010), who argue that these capabilities are necessary to gain competitive advantage in a highly competitive environment. The context in which Too et al. reason is in the ACE industry, stating that these advantages could include greater revenue streams, advancements in technology, and value for customers, among other things. An industry such as ACE is a prevalent one when it comes to a highly competitive market, placing high demands on firms' demonstration of Dynamic Capabilities for an edge to be assured over competitors. This aligns with Ning & Kwak (2022), which examines Dynamic Capabilities in project-based firms in the consultancy industry. By modifying current resources and capabilities while at the same time extending its current resource base, companies become more adaptive and innovative in a changing environment, placing them at the forefront of their industry. Ning & Kwak note that this aspect of reconfiguring to be essential in a project-based setting due to its competitive nature.

Schoemaker et al. (2018) presents a different perspective on the importance of Dynamic Capabilities in organizations. In their study, it is argued that Dynamic Capabilities pave the way for companies to better manage situations characterized by change or crisis instead of these capabilities directly leading to a competitive advantage. Thus, the importance of demonstrating Dynamic Capabilities lies in avoiding the downside that many may face, such as bankruptcy, layoffs, etc., when rapid change occurs. Schoemaker et al. extend their argument and say that if a company demonstrate Dynamic Capabilities, they are more observant of the external environment and in evaluating whether their current business model is in line with market requirements. If it turns out that the business model does not meet the requirements, firms that are demonstrating these capabilities are more likely to be able to generate, integrate and transform internal and external competencies to address the challenges that would otherwise damage their position. Although Schoemaker et al. 2018 focus more on adaptability in changing environments, they recognize, like Too et al. (2010) and Ning & Kwak (2022), that a "strong" demonstration of Dynamic Capabilities, such as seizing an opportunity to reshape the landscape in which the firm operates, can put firms ahead of their competitors.

2.4 Previous Research on Dynamic Capabilities

In this chapter, previous literature on Dynamic Capabilities will be reviewed in two areas. The first review delves into what has previously been researched on Dynamic Capabilities in the ACE industry and which disciplines within this sector have been focused on. The second area addresses previous research on Dynamic Capabilities in a cross-industry context, with a main focus on the consultancy industry.

2.4.1 Dynamic Capabilities in the ACE Industry

Previous studies on Dynamic Capabilities in the ACE industry is something that has been done but has not been fully investigated, as noted by Wahid et al. (2024). In their comprehensive study, *Analysis of Theoretical Viewpoints Explaining the Performance Differentials of Construction Firms*, they examined the use of three strategy management theories, including Dynamic Capabilities, and how these have been applied in construction management literature. After reviewing previous literature, their findings suggest that if organizations in the ACE industry demonstrate Dynamic Capabilities, there seems to be a greater degree of positive impact on their performance. For example, it was identified that the adoption of Dynamic Capabilities allows firms to better adapt to a changing environment and take advantage of opportunities that come with change.

As mentioned previously, some attempts have been made to examine Dynamic Capabilities in the construction management literature, of which a case study by Adam & Lindahl (2017) is one example. The case study consisted of an examination of a large public client through the lens of a Dynamic Capabilities framework with the purpose to study how this client senses, seizes, and transforms opportunities, and analyzes their adoption of Dynamic Capabilities in the organization's change efforts. The findings showed that the client demonstrated Dynamic Capabilities in their way of identifying changes and opportunities using both a top-down and bottom-up approach, depending on the size of the opportunity. Furthermore, it was found that the client considered it more difficult to take advantage of the opportunities they identified, where it was concluded that it is easier to identify a potential change than to capitalize on the opportunities.

Another attempt to study Dynamic Capabilities in the ACE industry is the one by Davies et al. (2016), which operates in a different context compared to other studies. Davies et al. examines the development and adoption of Dynamic Capabilities in the management of large complex projects. Similarly to Adam & Lindahl (2017), the authors conducted a case study, more specifically the construction of London Heathrow Terminal 5, and examine how Dynamic Capabilities were demonstrated to address challenges and ensure a successful project. The findings emphasized how critical it was to adopt Dynamic Capabilities when it comes to successfully managing complex construction projects, especially when it comes to balancing stability and change in a project environment.

An additional study is that of Choi et al (2018), which focuses on the contractor side of the ACE industry. The authors' used a qualitative approach to gain an understanding of how project-based organizations adopt and manage Dynamic Capabilities to develop and sustain a strategic advantage in a competitive environment. In combination with a theoretical investigation of management strategy and Dynamic Capabilities, Choi et al. analyzed public reports from two contractors, namely Skanska and Strabag. This analysis, like aforementioned studies, was done using a Dynamic Capabilities framework to contextualize the firms' strategies and finally map the Dynamic Capabilities they demonstrated. The findings by Choi et al. included that Skanska and Strabag demonstrated Dynamic Capabilities in three aspects, which were to use diversification as a strategy to look for new opportunities in the market, to decentralize their organizational structure to be flexible in decision making in order to take advantage of opportunities, and to integrate value in their transformation efforts to maintain competitive advantage.

The findings from previous studies provide an insight into Dynamic Capabilities in the ACE industry. However, it is particularly clear, as Wahid et al. (2024) suggested, that the theoretical landscape of Dynamic Capabilities in this sector is not yet saturated and sufficiently explored to draw generalizable conclusions. It is important to point out that although previous studies have touched upon Dynamic Capabilities in construction and project environments, there is a variation in findings and approach in the studies. One focus described in the literature includes case studies on large public clients (Adam & Lindahl, 2017), contractors (Choi et al., 2018), and project environments in complex projects (Davies et al., 2016). Although these studies have confirmed the importance of demonstrating Dynamic Capabilities, there are gaps that need to be filled in order to broaden the theoretical landscape. For example, the consultancy side of the ACE industry receives little, if any, attention in this context, as also noted by Choi et al. Hence, it is of great importance to address this gap to explore the extent to which consultancy firms in the ACE industry adopt Dynamic Capabilities to be one step closer to an overall consensus on this topic.

2.4.2 Dynamic Capabilities in the Consultancy Sector

Attempts to examine Dynamic Capabilities have been made in various contexts, but few attempts have been made addressing the consultancy side of the ACE industry. One of these attempts on the consultancy side is the study by Ning & Kwak (2022) who conducted a comprehensive study in the consultancy sector in general, and not specifically in the ACE industry, with a focus on project-based firms. Project-based consultancy firms were pointed out to be attractive to study from a Dynamic Capabilities perspective based on the sector being characterized by market uncertainty and the competitive nature in which they operate. The findings showed that consultancy firms with a lot of project experience tend to place less emphasis on identifying and sensing opportunities in the market. Instead, more emphasis was placed on other Dynamic Capabilities, such as external integrating, internal coordinating, and project-based learning to gain competitive advantage.

External integrating means that a firm combines external resources in new configurations to modify the firm's resource base. Internal coordinating concerns a firm's ability to combine resources in an efficient way to take advantage of opportunities or a changing market. Whereas project-based learning deals with a firm's ability to take lessons from previous projects and apply them to new ones. Ning & Kwak's findings raise some questions about the balance between leveraging past experiences and fostering capabilities to effectively navigate a changing market. This finding thus emphasizes the importance of Dynamic Capabilities from a different point of view, namely that there are different levels of project experience that affect the configuration and the degree to which these capabilities are demonstrated in consultancy firms.

On the other hand, an ambiguity in the theoretical landscape on the consultancy side can be identified in Chiarelli's (2021) study. This study examines the interplay between Dynamic Capabilities, market orientation, and firm performance using a case study of higher education consultancy firms. Chiarelli points out the key role the ability to identify and sense opportunities plays in enhancing firm performance, contrary to the findings highlighted in Ning & Kwak (2022). Furthermore, it is pointed out that the ability to identify opportunities in the market has twofold benefits, the first of which is that it improves the chance of being responsive in a changing environment while the second is that one could align the firm's capabilities with current needs. These claims align with Plattfaut et al. 's (2012) examination of the necessary capabilities for successful service innovation in the IT consultancy sector. In their findings, it is mentioned that competition for customers in the consultancy sector is high, generally due to few barriers to entry and constant pressure on prices, and in particular due to a narrowing market in a tougher economic climate. To be able to function and operate in a competitive market, it is pointed out that great emphasis should be placed on capabilities to identify and scan potential opportunities to take advantage of. Examples of these abilities were to scan the market for new technologies, legal changes, and own ideas that could reshape the industry.

The findings from the previous studies in the consultancy sector provide an insight into the complex interplay between Dynamic Capabilities and the market in which consultancy firms operate. Whether the emphasis is on the importance of having the ability to identify and seize opportunities or to capitalize on project-based learning, a coherent view of the dynamic and competitive environment consultancy firms must navigate is clear. To this, the findings add further context to this study's attempt to address the theoretical gap on the consultancy side in the ACE industry.

2.5 Dynamic Capabilities in a Sustainability Context

In this chapter, Dynamic Capabilities in a sustainability context are addressed. The conceptual framework of Dynamic Capabilities has gained increasing attention in sustainable development and is seen as a way to guide firms in their work towards a sustainable transition (Bari et al., 2022). The chapter therefore examines the impact of Dynamic Capabilities on strategy, innovation, business models and corporate sustainability linked to the sustainability context. Furthermore, it outlines specific sustainability-related Dynamic Capabilities and underlying drivers associated with being able to sense the environment, seize opportunities and reconfigure organisations to manage environmental challenges and changes.

2.5.1 Dynamic Capabilities for Sustainability

Ortiz-Avram et al. (2023) explain how the concept of Dynamic Capabilities has gained an increasing interest in understanding the ability of firms to address sustainability and climate change. Based on the Dynamic Capabilities approach, it is possible for firms to create an understanding of how they can transition and work towards a more sustainable society by sensing and seizing sustainability-related opportunities.

To address Dynamic Capabilities from a more precise sustainability-based perspective, Amui et al. (2017) make an attempt to describe the concept of Dynamic Capabilities for Sustainability (DCsS), aiming to create an understanding of how and what Dynamic Capabilities have a direct impact on sustainability issues and transitions. Through their systematic literature review, in which Amui et al. investigated DCsS, no overall definition of DCsS is provided. Buzzao & Rizzi (2021) have also sought to explore and create a deeper understanding of how Dynamic Capabilities can be connected to sustainability in a more specific manner. Despite their extensive systematic literature review and attempt to analyze DCsS operationalizations, Buzzao & Rizzi did not provide an overall definition of the concept of DCsS.

Based on the perceived importance of DCsS, and the absence of a definition in previous studies, Ortiz-Avram et al. (2023) present a definition of DCsS based on a systematic literature review. The authors define DCsS as "*An organization's capacity to purposefully create sustainability-oriented innovation in multi-stakeholder arrangements*". Besides the proposed definition, Ortiz Avram et al. also provide four kinds of DCsS: firm-level eco-efficiency, firm-level transformation, supply chain or net-work level eco-efficiency, and systemic transformation.

The implication from the first identified DCsS, Firm-level eco-efficiency, is how well a firm can identify and assess sustainability issues among its stakeholders to optimize its existing processes. Ortiz-Avram et al. describe that a firm demonstrating this Dynamic Capability may achieve several benefits, such as better performance and greater social responsibility, as sustainability goals from a climate perspective

are embedded in the firm's strategy and overall objectives. Moreover, firms may also allow sustainability to set the agenda of the strategy and lead to other green optimizations such as waste handling. Furthermore, Ortiz-Avram et al. explain that the second DCsS, Firm-level transformation, is based on the ability to understand the importance of sustainability to their stakeholders to develop new green products, processes and business models. This Dynamic Capability brings increased competitiveness as companies that demonstrate this capability can more easily follow sustainable trends and create new value.

In addition, a third type of DCsS highlighted by Ortiz-Avram et al. (2023) is the Supply chain or Network-level eco-efficiency capability. This capability aims to optimize supply chains and foster collaboration between suppliers to develop more environmentally friendly products and operations. Ortiz-Avram et al. describe this capability as a basis for creating shared value for all stakeholders, and requires the integration of external stakeholders to create sustainability-oriented transformation throughout the network. According to the authors, this Dynamic Capability contributes to enhanced information exchange with stakeholders and is crucial for reducing sustainability risks. Furthermore, a knowledge exchange is created between firms that are collaborating in a network, something that is important for the development of sustainable solutions.

In the fourth DCsS, introduced by Ortiz-Avram et al. (2023), Systemic transformation reflects the ability of a firm to engage stakeholders in decision-making processes to ensure the adequate development of new products, business models or innovation processes. The authors emphasize that Systemic transformation may contribute to purpose-shift in firms' strategies, as it could transform business models. Developing new business models is claimed to be particularly interesting for companies that rely on sustainable materials. Ortiz-Avram et al. also point out that Systemic transformation gives rise to more solutions to address environmental concerns as environmental aspects are evaluated and captured in a firm's performance measures.

2.5.2 Dynamic Capabilities and Corporate Sustainability

Corporate sustainability highlights the traditional importance of a firm's growth and profitability, but also emphasizes the significance of a firm's commitment to pursue and promote the achievement of societal goals (Wilson, 2003). Goals aligned with sustainable development are of particular importance and some examples of such goals range from environmental conservation and social justice to economic advancement.

According to Bari et al. (2022), Dynamic Capabilities, alongside environmental-oriented sustainability is one of the largest drivers of achieving corporate sustainability. Like Ortiz-Avram et al. (2023), Bari et al. states that sustainable Dynamic Capabilities are a fundamental part of pushing corporate sustainability. This holds for small, medium and large organizations. In the case of Bari et al. sustainable

Dynamic Capabilities are defined as "*The set of sustainability-focused capabilities sufficiently dynamic to renew, revise, and adapt according to the requirements of the ever business environment*". By developing Dynamic Capabilities of this kind, firms can, according to Bari et al., develop corporate sustainability as an independent Dynamic Capability. Corporate sustainability as a Dynamic Capability provides paths to sense opportunities and changes, seize opportunities and transform resources on a level of sustainability.

As a part of introducing Dynamic Capabilities as a driver of corporate sustainability, Bari et al. (2022) also outlines the drivers behind a firm's Dynamic Capabilities. The drivers are introduced under several different main themes and underlying factors, although the theme that stands as relevant from a sustainability perspective is the sustainability-oriented transformations drivers. The concepts within this category that relate to sustainability are listed by Bari et al. as for example sustainability focused initiatives and environmental systems management and routines. Within each concept, different drivers are presented. Some examples of drivers highlighted by the authors within the sustainability focused initiative are sustainable processes and products, sustainable development, sustainability oriented innovations and ecological sustainability. Within the environmental systems management and routines concepts, drivers such as circular economy, environmental proactivity, compliance with environmental regulations, clean technologies, pollution prevention and recycling technologies are mentioned. Within a firm, the drivers outlined by Bari et al. are said to consist of various routines, processes at an operational, organizational and human level.

3
Methodology

The research methodology used to achieve the aim and answer the research questions of this study was a literature review and an interview study. The main focus of the study was to explore the sustainability-related Dynamic Capabilities utilized by engineering consultancy firms in the ACE industry to transition towards a more sustainable sector. Furthermore, it was seeked to show how the adoption of Dynamic Capabilities may contribute to the firms' ability to develop sustainable solutions and investigate if the demonstrated Dynamic Capabilities could lead to competitive advantages against competing firms. Given this focus, the research followed a qualitative process. This chapter initially presents an overview of the study's research approach. Thereafter, a detailed description of how the study's literature review and interviews were conducted is provided. At the end of the chapter, the study's research quality is presented, which includes a critique and discussion of the chosen method as well as a description of the ethical considerations in this study.

3.1 Research Approach

An important part of a research study is to link theory and reality with each other. Patel & Davidsson (2019) describe that there are different ways to connect theory with reality to solve the central problems that often arise when theory is to be related to reality. The three approaches presented are deductive, inductive and abductive. A deductive approach is based on first presenting the theory and then comparing it with collected data. An inductive approach, on the other hand, is not based on anchoring a study in theory, but is instead based on first studying a research object and collecting data, and then formulating a theory based on the collected information. The abductive approach is a combination of induction and deduction. Abduction initially involves an inductive approach by formulating a hypothesis for the study, and then taking a deductive approach by testing the hypothesis. This approach allows for alternation as the original hypothesis can be developed or adjusted.

To answer the research questions and meet the intended purpose, this research study has taken an abductive approach. There are several advantages of an abductive approach. Dubois & Gadde (2002) emphasize the strength of an abductive approach, which is that the understanding of an area can get much more comprehensive than initially thought. This is due to the abductive approach combining literature studies with interviews. The combination of literature reviews and interviews may lead to an adaptation and reworking of theory as new aspects emerge during the process.

Furthermore, Patel & Davidsson (2019) state that there are essentially two different research approaches, which can either be used individually or in combination. These two approaches are quantitative-oriented research and qualitative-oriented research. A quantitative approach is suitable for surveys that are based on data collection, processing and analysis of this data to derive possible variables, correlations, quantities or causes. For research that instead focuses on investigating, understanding and interpreting information and problems, a qualitative research approach is appropriate. The qualitative approach focuses on soft values and verbal communication, and data collection is done through qualitative interviews. This study adheres to a qualitative research approach, putting existing theories on Dynamic Capabilities in a ACE context.

This study has adopted the main steps of a qualitative study presented by Bell et al. (2019) to ensure a proper qualitative approach. The research questions were formulated in a sufficiently general way with varying degrees of precision. The formulation of the research questions was followed by a selection of relevant subjects, after which data collection through a literature review and several qualitative interviews was conducted. After the collection of data, the data was further interpreted and was followed by a comparison with a conceptual and theoretical framework. Finally, the qualitative method was brought to an end by summarizing the results and drawing conclusions. To illustrate more clearly how the study was undertaken, a simplified flowchart of the steps involved is shown in Figure 3.1.

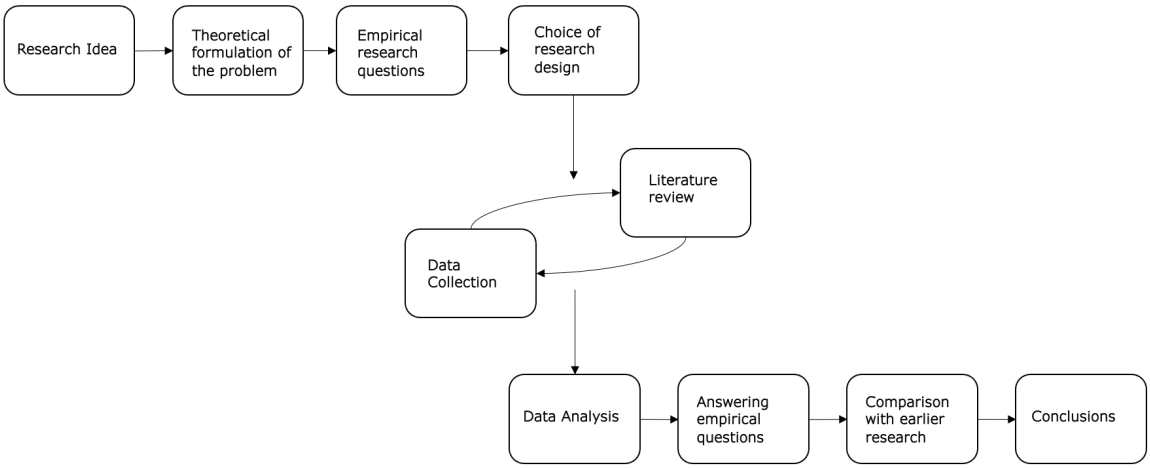

Figure 3.1: *An illustration of the steps undertaken in the study*

3.2 Literature Review

The initial phase of this study consisted of reviewing existing literature and obtaining a deeper knowledge on the subject of Dynamic Capabilities and sustainability, both in a business and a consultancy context. Since this study adhered to an abductive approach, the initial literature review was conducted during the early stages of the study, before the formulation of general questions and interviews. As noted by Dubois & Gadde (2002), the abductive research approach consists of a combination of literature reviews and interviews. Hence, the literature review was conducted in continuous cycles in parallel with the interviews as new perspectives emerged. The main research of literature was obtained by using relevant keywords on Dynamic Capabilities in Scopus, Google Scholar, and Chalmers Library Database. The keywords used included: Dynamic Capabilities, Competitive Advantage, Sensing, Seizing, Reconfiguring, Sustainability, ACE, and Construction. In addition, relevant literature was also obtained by identifying relevant scientific articles referred to by authors. To further ensure consistent use of reliable sources, the articles were screened against a range of factors such as currency, relevance, authority, accuracy and purpose.

Another approach used to identify relevant literature was through the website Research Rabbit. The website has "track functions" on scientific articles, allowing the user to analyze any article considered relevant and to then identify further articles to which the original article has been referenced. Research Rabbit also provides a "similar work" feature, which was used to access literature similar to the original article. In this study, a core literature base in the field of Dynamic Capabilities was used as original articles. This literature base included Teece (1997), Eisenhardt & Martin (2000) and Zollo & Winter (2002) as they are well-cited articles in the Dynamic Capabilities literature that also depict the concept in slightly different ways. Using this broad base, several articles were identified that were considered relevant for this study.

3.3 Interview Study

According to Bryman (2018), interviews are mainly used as an approach to collect data, opinions, and thoughts in qualitative research methods. There are mainly three different types of interviews in qualitative research, namely structured interviews, unstructured interviews, and semi-structured interviews. Alvesson (2011) notes that structured interviews are built according to a strict structure, where the entire process should follow a clear plan. In unstructured interviews, the topic is instead very broad and free rein is given to the interviewee in their reasoning, thoughts and reflections. Semi-structured interviews are referred to as a combination of the aforementioned structures. The advantages of the semi-structured type of interview, according to Patel & Davidsson (2019) include a high degree of flexibility during the interview, which allows topics that were not initially considered to emerge, while the interviewee also more freely can follow up on interesting aspects. The flexibility of semi-structured interviews is based on its nature, including a number of

predetermined core questions, which during the interview can be adjusted, adapted and supplemented with follow-up questions depending on the interviewee's area of knowledge and expertise. Given the balance of flexibility and fixed structure, semi-structured interviews were conducted as part of this study.

The interview questions underpinning this study were formulated in accordance with the research questions of the study. Considerable attention was given to ensuring that the interview questions were subjective in nature, and were formulated specifically but broad enough to capture multiple aspects of the topic. To avoid leading the interviewees into any specific Dynamic Capabilities, the authors considered it important to ensure that the questions per say were not based on the concept of Dynamic Capabilities, but rather formulated in a way that captured all elements of the theoretical framework. In general, the interview questions developed could be described as two different kinds of questions. Questions in the first part, where the authors used a theoretical framework as a basis for the investigation, could be considered to be of a more explanatory nature. This differs from the second part of the interview, where questions were developed to capture possible competitive advantages and formed a more exploratory part of the interview, where the interviewees were allowed to elaborate their thoughts without the interviewers directing too many questions.

The interviewees in this study have been carefully selected based on a number of criterias. These criterias, established at an early stage, stated that the interviewee should be employed by an engineering consultancy firm operating in Sweden and that the firm was involved in and worked with sustainability in its projects. Additional criterias included that the interviewee should hold a role relevant for the study, which was deemed to be positions such as Sustainability Managers or Leaders, Sustainability Consultants, Change Managers, Strategy Managers, Business Developers, or other similar roles. The process of reaching out to the interviewees took place initially by establishing contact with relevant candidates in the authors and supervisors network, and through extensive online research on websites and relevant companies' publications of sustainability reports. In connection with the request for potential participation in the interview, the interviewee was asked if they had any interesting as well as relevant contacts to suggest for future interviews, something that was again repeated at the end of each interview.

Both authors attended all interviews, which were mainly conducted over Teams, but also at the companies offices in some cases, during the months of March and April 2024. The length of the interviews ranged between 45 and 70 minutes, mainly due to the interviewee's knowledge and ability to reflect upon the questions asked. Interviews were conducted in Swedish. For each interview, it was considered of great importance for both authors to participate to undertake crucial roles during the interview, one of them leading the interview forward by asking the interview questions, and the other taking notes, asking follow-up questions and ensuring that the interview was recorded. By taking notes during the interviews, it was possible to get most of the content of the interviews synthesized immediately, resulting in

identification of themes early on as well as greater knowledge when analyzing the interviews. Recordings were only made with the consent of the interviewee, and constituted an important part of the analytical process that followed, as it gave the opportunity to re-listen to the interviews.

The interviews were transcribed using the built-in transcription function of Microsoft Teams. This built-in tool, when set to Swedish, appeared to be unable to transcribe the interviews word for word. As a result, the interviews were not fully transcribed accurately. However, the authors of this study reviewed the interviews with great precision, and considered that the transcripts have a sufficiently high degree of accuracy to provide a basis for further analysis in the study. The authors have taken great effort to organize the transcripts, i.e. removed duplicate words, words or parts of sentences that lack meaning, and the exact time of each individual sentence followed by the same speaker. This approach was adopted to ensure a coherent transcription reflecting a proper representation of the interview. In cases where opinions or statements needed to be reproduced with full precision, the interview section was re-listened to. The interviewees are shown in Table 3.1.

Table 3.1: List of Interviewees

Interviewee	**Company**	**Role**	**Date of Interview**
1	A	Sustainability Strategist	20240308
2	B	Sustainability Program Manager	20240312
3	C	Innovation Leader	20240313
4	D	Division Director	20240314
5	D	Head of Sustainability	20240314
6	E	Managing Director	20240319
7	F	Senior Advisor Sustainability	20240320
8	G	Head of Market and Sustainability	20240322
9	H	Head of Sustainability	20240325
10	J	Head of Sustainability	20240326
11	K	Regional Manager	20240326
12	L	Head of Sustainability	20240326
13	C	Business Manager	20240405

The interviewees in this study all represent engineering consultancies operating in Sweden. The majority of the firms represented by the interviewees operate on an international and multidisciplinary basis with operations active in locations ranging from the Nordic countries and Europe to Asia and North America with several thousand employees. In addition to the large international engineering consultancies (Company C, D, F, G, H, J, K, and L), firms with around 30 up to a couple of hundred employees (Company A and E) were also represented among the interviewees. In one individual case, a self-employed consultant at Company B was interviewed, although the self-employed consultant had extensive experience of the field from similar work in a large Swedish construction company.

3.4 Data Analysis

As the interview questions were categorized into exploratory and investigative questions and divided thematically, it was decided that it would be appropriate to let the focus of the interview questions form the basis of a thematic coding in the data analysis. The interviews were transcribed and coded in accordance with the division of themes such as Sensing, Seizing, Reconfiguring, Sustainability transition and Competitive advantage. The theme-based coding was considered a reasonable approach in this study, which is supported by Bryman (2018) who notes that coding interviews in qualitative studies can be seen as crucial in order to properly structure the collected data. The coding process is explained by Kvale & Brinkmann (2009) as a technique that lays the foundation for dividing the data into smaller fragments to explore and compare collected data. The purpose of coding is to decompose the collected data to identify concepts and connect the content to different categories. It is acknowledged that analyzing the collected data poses an obstacle, and is often problematic in qualitative studies since the quantity, width and depth of the data that emerges during the interviews results in large quantities of information to process. Bryman therefore reiterates the importance of identifying different themes in addition to breaking down the data into categories to ensure a structured analysis.

Against this background, the data collected through the interviews has been structured and coded in accordance with recommendations by Bryman (2018) as well as Kvale and Brinkmann (2009) to enable a simplified and accurate analysis. The tool used when structuring and coding the interviews was NVivo, a tool that provides an overview of the coding process. In NVivo, it was possible to gather interview data from several interviews under a single code for the respective category. By selecting a created code, the highlighted sections for all interviews related to that code were displayed. The structure of the coding process was organized into five stages. Stage one, two, and three consisted of generating codes related to the Dynamic Capabilities framework, including Sensing, Seizing and Reconfiguring capabilities. The fourth step consisted of creating codes for which Dynamic Capabilities supported the transition to more sustainable building practices. Stage five, the final coding stage, included an analysis of the narratives around whether firms' demonstrated Dynamic Capabilities resulted in competitive advantage. In order to identify different narratives from interviews, as also noted by Czarniawska (2011), it was examined whether there were contradictory narratives or interpretations among the data that emerged during the interviews. By examining similarities and differences in how interviewees described or interpreted the issue of perceived competitive advantage, different themes from the interviews were analyzed, thus laying the foundation for identifying and distinguishing different narratives.

To provide a simple overview of how the transcripts were coded in NVivo, the coding structure applied in this study is presented in Figure 3.2 below. It is illustrated how the coding was structured according to the research questions, and in two levels. Level one represents the main themes for each of the research questions, whereas level two consists of identified sub-themes.

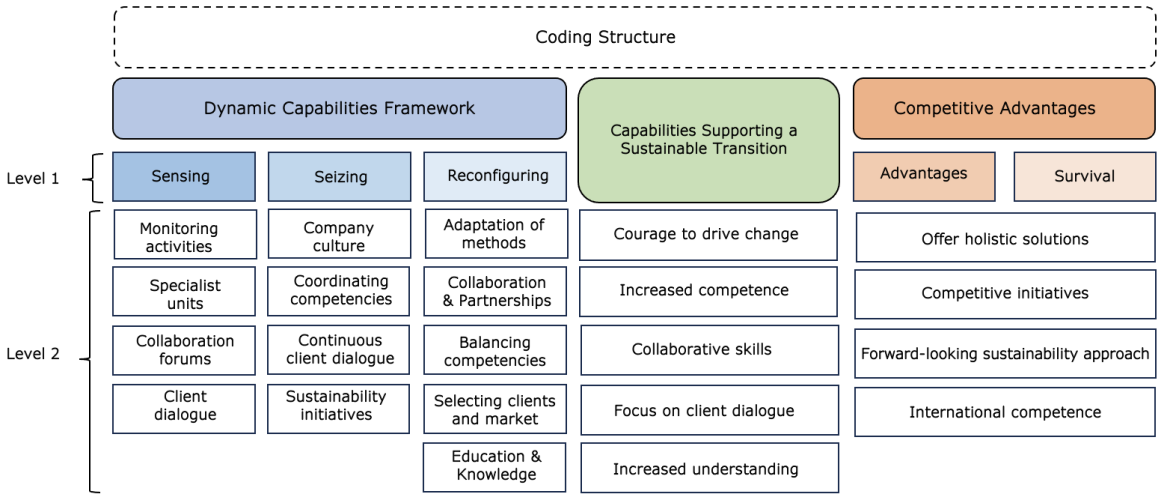

Figure 3.2: *Illustration of the coding structure*

The analysis and discussion in this study include assessments of the Dynamic Capabilities demonstrated by the consultancy firms based on interview findings and the results of the subsequent coding process. Descriptive words such as *strong* and *weak* were used to indicate how well the engineering consultancy firms demonstrated Dynamic Capabilities. The descriptions indicate a scale of some form. However, the scale in this case does not consist of a number-based rating where the capabilities are evaluated one to ten. Instead, it is based on the intensity with which they were demonstrated during the interviews and the interviewees' ability and confidence in expressing their demonstrated capabilities. Thus, the scale does not reflect the number of capabilities identified within the Dynamic Capabilities framework.

3.5 Research Quality

In the following section, there is a reflection on the chosen methodology, highlighting particularly the aspects that went well and the areas that could have been improved in this study. Further, the ethical considerations undertaken in the study are presented, as well as how the use of AI contributed to the development of the report.

3.5.1 Reflections About the Chosen Methodology

Since the field of Sustainability-related Dynamic Capabilities is not saturated theoretically, the authors found a continuous theoretical process, in accordance with the adopted abductive process, to be essential in order to reflect upon the information provided by the interviewees. The method paved the way for increased leeway on what information could be considered relevant or not in this study. This partly emphasizes what is currently available in the theoretical landscape of Dynamic Capabilities, but also takes advantage of insights to fit the context addressed, namely the consultancy side of the ACE industry in the Swedish market.

One aspect of improvement, according to the authors, was that the number of interviews could have been increased. Although there was considerable interest and a positive response from leading consultancy firms, it was difficult to get more interviews due to a fairly low level of interest in participating in the actual interviews. The authors would have preferred a larger number of interviews as part of this study, mainly to provide a broader and deeper understanding of the Sustainability-related Dynamic Capabilities mapping. This could have increased the applicability of the mapping, and provided a broader industry perspective on how the capabilities of engineering consultancies in the ACE industry are demonstrated, as well as how the industry perceives potential competitive advantages.

3.5.2 Ethical Considerations

According to Bell et al. (2019) and Kvale & Brinkmann (2009), adherence to ethical principles is imperative in research to mitigate ethical risks effectively. These principles, as broken down by Diener & Crandall (1978), encompass four key domains researchers must conscientiously take into account, namely, avoidance of participant harm, ensuring informed consent, respecting privacy boundaries, and avoiding deceptive practices.

To uphold these ethical principles, prior to conducting interviews, interviewees were given the option to remain anonymous and be informed about the recording of the interview. Providing anonymity allows interviewees to express their opinions more freely, ensuring their comfort and integrity. Furthermore, in compliance with the ethical guidelines outlined by Bell et al. (2019) and GDPR regulations, interviewees were assured that all interview materials, including recordings, notes, and transcripts, would be securely deleted upon study completion.

Given the sensitive nature of the report on firms' adoption of Dynamic Capabilities and its potential implications on competitive advantages, it was deemed necessary to maintain the anonymity of both the interviewee and the firm. That is because there is usually only a few persons holding these kinds of positions, i.e. Sustainability Managers, Sustainability Consultants, and Strategy Managers, within the area in the firms, enabling the interviewee to be identified easily. Hence, names of the interviewees and firms have been anonymized in the study, while the role has been considered significant enough to highlight on its own. This approach respects the firm's competitive position and allows for ethical consideration of its interests.

3.5.3 Use of AI

We have used AI-based software in this master's thesis. The softwares used to produce the report was solely to facilitate language assistance, i.e. to provide improved syntax and grammar to create a well-written and coherent text as well as to identify useful sources. For transparency, it should be mentioned that DeepL and Grammarly were the tools used for language assistance, while Research Rabbit was used as a literature search tool. Nevertheless, we emphasize that we are solely responsible for the production and structure of the content of the study. We have independently written the main text, analysis and discussion. With this, we want to state that the technology has been used as a complement to our work, aimed at improving the research process.

4

Results

The results of the conducted interviews will be presented in the form of three main chapters. Chapter 4.1 contains interview findings regarding the Dynamic Capabilities identified in engineering consultancy firms in the ACE industry with the aim of providing a framework for Dynamic Capabilities. Thereafter, the chapter 4.2 includes findings on identified Dynamic Capabilities that support the transition to more sustainable building practices. Finally, it will be presented in chapter 4.3 how consultancy firms perceive that Dynamic Capabilities can generate competitive advantages in their sustainability work. Each chapter contains an overview of the results, followed by a more elaborated presentation of the findings.

4.1 Identified Dynamic Capabilities

In this chapter the identified Dynamic Capabilities of the investigated consultancy firms are presented, consisting of sensing, seizing, and reconfiguring capabilities. Afterwords, the results are compiled into a Dynamic Capabilities framework.

4.1.1 Consultancy Firms Sensing Capabilities

From the interview findings, four sensing capabilities have been identified that depict the ability of the investigated consultancy firms to identify trends and opportunities in the field of sustainability. These capabilities, which are illustrated in Figure 4.1, include monitoring the external environment, creating specialist units dedicated to identifying trends and challenges, participation in collaboration forums, and a strong focus on client dialogue and relationships.

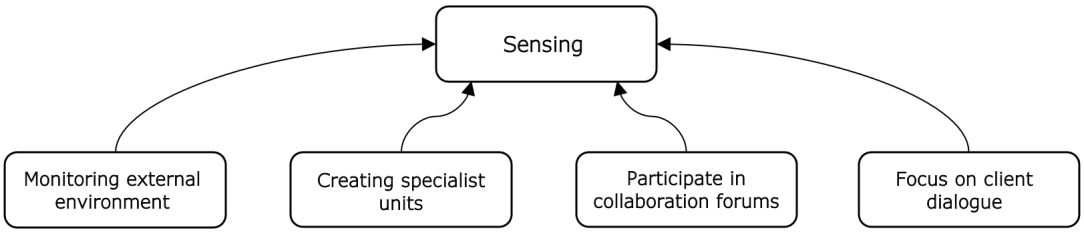

Figure 4.1: *Illustration of the consultancy firms sensing capabilities*

Monitoring the external environment emerged from interviews with ACE consultancy firms as a central role in the way they identify opportunities in the field of sustainability and in their efforts to identify trends. A large majority of interviewees believed that it is as natural as it is important to be updated on legislation and green initiatives, as the EU taxonomy[1] and the newly established CSRD[2] framework have emerged as such a major driving force in corporate sustainability work. There is a consensus on the impact of legislation on companies' business operations, indicating that EU initiatives and green roadmaps have an impact on the adaptation of companies' strategies to identify trends and offerings to customers. One of the participants emphasized:

" It is very much governed by the legislation in the EU taxonomy and CSRD that is coming right now, so the EU is very driving in this issue, which affects our organization and our offer." - Head of Market and Sustainability, Company G

However, it is noted that in their role as consultants, it has always been part of their work to conduct market analyses, whether it is to follow developments in terms of future legal requirements or new directives. As a consultancy firm, it is said to be clearly stated in their role that identifying new opportunities in the market is their livelihood, as these firms are hired to meet a need in the market. In the identification work, many of the investigated companies take a holistic approach by integrating monitoring of the external environment into their strategic processes and business models, which helps them to adapt their business to changes but also to identify new business. An example of this approach was expressed as follows:

"We adopt a holistic approach in our work to identify trends; we regularly analyze the world around us and look at what is happening in terms of the major trends in society. It becomes very natural for us to adapt our offerings based on the needs we see." - Head of Sustainability, Company J

The way in which the monitoring of the external environment is carried out was fairly similar in all firms. This involved subscribing to newsletters or magazines on sustainability challenges, being active in various forms of webinars, and internal and external training and education.

All companies also have, in one way or another, **created specialist units** dedicated to following sustainability trends, legislation or market changes. These units can be in the form of a separate sustainability division or via sustainability special-

[1]Launched in 2020, the EU Taxonomy is part of the EU's sustainability framework and is considered an important tool for market transparency. The taxonomy is part of the EU action plans to finance sustainable growth and redirect private investment from activities with negative environmental impacts to sustainable activities. (EU, n.d.a)

[2]The EU launched the Corporate Sustainability Reporting Directive (CSRD) in 2023 with the aim of strengthening the rules relating to the social and environmental information that companies are required to report. The Directive aims to create the best conditions for the EU to reach the Net-zero target by 2050, by raising the quality requirements for sustainability reporting to a level equivalent to financial reporting. (EU, n.d.b)

ists scattered throughout the organization. However, the ability of some investigated companies to identify new market opportunities goes one step further, as they operate on a global stage. Company D, for example, has a periodized strategy period which includes a quality process where they monitor and identify new laws or opportunities that may affect the company. This work forms the basis of the company's strategy for the following years, either locally or globally. Another global company, Company L, also has a periodized strategy period, but also mentions a specific initiative. This initiative is used by the company to identify and integrate global trends into their business by including all functions within the organization at global level in this process. This initiative was described as:

"This sustainability program, called ..., is thus used by all employees around the world and is based on identifying trends and our environment in the field of sustainability, but especially on trends." - Head of Sustainability, Company L

Participation in collaborative forums was an additional finding identified in relation to firms' ability to identify opportunities in the field of sustainability. All interviewees pointed out that they actively participate in various forums to keep up to date with sustainability trends and opportunities, but also as a platform for knowledge exchange and collaboration. Interviewees also agreed that participation in forums gives them the opportunity not only to contribute their own expertise but also to learn from other actors. It is further emphasized that because sustainability is such a large and important issue and that developments are moving very quickly, industry forums were considered a necessity to get an overview of where the whole industry is going rather than individual companies. In the interview with the Sustainability Strategist from Company A, the importance of industry forums in identifying opportunities was emphasized in the following way:

"Identifying opportunities in the field of sustainability requires a systematic approach consisting of three steps. It is about being active in forums, contributing what you can, but also listening a lot. There is an incredible amount you can get if you have this system and if you continuously work with the three focuses, you get a lot of insights into what is happening in the world." - Sustainability Strategist, Company A

A strong focus on client dialogue was another key element considered to influence the ability of consultancy firms to identify opportunities. The reason why customer dialogues play such a central role in the work of consultancy firms was related to obtaining a better understanding of customers' strategies, needs and wishes regarding sustainability issues. If a consultant also wants to make a difference in the field of sustainability, it was indicated to be of great importance to have an ambition to be attentive to and collaborate with clients with an ambitious sustainability agenda. The Sustainability Strategist from Company A, for example, stated that by having a close dialogue with customers, insights can be gained into the needs and challenges that exist within sustainability in the market, which then guides the company's business strategy. Similarly, the Head of Sustainability from Company L reasoned that the customer dialogue is important for identifying needs, but also

an opportunity to create an external partnership intended to share identified trends and challenges in the field of sustainability. The reasoning was as indicated below:

"It is very much about working together with the customer, and through the customer dialogue we can connect with them, create trust, identify trends and challenges in sustainability together." - Head of Sustainability, Company L

4.1.2 Consultancy Firms Seizing Capabilities

The approaches that the consultancy firms use to seize opportunities in the field of sustainability, resulted in four primary seizing capabilities for consultancy firms in the ACE industry. These capabilities are presented below in Figure 4.2, and include creating a sustainability-driven company culture, coordination of inter-organizational competencies, continuous client dialogue, and external and internal sustainability initiatives.

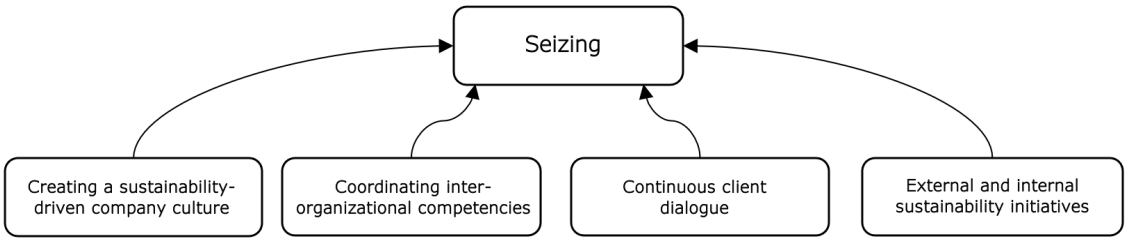

Figure 4.2: *Illustration of the consultancy firms' seizing capabilities*

Creating a sustainability-driven company culture and a mindset around business-driven sustainability was argued by a majority of interviewees to play a central role in the consultancy firms' ability to seize opportunities. A common factor in most of the interviews was that sustainability should not only be considered as an isolated measure, but as part of the company's efforts and values. One interviewee stressed the importance of creating a corporate culture where sustainability is a natural part of the business, both at the macro and micro level. One interviewee, active as Head of Sustainability at Company L, emphasized the importance of *"getting a mechanism built into your own business model to drive the business in a more sustainable direction is key"*. Business-driven sustainability were deemed to be much about listening to the client and the market, with key elements including adaptability and flexibility, innovative thinking, proactivity and a customer-centric organization.

A willingness to change and a commitment from the entire organization were also noted to meet the challenges and opportunities presented by sustainability efforts. One interviewee summarized the impact of corporate culture on seizing opportunities as follows:

"Then we can also have employees who want to change society and enjoy working at the forefront of sustainability. This also makes us a forward-thinking company, and that's why it's so important to create the right corporate culture." - Division Director, Company D

Most of the interviewees, especially those working as Head of Sustainability, believed that an important way of working to take advantage of opportunities is not only to have the right skills, but also to be able to utilize the expertise in the right way. One of the characteristics of large consultancy firms is that they tend to operate on a global basis, making it important to involve experts from other parts of the world to spread knowledge and skills within the organization and build trust with clients. The basis for **coordinating inter-organizational competencies** in this way is based on strong collaboration, which is seen as key to realizing opportunities within the company. Two of the interviewees expressed the importance of internal coordination as follows:

"We bring the best skills to capture opportunities and build trust with clients, but also to diffuse the skills within the organization." - Head of Sustainability, Company D

"We may need to draw on expertise from our sister countries. I would say that sustainability expertise is rather scarce, so it is particularly important to cooperate in order to capture sustainability." - Head of Sustainability, Company G

In addition to internal cooperation, a crossroads was revealed during the interviews, which relates to external cooperation. All interviewees agreed on the importance of a **continuous client dialogue**, but when it comes to cooperation with competitors, some are uncertain about this type of cooperation and prefer to keep business and knowledge-specific information to themselves. Despite the doubts about external cooperation, most interviewees were in favour of this, and one interviewee expressed the following:

"So this is about working together with customers and in some cases also with our competitors, because we can't do it alone, we need to deliver this together with our competitors." - Head of Sustainability, Company L

Another central part of the consultancy firms' ability to seize opportunities was pointed out, in the majority of the interviews, by developing specific tools that place great emphasis on client dialogues. Actively developing and working with such tools has been an eye-opener in terms of the sustainability agenda, and results in **external sustainability initiatives** being captured. In addition, new services can be developed. interviewees stated:

"We also have a dialogue tool with customers. When you initiate a project, you discuss the whole project from a sustainability perspective." - Head of Sustainability and Market, Company G

"There is a focus on sustainability, and it is not sure that the clients have that priority, but we can bring up the issue with the client and proactively try to get them to enhance their own goals." - Head of Sustainability and Market, Company G

"It is in this way that we can capture the need and create new services based on customer demand." - Head of Sustainability, Company J

In the same way that it is important to capture the customer's sustainability ambitions, it is equally important to capture internal sustainability ambitions, which in most interviews appeared to be done through **internal sustainability initiatives**. An Innovation Lead at Company C, a Regional Manager at Company K and a Head of Sustainability at Company D all stated that these sustainability initiatives aim to raise awareness of sustainability within the organization. To spread knowledge within the organization, and thus stimulate sustainable innovation and an inspiring working environment, inspirational lectures, project presentations and workshops are organized. This is all done to contribute to increasing the organization's ability to seize opportunities in the field of sustainability.

A direct consequence of corporate sustainability initiatives to seize opportunities, according to some interviewees, has been the attempt to establish internal sustainability hubs. These are often part of companies' innovation efforts, and aim to enable companies to enable greater creativity and develop a more distinctive agility. The internal sustainability hubs create a forum for collaboration and enable employees to quickly solve problems that arise in the area of sustainability. One interviewee stated:

"Then there are a lot of ideas, i.e. development issues from employees who see things in everyday life. Then you can send in suggestions, as well as describe different ideas and thoughts in a hub that is processed based on business benefits and economies of scale." - Regional Manager, Company K

One of the interviewees, Innovation Lead at Company C, also described how they have refined their forum, describing it as a strategy fund. The fund will provide the opportunity for employees and experts who recognise opportunities or problems in areas such as sustainability to work on and tackle these opportunities and challenges, without feeling limited by project budgets. More precisely, the interviewee expressed:

"And then you can apply to our strategy fund and get hours to develop something within the strategy. The fund also acts as a spider in the web and has an overview for us to have initiatives running... The fund provides funding opportunities, but in addition to funding opportunities, it also provides coaching and support." - Innovation Lead, Company C

4.1.3 Consultancy Firms Reconfiguring Capabilities

The identified approaches used by the firms to reconfigure their organization can be categorized into five primary reconfiguring capabilities. These capabilities are presented in Figure 4.3.

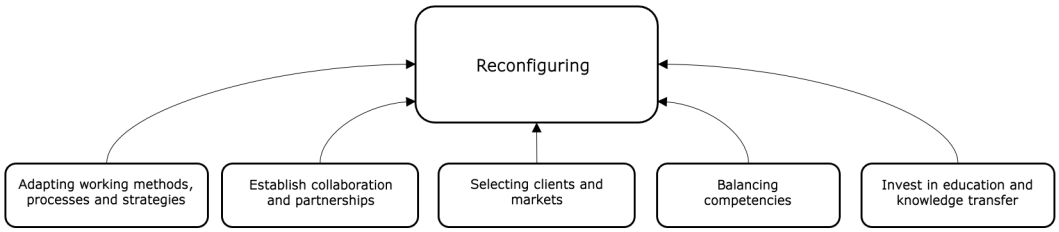

Figure 4.3: *Illustration of the consultancy firms' reconfiguring capabilities*

During several interviews, it came to light that **adapting working methods, processes, and strategies** were fundamental reconfiguring capabilities. It emerged that the firms' ability to build an agile and innovative organization plays a central role in the consultancy firms' ability to adapt and respond to change from a sustainability and market perspective. One interviewee expressed how their efforts to completely design a new strategy that focuses on sustainability have been crucial in their sustainability efforts. By designing a new strategy at group level, this shows that the firm is creating a commitment to sustainability. The interviewee summarized the effects of the strategy plan so far as follows:

"The strategy has also really helped the whole organization to mature over the last few years and this strategy has really made an impact I would say." - Head of Sustainability, Company D

A Division Director, also active at Company D, further stated that the decision to develop a corporate strategy that focuses on sustainability, rather than having a separate sustainability strategy as a complement, is relatively uncommon in the market. This has left clients asking what their "actual" strategy is. Once realizing that sustainability is embedded in their strategy and having it as a focal point in their business model, clients have gained insight into how committed Company D is to sustainability. The alignment of this strategy has allowed the organization to reshape their goals, priorities, ways of working, project deliveries and initiatives to ensure the focus on sustainability according to the strategy.

One interviewee, working as Head of Sustainability and Market at Company G, highlighted that the ability to **establish collaborations and partnerships** of strategic nature with external parties is important to build an agile and innovative organization capable of responding quickly to changes in the field of sustainability, while at the same time it is crucial for companies to remain relevant in the market. The interviewee described how they have collaborated with several external

parties with expertise in AI to co-create new innovative sustainability solutions for environmental impact assessments in projects. It emerged that collaboration and partnerships are essential, but that the acquisition of companies is not as prominent:

"I think that in the past we acquired companies, but in the future I think we will work more with partnerships. We won't want to own them, but we will work with them in other ways. Development goes much faster today, and you do not have time to make acquisitions, as it were before." - Head of Sustainability and Market, Company G

Other interviewees, including a Sustainability Programme Manager at Company B, further clarified that external collaborations are important for the future, and pointed out that *"you should work together with other actors that you see the benefit of working with. It can be companies that are in other industries that have not previously been in the ACE industry, but you see a very clear need for new ways of collaborating and creating new value chains."* The Business Manager at Company C took the idea of collaboration even further, saying that they would like to engage with their competitors on sustainability issues in order to learn from each other and have the most impact on the market.

In addition to strategic alignment, partnership and collaboration, being able to align working methods and processes is of great importance. During the interviews, it was revealed that adaptation takes place through everything from delivery processes and project models to implementing reuse as a cornerstone of daily project management. One interviewee described that they have redesigned their delivery processes to be based on sustainability:

"We have also analyzed our delivery process based on our significant sustainability aspects. We have developed checklists and a basis for analyzing risks and opportunities from a sustainability perspective in each assignment. I would say that we have adapted the delivery process based on the potential sustainability impact." - Head of Sustainability, Company J

The same interviewee also expressed that **selecting clients and markets** are of great importance for how to adapt to meet changes in the field of sustainability. It is a question of selecting clients with whom one sees a future and rejecting clients with whom one does not see a future in order for one's own organization to be able to invest in sustainability and face changes. The interviewee highlighted an example from the recent pandemic where the selection of customers was crucial:

"We made a very quick turnaround. From having worked very much with the private sector to balancing it with public clients because there was a far more stable market there." - Head of Sustainability, Company J

The Division Director at Company D also confirmed that the choice of clients and markets is important to transform their operations. This was expressed through how they have abandoned certain clients and markets in the energy sector:

"We used to work with fossil fuels as energy. We have clearly said no to that now because we are trying to shift. We want to create a portfolio of services where we go 100% into this sustainability niche." - Division Director, Company D

In addition to investing heavily in creating an agile and innovative approach to innovation by setting the direction of the firms through strategy, external collaboration and partnerships, and adapting work processes and methodology, the majority of consultancy firms spend a lot of time creating a balanced skill set within the organization. It emerged from the interviews that **balancing competencies** can facilitate collaboration, improved agility and understanding of decision-making, communication and coordination, among other things.

The main effort to create a balanced competence lies in being organized so that sustainability competence is present throughout the organization. The majority of the interviews showed that firms have sustainability directors or managers who are active at executive level and provide strategy and direction. The interviews also show a consensus on spreading sustainability competence within the organization, which is done through appointed teams. One interviewee emphasized the importance of organizing in this way:

"Because I think this is a big risk in many organizations. That they organize themselves so that sustainability experts sit alone in a corner and are very skilled. But how do you get them out to the rest of the organization so that you can actually have an effect?" - Managing Director, Company E

Another interviewee, Head of Sustainability at Company J, confirmed this by explaining that the business has developed an organization where the sustainability specialists are positioned in the specific segments in which the company operates. These segments included buildings, energy, transportation, and water. This creates business-related expertise where individuals are knowledgeable about processes and sustainability linked to a that particular segment. As a complement, there are various networks for co-operation.

"We don't have a sustainability department or division for sustainability, but experts are kind of placed throughout the organization... But they in turn have networks where they discuss sustainability issues and can help each other." - Head of Sustainability, Company J

The interviews indicated that the firms are trying to create organizations that spread out sustainability expertise, which was finally described by a Senior Advisor Sustainability at Company F. Their organization was described as a matrix organization with both a horizontal and vertical structure, where areas of expertise and skills are integrated and collaborating across departmental boundaries to ensure efficiency and knowledge sharing.

It is not enough to just balance sustainability competencies within the organization. interviewees also stressed the importance of **investing in education and transfer knowledge** to achieve synergies in sustainability efforts. The majority of the interviews identified three main areas that show how the firms are working in this area. These included training programmes, sustainability events such as workshops, webinars and live broadcasts, and recruitment. Training programmes focus on educating employees on sustainability, with a focus on how to identify sustainability opportunities. An important part of the training programmes is "*upskill and reskill*", as mentioned by the Head of Sustainability at Company L, i.e. retraining employees and providing others with more skills. Where companies cannot fill their skills gaps, they try to add and recruit people with specialized knowledge in sustainability.

Organizing mentorships to educate, motivate and inspire employees to become involved in sustainability, thus spreading knowledge and information within the organization, was considered by one interviewee to be a new and important way of working:

"Mentoring is important, it is a mobility, a movement around the world that is an important part where we move our employees both to get knowledge here but also to transfer knowledge, increase knowledge and bring it back to us." - Head of Sustainability, Company L

4.1.4 Identified Dynamic Capabilities Framework

In Figure 4.4 it is presented a summary of the Dynamic Capabilities identified among the investigated firms. The framework includes the main activities undertaken by the firms to develop their Dynamic Capabilities in the areas of Sensing, Seizing and Reconfiguring, equipping them to navigate in a constantly changing environment.

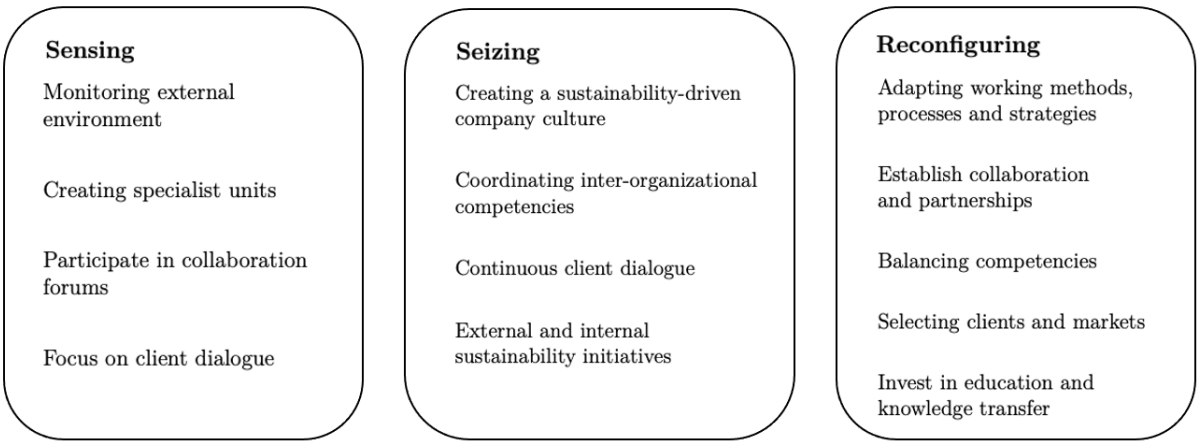

Figure 4.4: *Summary of Identified Dynamic Capabilities for Sustainability*

4.2 Dynamic Capabilities Driving Sustainable Transformation

This chapter addresses the findings of the identified Dynamic Capabilities that the investigated consultancy firms considered important to ensure a sustainable transition in the ACE industry. First, an overview of identified capabilities that support such a transition is presented. This is followed by a more in-depth assessment of the identified capabilities.

4.2.1 Overview of Dynamic Capabilities Supporting a Sustainable Transition

From the interview findings regarding the Dynamic Capabilities recognized to support a sustainable transition, five capabilities were identified as essential. These capabilities are compiled in Figure 4.5, including a high degree of courage to drive change, collaborative skills, increased focus on customer dialogue, increased understanding of the importance of sustainability, and increased competence in sustainability issues.

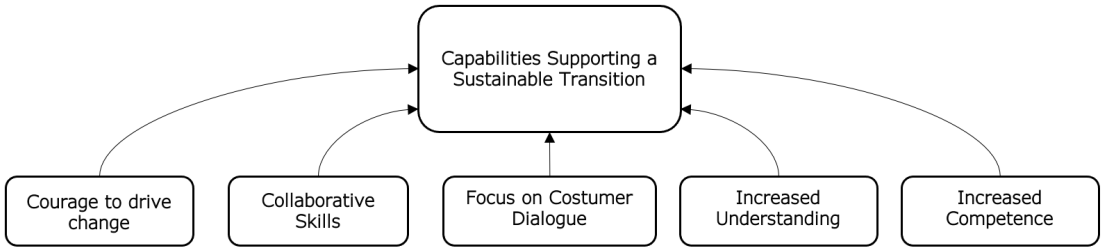

Figure 4.5: *Illustration of the Dynamic Capabilities of investigated consultancy firms that supports a sustainable transition.*

4.2.2 Courage to Drive Change

Regarding the Dynamic Capabilities that support the transition to more sustainable practices, it is clear from the findings that courage is a crucial characteristic. Interviewees agreed on this fact and emphasized the importance of being brave enough to challenge existing norms and traditional methods to come up with new, innovative ways to achieve sustainability in the ACE industry. In addition to the courage to be innovative, courage was also highlighted as being about questioning the already established and challenging the status quo. Courage was thus considered to be an ability that is a key factor in successfully driving change and daring to take the initiative for new ways of doing things.

An example of this was given by the Head of Sustainability at Company L, where the importance of courage was highlighted by emphasizing it as a necessity to ask

the hard questions and propose alternative solutions, which is a fundamental part of working towards sustainability. More specifically, it read as follows:

"Courage! So that's number one, courage to actually dare to both ask the question and give a proposal that goes against the conventional methods for the customers because the customers actually do not always ask for change, so the courage to dare to do it is an extremely important ability." - Head of Sustainability, Company L

Being brave also means being prepared for initiatives to fail, but it is extremely important for companies to see potential failures as part of the learning process. It was considered by several interviewees that there must be a drive from within the organization to constantly test new ideas and dare to take that risk and ignore the fact that a new method may fail. Whether companies complied with this principle or not was pointed out to be of great importance in order to move forward in sustainability development. The importance of this principle was described in the following way:

"To dare to try new things, to dare to learn together with the customer, to dare to take the risk of failure even when testing a new method. This is extremely important if we are to move forward." - Head of sustainability, Company J

In summary, there is a consensus on the fact that courage to drive change is a key factor in driving sustainability work forward. By daring to explore, challenge and question the conventional, it was outlined that such courageous actions are strongly contributing to the implementation and development of sustainable solutions.

4.2.3 Collaborative Skills and an Increased Focus on Customer Dialogue

Additional capabilities that support the transition to a more sustainable ACE industry were identified as good collaboration skills and a focus on customer relations. Interviewees argued that being collaborative and engaging different industry players can provide an opportunity for a broader understanding and a diversity of perspectives, which was highlighted as promoting innovative and effective solutions in the field of sustainability.

The Head of Market and Sustainability at Company G was one of many interviewees who emphasized the importance of cross-sector collaboration and the inclusion of everyone who wants to be involved in the collaboration to promote innovation. By collaborating cross-sector in this context meant a collaboration between sectoral actors in the ACE industry. Among other things, it was also pointed out that a heterogeneous composition of actors and ideas is directly crucial to ensure that real change towards sustainability is made possible. It was mentioned, for example:

"Cross-sector collaboration is necessary because different perspectives are needed and everyone needs to help. If a Company is too homogeneous, it becomes a huge problem if you want to make progress on sustainability issues." - Head of Market and Sustainability, Company G

The Division Director at Company D was among those who were on a similar track, and emphasized that by having an open dialogue and collaboration within the industry, actors can see the whole picture and help each other to drive sustainable development. By working together and placing a strong focus on knowledge and experience sharing, the efficiency and innovation capacity in sustainability work can increase.

An increased focus on customer relations was also considered to play an important role in firms' transition to more sustainable practices. It was pointed out by most interviewees that by actively listening and understanding customer needs, companies can identify opportunities for improvement in the area of sustainability and adapt their actions accordingly. It was argued that an increased focus on customer dialogue is an underestimated aspect of sustainability development, and that it is of utmost importance to listen more than talk, as the customer may have many ideas that can help consultancy firms challenge themselves in their sustainability work. This line of thought was as follows:

"The interaction between you and the customer is extremely important for finding good solutions. If you actually put a lot of effort into listening, you can get a lot of insights that can challenge your company's sustainability work, so you can take the next step." - Sustainability Program Manager, Company B

Taking the interviewees' insights into account, collaborative skills and an increased focus on customer dialogue were identified as key capabilities to promote the transition to sustainable solutions in the ACE industry. By collaborating across industries and listening rather than talking, consultancy firms were argued to be more likely to identify and implement sustainable initiatives.

4.2.4 Increased Understanding and Competence

In the transition to more sustainable solutions, two additional Dynamic Capabilities were identified from the interview findings that support such a transition, namely increased understanding and competence. Most interviewees emphasized that by making the connections between different measures visible and improving the level of knowledge, actors in the industry can switch to greater sustainability.

The Managing Director at Company E emphasized the importance of having a holistic perspective and understanding the consequences of various decisions. It was emphasized that there is no one who has all the answers to what should be done to transition to a sustainable ACE industry. However, what all companies should

be aware of is that all decisions made have some kind of consequence. This was expressed by the Managing Director in terms of the need for companies to "*understand the broader consequences of actions to enable more informed decisions that promote sustainability" and that "you have to look at the big picture and make an overall assessment*".

In order to conduct such an impact assessment, many interviewees highlighted the need for training and a culture that promotes understanding of sustainability issues. In particular, it was stressed that by investing in training and creating an environment that values learning, consultancy firms can increase awareness and commitment to sustainability at all levels of the organization. This was described in the following way:

"I think it's extremely important to have an educated workforce and have everyone understand, want to drive sustainability, and have a culture and strategy that somehow aligns and have a culture where we want to have a company that's prominent in the sustainability space." - Division Director, Company D

Interviewees also stressed the importance of all members of their organization understanding their role and contributing their unique perspective. The Sustainability Strategist at Company A, for example, expressed that "*it is very much about everyone in their roles understanding what they can do and what difference they can make*". By fostering such a culture of mutual understanding and collaboration, it was argued that organizations can maximize their potential in delivering sustainable solutions.

Similarly, increased competence was seen as crucial in meeting the challenges of sustainability. The majority of interviewees argued that keeping up to date with the latest technology and knowledge is essential to be at the forefront of sustainability efforts. The Head of Sustainability at Company L also pointed out that climate competence is a key factor for including sustainability aspects in their projects. It was mentioned that "*climate competence, I would say, is a key for us and the industry to be able to move towards sustainability*". By ensuring the right skills and understanding, it was emphasized that there is a greater opportunity for the industry to effectively work towards sustainable goals.

Increased understanding and competence have therefore been identified from the findings as critical capabilities for consultancy firms to promote a transition to more sustainable practices. Partly by investing in education, but also by understanding broader implications of actions, interviewees note that these capabilities can move the industry towards a more sustainable future.

4.3 Dynamic Capabilities and Competitive Advantage

This chapter presents the interview findings on the consultancy firms' perception on whether their Dynamic Capabilities lead to competitive advantages in the area of sustainability. The presentation of these findings will cover three aspects. First, an overview of the findings will be presented. Second, the chapter will consist of a presentation of two narratives identified among the investigated firms about their Dynamic Capabilities and whether it leads to competitive advantage. Thirdly, it will be presented which actions the firms, when demonstrating their Dynamic Capabilities, provide that allow them to experience the two narratives.

4.3.1 Overview of Dynamic Capabilities and Competitive Advantages

From the interview findings regarding consultancy firms' perceptions of their Dynamic Capabilities and whether they contribute to competitive advantage in the area of sustainability, an ambiguity was identified. In particular, it became clear that two narratives on this issue were dominant. The first narrative was that firms' demonstration of Dynamic Capabilities led to continued relevance or even continued survival in the market. The second narrative was that by demonstrating Dynamic Capabilities, firms experience clear competitive advantages in the form of increased customer satisfaction, high ratings and an increased number of customers.

Whether firms experienced either narrative 1, continued survival, or narrative 2, clear competitive advantages, their demonstration of Dynamic Capabilities was considered to play a major role in their actions to fulfill either narrative. By demonstrating Dynamic Capabilities, firms were identified as being able to provide actions that give rise to each narrative, such as being able to offer clients holistic solutions, competitive initiatives, a forward-looking approach to sustainability, and international expertise. An overview of these results is presented below in Figure 4.6.

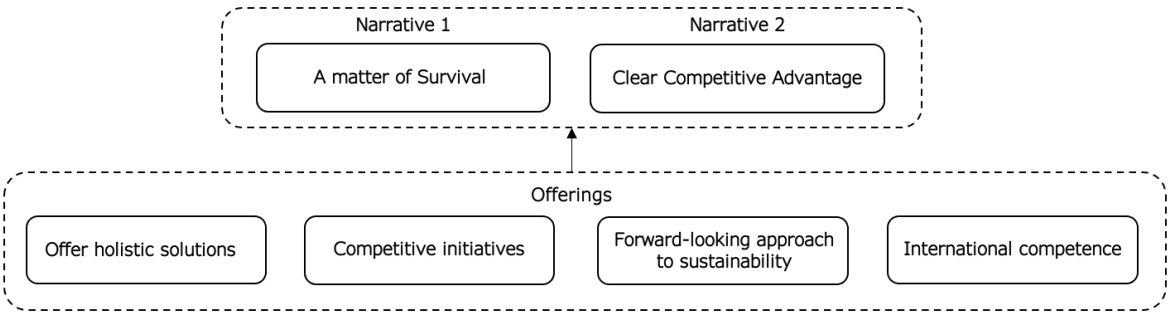

Figure 4.6: *Illustration of the interviewees' two narratives on whether a demonstration of Dynamic Capabilities contribute to competitive advantage or continued survival and their actions that contribute to both narratives.*

4.3.2 Narrative 1: It is a Matter of Survival

A slight minority of interviewees believed that their demonstration of Dynamic Capabilities in the area of sustainability is a necessity to survive in the market rather than bringing a competitive advantage. The reasoning that emerged gave an indication that sustainability related Dynamic Capabilities cannot be directly linked to differentiation, but are now a prerequisite for the continued existence of all companies, regardless of industry, due to legislation such as the EU taxonomy and CSRD. For example, the Head of Market and Sustainability at Company G and the Head of Sustainability at Company L emphasized that it is a question of survival when they reasoned in the following manner:

"But going forward when it comes to sustainability, it will be win or lose. I think we are in a sharp position, which is also positive for society. I also think all the sustainability requirements as well as the EU taxonomy and CSRD will contribute to a much greater seriousness." - Head of Market and Sustainability, Company G

"So if we do not deliver sustainable solutions that contribute to more sustainable development, we will not be relevant in the market because it is the outside world that drives us in that direction." - Head of Sustainability, Company L

Some interviewees, however, went further on this issue, with the Division Director at Company D emphasizing: *"Sustainability is not and will not lead to competitive advantage, it is a must if we are to survive. I believe that if you don't focus on sustainability, you will gradually be marginalized"*.

These views were shared by several interviewees, who agreed with the same sentiment. It was emphasized that all companies, regardless of size or industry, must demonstrate well-executed sustainability work in order to remain relevant and demonstrate Dynamic Capabilities in the sense that they can identify and take advantage of potential solutions that contribute to increased sustainability. If companies do not have the ability to keep up with developments and demands, it was predicted that these companies run a high risk of disappearing from the market altogether. Arguments demonstrating this line of thinking were as follows:

"All businesses and companies need to address sustainability issues and those that do not will disappear, either through regulatory penalties or a lost customer base."
- Senior Advisor Sustainability, Company F

"There are so many different aspects you have to manage to take into account in the sustainability issues and there are such huge changes that are needed, those who do not manage to keep up with the development will unfortunately fall away."
- Sustainability Program Manager, Company B

Summarizing the views of the minority regarding their adopted Dynamic Capabilities and the potential link to opportunities to differentiate themselves and gain competitive advantages, an ambiguity was identified around this fact. Some denied

this hypothesis altogether, while others pointed out that their Dynamic Capabilities formed the basis of their ability to remain relevant or even survive in the market. Their Dynamic Capabilities were instead emphasized as a key factor in keeping up with sustainability developments, which were argued to be something consultancy firms no longer have any choice in participating in or not, but it is now a necessity for continued survival.

4.3.3 Narrative 2: Clear Competitive Advantages

A majority of interviewees stated that gaining competitive advantage in the consultancy segment of the ACE industry is somehow based on offering solutions that bring customer satisfaction and high ratings. Being able to offer clients high quality services, which can also exceed their expectations, helps companies to differentiate themselves and build long-term relationships and attract more clients to their business. The Sustainability Strategist from Company A pointed out that they are constantly striving to continuously improve their internal competence and excel in the sustainability initiatives they undertake. It was emphasized that it is this kind of mindset that makes clients want to choose them in future projects and recommend them to other players in the industry, which was considered an incredible competitive advantage. It was mentioned, for example:

"In our client surveys, we find that in many cases we are selected based on our expertise and commitment to setting challenging sustainability goals, which also increases with every project we undertake." - Sustainability Strategist, Company A

Several interviewees felt that their Dynamic Capabilities contribute to similar competitive advantages and reiterated the importance of being close to customers and being recognized for their skills, which was an important factor in maintaining high ratings and customer satisfaction. Interviewees also highlighted that they attach great importance to evaluations of past work with customers and that their analyses show high customer satisfaction with their work in the area of sustainability. Reasoning supporting these statements was as follows:

"We have to be close to the customer and understand what they need. But then we feel that they come to us too, because they feel that we know the stuff. So that is a huge advantage." - Regional Manager, Company K

"We do customer analysis all the time and they show that our capabilities contribute to high customer satisfaction in the sustainability projects we take on. The fact that we have satisfied and returning customers is also proof that our capabilities contribute to something good. " - Head of Sustainability, Company D

In summary, a majority of the consultancy firms considered that the Dynamic Capabilities lead to competitive advantages in terms of more, and also satisfied and returning, clients. Hence, the interviewees emphasized that this is how you get proof that you have a high level of competitiveness in the sector. The rest of this chapter

will address more specifically how firms' Dynamic Capabilities contribute to actions that give rise to narrative 1 and 2, thus leading to their continued survival in the market or potentially creating competitive advantages in the field of sustainability.

4.3.4 Action 1: The Ability to Offer Holistic Solutions

Multiple interviewees believed that their Dynamic Capabilities in the sustainability field lead to increased relevance or competitive advantages, especially in terms of their ability to provide a complete solution for their customers. By integrating technical expertise combined with sustainability competence, it was pointed out that strategic thinking and practical implementation can differentiate from competitors and provide a complete and sustainable solution.

The Head of Sustainability at Company J expressed the depth of their firm's expertise and their ability to integrate sustainability into their projects, but also being able to manage the project from start to finish. For example, it was mentioned that: *"We have a wide range of technical experts that can execute the project and deliver a total solution with the task of integrating sustainable solutions, finding the goals and strategies to include sustainability aspects, and then applying it throughout the implementation."*. This was clarified by the fact that by offering a complete solution to its customers that integrates sustainability in all project phases, it was emphasized that Company J is a reliable partner that customers return to.

A similar line of reasoning was presented by the Senior Advisor Sustainability at Company F. It was pointed out that the company's major contributor to increased market relevance is related to its broad competence and ability to deliver a holistic solution from strategy to practical implementation, taking into account all aspects of sustainability, not only environmental aspects. With this comprehensive solution Company F offers its clients, covering all aspects of a project, it was stated that Company F is attractive to potential clients. The reasoning was as follows:

"We can go all the way, so that's our unique selling point. That we kind of have everything and can deliver a sustainable solution without having to include other parties. It's a huge competitive advantage we experience." - Senior Advisor Sustainability, Company F

Since the firms can offer a comprehensive solution, the interviewees felt that they were well equipped to meet customers' needs effectively, which also creates long-term relationships. This ability was stressed as being of great importance for the companies' ability to differentiate themselves in the market and succeed in creating a strong competitive position in the field of sustainability.

4.3.5 Action 2: Competitive Initiatives

A central factor in consultancy firms' efforts to gain competitive advantages was pointed out to be their ability to provide competitive initiatives that contribute to increased customer satisfaction, returning customers, and new customers. Furthermore, the ability to create competitive initiatives was argued to be crucial for firms to acquire a prominent market position. Several interviewees noted this fact, with the Managing Director of Company E being one of them. The Managing Director mentioned that they created a new tool that has given them huge benefits in terms of providing access to a comprehensive database regarding the carbon footprint of their projects. Additional benefits were pointed out to be the elimination of standardized figures and the ability to make real-time climate impact calculations in line with future legislation rather than current ones. This database was a proactive response that allowed the company to offer customers accurate and effective solutions. The following was expressed about this tool:

"This tool that we launched has given us a lot of value and advantages in the market, as well as new customers. The value is in this database and I think it is also what distinguishes us from many others." - Managing Director, Company E

The Regional Manager at Company K was on a similar track, emphasizing the importance of their tool to link costs to carbon emissions, which has attracted a lot of attention from customers. The tool was argued to be *"a development of something unique that increases our relevance and has brought a lot of attention among our customers and has attracted new ones"*. It was clarified that a tool that takes into account the relationship between the amount invested and the carbon footprint is not in itself unique in the industry, but that this particular tool brings in aspects that others may lack.

The interviewees from Company C also claimed to have created a tool on the carbon footprint of their projects. This tool, like the others, takes into account carbon dioxide emissions in relation to the investment and also highlights that, as previously mentioned, they are not alone in having this type of tool. What they did emphasize, however, was that they constantly look to improve the tool from each project and that they actually feel that *"by constantly driving the sustainability issue and improving our tools, we create sharper deliveries, where I actually think we have a leading position."*, as mentioned by the company's Business Manager. But Company C not only has a tool that allows them to feel an increased market position, they have also created a sustainability initiative in the form of a sustainability hub. In this hub, it was highlighted that they work with several municipalities where they discuss climate measures for infrastructure projects, which has also led to massive reductions in carbon dioxide emissions in the pilot projects they have undertaken. The benefits of the sustainability hub were said to be:

"Not only do we bring huge benefits in these projects from a sustainability perspective, but we constantly evolve and remain a relevant player and we notice that many customers want to work with us because of this." - Innovation Leader, Company C

Another perspective highlighted is that of the Head of Sustainability from Company D, who felt that they achieve differentiation from their competitors through the departments they have created within the company. It was emphasized that they have a clear strategy with these departments, which have a dual function. One function included coming up with innovative solutions and driving development in the field of sustainability, and the other was to work closely with customers to create tailor-made solutions that suit their needs. The reasoning behind the benefits of the initiative was as follows:

"I think the strategy teams we put together are a great advantage and differentiate us from others. The departments create smart innovative solutions that contribute to increased sustainability, but then we have another aspect where the departments are close to the customer and create a customer-specific solution, which is why so many people choose us" - Head of Sustainability, Company D

The above-mentioned perspectives in consideration depict a clear line in the consultancy firms' sustainability work. This line is that the firms have created competitive initiatives that they feel differentiate them from other players in the market, which in turn increases their relevance on the market. Many of these initiatives include tools that take into account climate footprints and calculations that can meet customer needs and drive the industry in a more sustainable direction. Other initiatives consisted of hubs or strategy teams that work towards innovative ways to promote sustainability, but also with the aim of staying in close contact with customers to identify and take advantage of sustainability related opportunities.

4.3.6 Action 3: Forward-looking Approach to Sustainability

Thinking big and having a forward-looking approach to sustainability was identified by interviewees as another important factor in being relevant in the market or gaining competitive advantage in the field of sustainability. Great emphasis was placed on constantly striving to stay ahead in the field of sustainability, partly by acquiring higher skills but also unique approaches to sustainability innovation. The Head of Market and Sustainability at Company G is one such advocate, who stated:

"It is extremely important to be one step ahead. First of all, it makes us relevant, but it also gives us advantages. So I think we have and should strive to be even more competent, more unique in what we do, and from that create sustainable innovations." - Head of Market and Sustainability, Company G

Both representatives from Company D also emphasized the importance of having a forward-looking approach to sustainability, but also highlighted the company's differences from other players. It was argued that other players focused on profitability and growth, which rarely promotes sustainability. Instead, it was expressed that Company D has a deeply rooted culture and values that reflects its ownership. The Division Director noted that:

"We are different from other players with a focus on profitability, and that they strive to grow. We also have a desire to grow, but our desire is to think one step ahead. By influencing society for the better where we have a culture and values that shape our organization where our purpose is to contribute to increased sustainability and then look at what to do after that has been achieved." - Division Director, Company D

The Head of Sustainability at Company D continued in this theme, and explained that in order to be relevant as a consultancy firm in the coming decades, one has to go beyond stability and instead strive for regenerativity. The purpose of such an endeavor was not just to maintain the status quo in the field of sustainability, but to actively work to improve and restore the environment. It was highlighted that Company D's mindset was an opportunity for them to stand out and drive change towards a sustainable future, giving them a prominent position in sustainability in the ACE industry. The statement was as follows:

"We constantly talk about regenerativity where we see an opportunity to take the next step after achieving sustainable stability. In my opinion, we are looking one step further ahead than industry players where our goal with regenerative design is to restore the climate and think 50, 100, 150 years ahead rather than making sure we are in line with current sustainability requirements. We have a leading position in this and it's a great opportunity for us to excel and drive this forward" - Head of Sustainability, Company D

The information from the interviewees suggests that a forward-looking approach to sustainability can give rise to a prominent position in the market and perceived advantages in the field of sustainability over competitors. By striving to be constantly one step ahead, it was considered to have a greater role in contributing to a more sustainable future, but also to be seen as a relevant player in the development.

4.3.7 Action 4: International Competence

Findings identified in interviews with the larger consultancy firms were that the use of international expertise plays a critical role in addressing sustainability requirements. As some firms are able to use internal expertise from other countries, it was pointed out that the firms are able to address client needs efficiently, which also allows the firm to take on most types of projects. For example, the Head of Market and Sustainability at Company G mentioned: *"A big advantage is that in some projects we can borrow expertise from our sister countries or across the entire company globally that we can use, which means that we can take on most things."*. Through the utilization of international expertise and the ability to take on everything from large multidisciplinary projects to very niche ones, Company A was stated to have a strong market position and be a player that customers can trust and turn to for future projects.

Another actor that benefited from international expertise was Company L, whose Head of Sustainability pointed out that it was one of their key differentiating factors for their company compared to other actors. It was emphasized: *"What differentiates us from other technology consultancy companies is that we are a truly international company with expertise from all over the world that is only a signal away. Leveraging this means that the range of sustainability services we can provide to clients differentiates us, makes us relevant, but also a leader."*. By having access to a diversity of knowledge on an international stage, the company was regarded as offering a much broader portfolio of sustainability services to its customers. As customers are also aware of this offering Company L provides, it was also highlighted that the firm experiences a clear competitive advantage in the form of a large recurrent customer base.

The last interviewee who highlighted international competence as an important factor in gaining enhanced market relevance was the Head of Sustainability from Company D. Like the aforementioned interviewees, the representative from Company D was in the same line of thought and believed that their global expertise and ability to collaborate across different markets is a significant competitive advantage for companies of their size. The reasoning was: *"The fact that we have a global competence we can use is perhaps our greatest competitive advantage. The best thing is that on the international stage we have the opportunity to work cross-market and learn about sustainability from each other, which also increases our flexibility and innovation capacity."*. Working cross-market, i.e collaborating across disciplines as well as international offices, was considered to bring and require a high degree of flexibility. This form of collaboration was noted to be of great importance to deliver what customers in this firm's case were stated to pay for, namely an integrated solution that addresses sustainability challenges in all parts of a project.

The insights from interviewees from the global firms thus all indicated that the use of international expertise is a significant action that strengthens their market position in the field of sustainability. By collaborating on an international stage, the companies can meet customer needs and take on a variety of projects, which was also noted to strengthen customer trust.

5
Analysis

In this chapter, the Dynamic Capabilities that have been presented in the results are analyzed against the Dynamic Capabilities framework presented in the literature review. The purpose of the analysis is to recognize, from a theoretical point of view, how well the Dynamic Capabilities demonstrated by the engineering consultants relate to the Dynamic Capabilities theory. The analyzed capabilities include sensing (chapter 5.1), seizing (chapter 5.2), reconfiguring (chapter 5.3), and sustainability-oriented Dynamic Capabilities (chapter 5.4).

5.1 Sensing

When analyzing the interviewees' responses from a Dynamic Capabilities framework perspective, it is evident that sensing capabilities are common amongst engineering consultancy firms in the ACE industry, and despite Dynamic Capabilities often being more associated with the manufacturing industry, the underlying sensing activities align with those presented by both Teece (2007) and Schoemaker et al. (2018) in the the literature section.

Sensing capabilities were outlined in the literature by Teece (2007) as processes designed to sense changes in the market and external environment with the purpose of identifying new innovations and new technologies, changes in customer behavior and market segments. Moreover, according to Schoemaker et al. (2018), the sensing capabilities were described as being composed of a set of key activities primarily consisting of external scanning and scenario planning.

According to the interviews, the most common activity in the firms' efforts to identify opportunities is external monitoring, which is consistent with Schoemaker et al. (2018). Since monitoring the external environment is a rather broad term, it is therefore interesting to see which underlying activities form the basis of the firms' external monitoring activities. Given the lack of clear sub-activities in the literature, but with the interviews as a reference, it emerged that working in a specialized unit as well as collaboration forums and customer dialogue are important activities. The specialized unit is not in itself a capability, but rather a systematic approach to be able to sense new opportunities in the field of sustainability, while the collaboration forum and customer dialogue aim to increase the understanding of customers' needs and expectations to sense changes in the market and adapt their services to better address market demands.

5.2 Seizing

It was revealed from the interview findings that the interviewees experienced slightly more difficulties when explaining how their organizations should act to take advantage of new opportunities or deal with changes in the market in their sustainability agenda. One seizing capability that was identified early on, and presented in the results, was that corporate culture is important for seizing opportunities in the field of sustainability. Having a strong culture gives employees and the organization a commitment to drive sustainable change and seize opportunities due to a greater sense of purpose. Sustainability was seen as a necessity to be a natural part of the corporate culture. This seizing capability is consistent with what was presented previously in the literature section, where Teece (2007) emphasized the importance of building loyalty and commitment through a strong company culture. In addition to the importance of company culture, Teece also highlighted the importance of clear leadership and effective communication as important elements in a firm's seizing capabilities. Even though leadership and communication are supported in the literature, these underlying activities were not directly mentioned in the results.

On the other hand, other presented seizing capabilities from the interviews indicated that leadership and communication were mentioned indirectly during the interviews, and therefore have a linkage to the literature by Teece (2007) as well. The seizing capabilities identified through this indirect connection to theory are internal sustainability initiatives, which are important for both awareness of sustainability within the firm and the sector as well as to create sustainable innovation. These initiatives aim to spread knowledge within the organization and aim to drive the development of creative sustainable solutions. The success of internal sustainability initiatives requires clear leadership and communication. Leadership can be considered particularly important for organizing the initiatives themselves, while clear communication is closely related to communicating and disseminating the desired knowledge. The ability to coordinate the company's competences in order to achieve smooth internal cooperation is another seizing capability presented in the results, which has been pointed out several times as the key to seize opportunities. This capability may also be considered to have a strong link to clear communication and accurate leadership, as both are required to establish internal collaboration forums.

One seizing capability that was not presented in the theoretical framework, but which appeared to be of great importance to the consultancy firms, emerged during the interviews. This capability deals with continuous client dialogue. In the absence of a foundation in the literature, it can be considered unclear whether client dialogue is a seizing capability as it is often seen as an important tool when it comes to identifying new opportunities. However, it can be argued that continuous dialogue with customers allows the firms to keep themselves updated on changes in needs and market conditions, enabling them to quickly adapt and react to changes. This is strengthened by the consultancy firms' ability to seize opportunities, as in the majority of the interviews it was pointed out that the firms develop specific tools that place great emphasis on client dialogues. Actively developing such tools has

been an eye-opener in terms of the sustainability agenda, and resulted in clients' sustainable initiatives being captured.

5.3 Reconfiguring

A general perception that characterized the results regarding reconfiguring capabilities identified in engineering consultancies is the difficulty in assessing which abilities that fit under the roof of reconfiguring capabilities. Nevertheless, a clear set of capabilities emerged that are relevant in the firms' reconfiguring efforts. One of the major reconfiguring activities presented in the results is how Company D formulated a completely new strategy that is entirely sustainability-based to enable them to commit to investing in sustainable practices. Such a reconfiguring capability is in line with the theory of Feiler & Teece (2014) that points out that the process of reconfiguration may involve developing, or in some cases, require the firm to completely redesign its business model from an entirely new perspective. As Feiler & Teece describe how reconfiguring capabilities may involve a completely new business model, it can be argued that formulating a completely new corporate strategy is going one step further, and Teece (2009) confirm that it may be necessary to adapt the company's strategy to better suit the changing environment. This reconfiguring capability was only evident in one firm, but it not only proved to be effective in reconfiguring and adapting the organization, but also had positive effects such as employee engagement and positive customer feedback. There are signs that it could be a winning adaptation in the long run, and more organizations can draw inspiration from it to push their sustainability efforts to the next level.

Several reconfiguring capabilities presented in the results related to establishing external collaborations and partnerships with the aim of building an agile and innovative organization. By creating an agile organization it increased the capability of responding to changes in the field of sustainability, while at the same time remaining relevant in the market. The purpose of the external cooperation and partnerships was mainly to contribute to more sustainable innovation and solutions. Teece (2009) explained that reconfiguring activities include stimulating the firm's open innovation processes, developing integration, communication and coordination skills, which supports the findings from the interviews. In light of the clear examples of cooperation and reflections on the sustainability aspects that partnerships can offer, it is clear that there is a need to create an understanding within the industry about the importance of cooperation for a more sustainable sector. It is important to overcome the uncertainty and reluctance to engage in external collaborations, which also emerged during the interviews, and demonstrate that simple forms of collaboration could go a long way.

Teece (2007) explained that reconfiguring activities related to knowledge management, which involves learning and knowledge transfer, are important activities within the reconfiguring area. In several interviews, it appeared that training and knowledge transfer are important activities to get firms to operate more sustainably, which is in accordance with Teece's line of thought. The key takeaways from the interviews

are the importance of structuring the organization in the right way so that sustainability competence is spread throughout the organization and not just at the senior level of strategic initiatives. Sustainability expertise is utilized when it is spread out at unit and project level. It could be deemed necessary that the competent employees are not isolated. To spread sustainability expertise further, it is also important to invest in training and knowledge transfer, which can be done in several effective ways such as through education, upskill and reskill, and sustainability events.

A reconfiguring activity not highlighted in the literature is the importance of selecting clients and markets. Since reconfiguring capabilities is about the ability for firms to realign and adapt their resources to meet changing conditions, market and client selection may be considered an important activity in this context. This is due to the fact that firms need to be able to reconfigure by improving their resource allocation, adapting to changing conditions and maintaining a certain degree of risk diversification. The selection of clients and markets is closely linked to the above, but based on the examples from the interviews, they can also contribute to increasing firms' willingness to engage in sustainability.

5.4 Sustainability-oriented Dynamic Capabilities

Ortiz-Avram et al. (2023) discussed Dynamic Capabilities from a Sustainability context, showing how it is possible for firms to create an understanding of how they can transition towards a more sustainable society by sensing and seizing sustainability-related opportunities. So far, the Dynamic Capabilities have only been analyzed in general, and therefore it is worthwhile also looking at the more distinctive Dynamic Capabilities for sustainability that were presented during the interviews, and which capability they fall under in the Dynamic Capabilities framework.

Considering the definition of the Dynamic Capabilities firm-level eco-efficiency first, it can be noted that this capability can be placed under sensing capabilities, as it involves the firm's ability to identify and assess sustainability opportunities. The results from the interviews presents that the examined firms demonstrate this capability as part of the transition towards a more sustainable way of working.

On the other hand, looking at the Dynamic Capabilities that Ortiz-Avram et al. refer to as systemic transformation and firm-level transformation, these are well placed under seizing capabilities. Systemic transformation has been described as a firm's ability to engage stakeholders in processes to develop new products, business models, or innovation processes. The seizing activities presented from interview findings that corresponds well with this are the continuous client dialogue and external and sustainability initiatives supporting consultancy firms to develop new services.

Firm-level transformation proved to be the Dynamic Capability based on an understanding of how important sustainability is for firms to develop new green products, processes, and business models. This Dynamic Capability can be described as having both sensing and seizing capabilities as it requires sensing to understand stakeholder needs related to sustainability, but also seizing to capitalize on the identified sustainable opportunities by developing new solutions.

The presented reconfiguring activities from the interview findings included establishing partnerships, collaborations, adapting methods and strategies and investing in knowledge transfer. These activities align with what Ortiz-Avram et al. describe as Network-level capability, bringing this Dynamic Capability under the reconfiguring umbrella. This is mainly because it contributes to enhanced information exchange with stakeholders.

The capabilities demonstrated by the firms indicate that they are to some extent demonstrating Dynamic Capabilities that are more directly linked to a sustainability perspective, as identified by Ortiz-Avram et al. This shows that there is an awareness within the firms of how to work to promote more sustainable practices as well as the fact that the firms are moving in the right direction. There are some difficulties in determining how far they have come in their work and how extensive the actual understanding is as well as what the companies actually do that aligns with Dynamic Capabilities for sustainability. This is due to the fact that Ortiz-Avram et al. address Dynamic Capabilities rather generally through definitions instead of giving several specific examples. Since the interviews revealed a number of activities undertaken in the areas of sensing, seizing and reconfiguring, which are not covered in the study by Ortiz-Avram et al, it is problematic to connect the activities to the Dynamic Capabilities Framework. However, there are tendencies that the companies' overall work in each area aligns well with sustainable Dynamic Capabilities.

6
Discussion

In this chapter, building upon the analysis in chapter 5, the findings from the interviews on Dynamic Capabilities are contrasted against the theoretical framework presented in the literature review. In chapter 6.1, the identified Dynamic Capabilities and their importance are discussed. Chapter 6.2 examines the driving forces for sustainability. Finally, in chapter 6.3 includes a discussion of the two narratives on competitive advantage as well as the firms actions realizing both narratives.

6.1 Dynamic Capabilities in Engineering Consultancy Firms

This chapter covers how familiar the firms were with Dynamic Capabilities, and which elements of the theoretical framework are most demonstrated by the firms. Furthermore, the importance of demonstrating Dynamic Capabilities is discussed.

6.1.1 Demonstrated Dynamic Capabilities in Engineering Consultancy Firms

Moving beyond the distinct Dynamic Capabilities framework concept, allowing the consultancy firms' knowledge and understanding of Dynamic Capabilities to provide the basis for analysis, the interviews have clearly shown that the firms have varying degrees of knowledge and experience of the different Dynamic Capabilities. There are indications that the firms have a different understanding of the applicability of Dynamic Capabilities, but also that the level of knowledge within the firms varies depending on sensing, seizing and reconfiguring capabilities. Furthermore, there are also clear indications that the firms are more or less proficient in their efforts depending on the Dynamic Capability in question. In a majority of the interviews it became evident that organizations are by far the best at sensing market opportunities. However, when it comes to seizing opportunities and reconfiguring the organization to be able to take advantage of the opportunity, it is significantly more difficult.

The variety in focus that firms put on the different Dynamic Capabilities is supported by previous studies in both consultancies and the ACE industry. In the ACE context it was noted that Adam & Lindahl (2017) found that firms considered it more difficult to take advantage of the opportunities they identified, where it was concluded that it is easier to identify a potential change than to capitalize on the

opportunities. This implies that the firms have good sensing capabilities, but find it more difficult to seize opportunities and reconfigure the organization, i.e. not equally strong seizing and reconfiguring capabilities.

In contrast to what Adam & Lindahl (2017) expressed about firms' ability to more easily sense opportunities, rather than seize opportunities and reconfigure the organization, the literature from a consultancy perspective communicates the opposite. Ning & Kwak (2022) instead emphasize less focus on identification but more time spent on seizing and reconfiguring. Their findings indicate that consultancy firms tend to place less emphasis on identifying and sensing opportunities and instead, focus more on seizing and reconfiguring capabilities. Plattfaut et al. (2012) also highlight that seizing capabilities are receiving more attention in the "consultancy world".

On the other hand, Chiarelli, A. (2021), also within a consultancy context, stated that the ability to identify and sense opportunities has a key role in consultancy firms, which is instead aligned with Adam & Lindahl (2017). This reveals that there is an ambiguity in the theory about which Dynamic Capabilities firms focus on and which are more important. The ambiguity between Adam & Lindahl's ACE context and Plattfaut et al.'s consultancy context can be explained by the fact that different industries are discussed, namely the ACE industry in contrast to the IT industry. One noteworthy difference within consultancy literature is that Ning & Kwak's (2022) findings indicate more seizing and reconfiguring despite investigating project-based firms, making it conceivable that their findings would align better with the findings of Adam & Lindahl. However, in the interview results it has been presented that the consultancy firms in the ACE industry place most emphasis on identifying new opportunities, just as Adam & Lindahl expressed in their study. With regard to capitalisation measures, it becomes more diffuse. Based on the responses that were given to the interview questions with clear links to sensing capabilities, the reason for this may be that the underlying activities are clear, simple and distinguishable from each other, thereby simplifying the process of defining goals and actions.

6.1.2 The Importance of Understanding Dynamic Capabilities

Bari et al. (2022) emphasized that Dynamic Capabilities have received increased attention. Aghimien et al. (2021) also argued that firms need to demonstrate Dynamic Capabilities in order to identify and capitalize on opportunities created by change. Aghimien et al. further stress that the ability to demonstrate Dynamic Capabilities is particularly important when it comes to sustainability challenges such as adaptation to climate change and new sustainability regulations. This demonstrates that there is a current need to both understand and demonstrate Dynamic Capabilities to address the sustainability challenges and opportunities facing the ACE industry.

Characterizing almost all interviews is that firms were not familiar with the Dynamic Capabilities framework and the meaning of sensing, seizing or reconfiguring capabilities. However, based on the responses during the interviews, it is clear that the investigated firms are demonstrating some Dynamic Capabilities. However, since there was little knowledge of the actual concepts, the impression given is that it is unconscious work that takes place, something that could be an area for improvement in the industry and companies.

The interviewees appeared to be relatively familiar with the activities associated with sensing activities, even if they did not know the exact meaning of the concept itself. However, the interviewees tended to mix seizing with reconfiguring capabilities, and in several cases did not see any differences between seizing or reconfiguring capabilities. This indicates lack of knowledge in the area of Dynamic Capabilities, placing great weight on the importance of creating an understanding of sensing, seizing and reconfiguring capabilities to recognise the differences.

If the engineering consultancies do not see clear differences between the two concepts of seizing and reconfiguring, there is a risk that the companies have not defined and developed these capabilities sufficiently enough to be able to seize opportunities in the area of sustainability and transform the organization. This emerged from the interviews as the majority of the interviewees were considerably more uncertain when describing these activities compared to the sensing capabilities. One reason why companies exhibit stronger sensing capabilities than they do in the area of seizing and reconfiguring may be that sustainability managers, division managers, strategists and consultants are trained to scan the market and identify new opportunities in the field of sustainability. However, since their work is essentially about identifying opportunities, as was revealed during the interviews, and a greater amount of time is spent on these activities, there may be a risk that the work of seizing opportunities and reconfiguring the organization is becoming neglected. From the presented results, it is indicated that companies' seizing and reconfiguring capabilities are not as clear, strong and developed, which is possibly due to the fact that the people in these roles are not trained for this work in comparison with sensing capabilities. Understanding the differences between seizing and reconfiguring, but also creating an understanding of the importance of Dynamic Capabilities for sustainability work, is very important to take advantage of the opportunities that exist and adapt to changes in an effective way.

The importance of understanding the role of Dynamic Capabilities in the sustainable development of consultancies in the ACE industry is further reinforced by the important role of consultancies in the integration of sustainable technologies in buildings, among others, to foster the transition to sustainable practices. In this area, Pim-Wuzu et al. (2022) highlighted the importance of consultancies in sustainable development. Pim-Wuzu et al. recognised that consultancies have an important role, but in order for them to contribute to sustainable development, it is necessary that they have a strong understanding of Dynamic Capabilities.

6.2 Driving Forces for Sustainability

This chapter will address identified capabilities that support the transition to a more sustainable ACE industry. First, the importance of courage will be discussed, followed by the role of collaborative skills as well as knowledge empowerment.

6.2.1 Courage as a Driver for Sustainable Change

In this study, it is evident that courage to drive change holds significant weight in the context of transitioning to a more sustainable ACE industry. By emphasizing the need for courage, interviewees stressed the vital role it plays in challenging the status quo and promoting innovation in sustainability work.

Two main aspects was highlighted in the findings regarding the role of courage in the transition towards more sustainable practices. First, it is demonstrating the courage to challenge existing norms and have the courage to question established practices and propose alternative approaches. This can open up new opportunities for sustainable development, even when customers are not actively asking for change. This aspect highlights the proactive stance required to carve out new pathways for sustainable development. Secondly, it is also a question of having the courage to take risks. To drive development in the field of sustainability, it is considered necessary to be willing to experiment and explore new ideas, even knowing that some initiatives may fail. However, the interviewees stated that it is important to see failures as part of the learning process and a step forward in the firms' sustainability development. This reasoning about the importance of being brave and willing to fail and learn from it is also reflected in the study by Ning & Kwak (2022), which emphasizes the importance of project-based learning in promoting innovation and organizational development. These insights of seeing failure as part of a process underscores the importance of a growth-oriented mindset and resilience when navigating the complexity of sustainability initiatives.

Drawing parallels to the interpretation of Dynamic Capabilities made in this study, which means the ability to proactively adapt and develop resources to meet changing demands in a dynamic and competitive environment, courage can be argued to be a catalyst for firms to in fact dare to evolve. Just as a demonstration of Dynamic Capabilities enables companies to adapt to changing environments, courage serves as the driving force to initiate and sustain these adaptive processes. This argument aligns with research by Teece (2007) and Ning & Kwak (2022) highlighting the competitive pressures faced by consultancy firms in the ACE industry, underlining the necessity of courage to embark on sustainability transformations. In order to be able to operate in a competitive market, but also to adapt to the requirements for executing projects with a focus on sustainable development, it can be considered that it takes courage for firms to make such a transition. The fact that interviewees, such as the Head of Sustainability at Company L, highlight the importance of courage by emphasizing "*Courage! So that's number one,...*" further strengthens this argument.

Thus, courage can be seen as a driver enabling a demonstration of Dynamic Capabilities in the progression towards a sustainable future in ACE industry. For instance, reflecting upon the need for firms in the ACE industry to adapt to and meet the sustainability challenges, as problematized in this study, the relationship between courage and Dynamic Capabilities becomes more evident. As Aghimien et al. (2021) argue that firms need to demonstrate Dynamic Capabilities to navigate through rapidly changing environments, the importance of proactive adaptation is also emphasized. This adaptation does not necessarily have to be only about strategic planning, but it is also about a change in a company's mindset, one characterized by courage. In order to face established norms, courage is therefore considered necessary for firms to dare to challenge them and embrace sustainability as a strategic need. This type of courage can drive firms forward, promote sustainability in the organizational culture, and dare to experiment with alternative methods or business models. Thereby, it is considered reasonable that courage enables a demonstration of Dynamic Capabilities, not only as a theoretical concept, but as a manifestation of organizational resilience and adaptability to drive positive change in the ACE industry.

6.2.2 Utilizing Collaboration for Sustainability

In the results, two additional capabilities were identified as crucial for the transition to a more sustainable ACE industry. The capabilities that were considered to support this transition were good collaborative skills and a strong focus on customer relations. These capabilities complement the theoretical framework of Dynamic Capabilities by emphasizing the importance of interaction and alignment with external and internal stakeholders to promote innovation and sustainability.

The emphasis on collaboration underlines the crucial role it plays in promoting innovation and sustainability in the ACE industry. As pointed out by most interviewees, cross-sector collaboration emerges as a key factor in driving systematic change which is also very much linked to the concept of Dynamic Capabilities. It is described, for example, by Teece (2007) and Feiler & Teece (2014) that Dynamic Capabilities relate to the ability to integrate and adapt internal as well as external competencies to respond to changes in the surrounding environment. By collaborating with different industry actors, as highlighted in the interviews, firms can develop a diversity of ideas and perspectives, which promotes innovation and effective solutions in the sustainability field. This perspective is reinforced by the insights shared by the Marketing and Sustainability Manager of Company G, who emphasized the importance of heterogeneous compositions of actors and ideas to ensure real progress towards sustainability.

Likewise, in the interview findings there is a clear emphasis on the importance of increasing the focus on customer relationships, reflecting Dynamic Capabilities related to responsiveness and adaptability to changing customer needs. Theoretical contributions such as Teece et al. (1997) and Eisenhardt & Martin (2000) argue that Dynamic Capabilities include the ability to reconfigure resources and compe-

tencies to adapt to a changing market. By actively listening to and understanding customer needs, companies can identify opportunities for improvement in the area of sustainability and adapt their actions accordingly. This is confirmed, for example, by the reasoning of the Sustainability Program Manager at Company B, who underlined that customer interaction is crucial for being responsive to demand, finding innovative solutions, and challenging companies' sustainability efforts.

From the results it has thus been identified, with support from theory, that Dynamic Capabilities such as collaboration skills and a focus on customer relations can support the transition to a sustainable ACE industry. These capabilities can give rise to a promotion of innovation, increased adaptability, and efficiency in the firms' sustainability work and, if integrated into the firms' strategic planning, can drive sustainability development forward. These findings are in line with the responses said to be required in the ACE industry by Aghimien et al. (2021), Bartocci Liboni et al. (2022), and Yi & Demirel (2023), who argue that Dynamic Capabilities are paramount in navigating changing environments and adapting firms' operations to develop their sustainability performance in response to climate change. If courage was previously talked about in terms of being a catalyst for demonstrating Dynamic Capabilities, cross-sectoral collaboration and customer-focused relationships can be considered practical examples of just such a demonstration that drives the transition to increased sustainability in the ACE industry.

6.2.3 Strengthening Competence and Awareness in Sustainability

The final Dynamic Capabilities identified to support a sustainable transition were increased understanding and competence. It is indicated from the results of the interviews that companies striving towards sustainable solutions need to develop and strengthen these capabilities in order to effectively address sustainability challenges.

These capabilities can be compared to the description of Dynamic Capabilities by Teece et al (1997) and Eisenhardt & Martin (2000), where the emphasis is on the ability to create new configurations of resources in response to a changing environment. It is about identifying opportunities, seizing them, and reconfigure the firm based on the chosen direction. This parallel becomes particularly clear when interviewees highlighted that, through increased understanding and competence, companies can identify and act on sustainability opportunities in the ACE industry. By focusing heavily on internal training and the development of internal competencies, firms can increase awareness and commitment to sustainability at all levels of the organization, which can be seen as corresponding to the underlying idea of Dynamic Capabilities as described by the authors.

Several interviewees also highlighted that they have reshaped their practices to foster internal understanding of sustainability issues, which included an investment in training and creating an environment that values learning. The Division Director at Company D, for example, considered such investment to be a fundamental ele-

ment in ensuring that sustainability is embedded in the work of the company with a "*strategy that somehow aligns*" with the aim of making progress on sustainability in all projects undertaken. This vision of changing and improving routines also echoes the line of thought on Dynamic Capabilities in Zollo & Winter (2002) and Wang & Ahmad (2007), where the emphasis is on the ability of companies to systematically generate and modify work routines to improve efficiency. The results from the interviews thus indicate that increased understanding and competence in sustainability can be interpreted as a stable and learned pattern of collective activity, which is essentially a Dynamic Capability that helps companies adapt to changing market conditions.

This interpretation is strengthened by the view of Dynamic Capabilities in Schoemaker et al. (2018). The authors argue that such capabilities may include activities aimed at managing situations characterized by change and being more observant towards the external environment. First, it can be interpreted from the interview findings that the activities of the investigated firms to achieve greater understanding and competence in sustainability make them more aware of external environmental changes. Secondly, it may also help them to adapt their business model to better meet sustainability and market requirements. Both interpretations can also be considered a response to the sustainability-related challenges and needs identified in the ACE industry by Bartocci Liboni et al. (2022) and Yi & Demirel (2023). By actively working to increase understanding and competence in sustainability issues, the investigated firms can better position themselves to meet these challenges while driving innovation and sustainability in the industry.

6.3 Narratives on Gaining Competitive Advantages

In this chapter, a discussion will be presented on the different narratives of Dynamic Capabilities and its potential role in generating competitive advantage for consultancy firms in the ACE industry. Initially, two main narratives on Dynamic Capabilities and whether there is a link to competitive advantage are explored. Thereafter, the firms' actions in their sustainability efforts to realize both narratives are discussed.

6.3.1 Contrasting Visions of Dynamic Capabilities: Ensuring Survival or Gaining Advantages

As presented in the results, there was a clear division of opinion on whether the Dynamic Capabilities demonstrated by firms lead to competitive advantage. The division of opinions fell into two "camps". One view, noted as Narrative 1, suggests that the capabilities were more likely to lead to continued relevance or even survival in the market. The other view, labeled Narrative 2, argues that the capabilities led to clear benefits in terms of increased customer satisfaction, returning customers,

and new customers. The same division of opinion is also echoed in previous literature on Dynamic Capabilities, where perceptions were similar.

Regarding Narrative 1, it emerged from the results that some interviewees felt that their demonstration of Dynamic Capabilities leads to their continued relevance in the market. The arguments behind this perception had much to do with the fact that they were consultancy firms, whose main purpose is to sell in-demand skills. By demonstrating Dynamic Capabilities, such as offering their expertise on identified opportunities within the CRSD and the EU taxonomy or offering clients a holistic alternative linked to sustainability, the purpose of these capabilities was highlighted as taking a relevant position in the market. If firms do not demonstrate these capabilities and have a forward-looking approach to sustainability, it was pointed out that they run a high risk of falling behind competitors for future business or may not even survive in the market. This perception shared by the group of interviewees aligns with previous theoretical contributions, such as Schoemaker et al. (2018). In Schoemaker et al.'s study, the perception of the interviewees is underlined, namely that Dynamic Capabilities pave the way for companies to be better suited to deal with a changing environment or a crisis rather than leading to competitive advantage. It was also emphasized that the importance of demonstrating Dynamic Capabilities lies in avoiding the downside many may face in the event of market changes, such as bankruptcy or layoffs.

As for Narrative 2, that a demonstration of Dynamic Capabilities indeed leads to clear competitive advantages, this result is also supported by previous theoretical contributions. Similar to Narrative 2, which was presented by a slight majority of interviewees in this study, Teece (1997) and Eisenhardt & Martin (2000) suggest that Dynamic Capabilities are closely linked to competitive advantage. The authors even go so far as to suggest that competitive advantage is the primary factor gained from Dynamic Capabilities. In terms of how these benefits were measured, however, the interviewees were fairly precise, with the overall result being that the focus was on the customer. All interviewees who recognized this narrative, that their Dynamic Capabilities provided clear competitive advantages, stated that this was reflected in high customer satisfaction and increased customer base. This competitive advantage is also supported by prior works of Too et al. (2010) and Choi et al. (2018), who were in the same line but noted that additional benefits, other than customer satisfaction and increased revenue, could also include advancements in technology.

While the presented results reflect an absence of a unanimous consensus on whether Dynamic Capabilities lead to competitive advantage, similarly to previous theoretical contributions, they underscore a nuanced understanding of their implications. For example, comparing the presented results with the previous literature, no one explicitly rejects the idea that a demonstration of Dynamic Capabilities provides any kind of advantage, except the division manager of Company D. What is noteworthy, however, is that the other representative from Company D argues that they gain advantages over competitors through their differentiation capabilities in the sustainability domain. Given this ambiguity and clear divisions of opinion, it is

reasonable to consider the emphasis of each perspective. For example, Narrative 2 is very clear on this issue, as there are interviewees and theoretical contributions that emphasize that demonstrating Dynamic Capabilities leads to clear competitive advantages. The emphasis in Narrative 1 is that the capabilities lead to increased relevance rather than a competitive advantage. The latter perception can thus be interpreted as more open-ended than closed and is similar to the reasoning of Fainschmidt (2019). In this reasoning, it is suggested that a company's demonstration of Dynamic Capabilities increases the chances of obtaining a strategic fit in the market, which could be linked to competitive advantage for the company. Thus, competitive advantage, in this context, is gauged not merely on the magnitude of advantage gained but by the strategic alignment with market dynamics.

However, these two narratives can be clearly linked to the overall reasoning of Aghimien et al. (2021) and Bartocci Liboni et al. (2022) on why firms need to demonstrate Dynamic Capabilities, in the ACE industry in general as well as in meeting sustainability challenges. Both narratives address, for example, the overarching question of how consultancy firms in the ACE industry can navigate a complex and changing environment to promote sustainable development while maintaining their competitiveness. The significance of the findings lies in providing an insight into a complex dynamic between Dynamic Capabilities and competitive advantage in the field of sustainability. Possibly, the fact that no clear-cut answer was presented is not necessarily of paramount importance, but the emphasis should perhaps be placed on whether consultancy firms actually demonstrates a response to the challenges they face, which enhances their ability to be competitive. Although the results presents a disagreement on whether Dynamic Capabilities directly lead to competitive advantage, it raises interesting arguments that should be further explored to better understand this dynamic. Nevertheless, by examining the two narratives of competitive advantage, the results contribute to a nuanced understanding of how consultancy firms can position themselves to meet sustainability requirements while maintaining or increasing their competitiveness in a changing market.

The interpretation of the presented results and its comparison with previous research has shown an ambiguity as to whether consultancy firms' Dynamic Capabilities lead to competitive advantage in the sustainability field. The results provide two different narratives, and the answer to the question of whether such capabilities lead to competitive advantage is gray rather than black and white. Prior research also adds important context, clarifying that whether leading to continued market survival or a leading market position, a demonstration of Dynamic Capabilities gives rise to a strategic fit in a changing environment.

6.3.2 Pursuing Strategic Fit: Actions for Sustainability

The measures employed by the investigated consultancy firms to enhance their strategic fit or opportunities to differentiate themselves in the field of sustainability can be synthesized in four aspects.

The first aspect included the companies' ability to offer holistic solutions. The findings outline the crucial role of this capability in the firms' efforts to remain a partner many customers want to turn to and work with. This perspective aligns the theory of Dynamic Capabilities, stressing the importance of having the ability to integrate competencies in order to create added value for customers (Teece et al., 1997). These capabilities become particularly clear in the presented results, where some interviewees claim that they build their entire business on carrying out projects from start to finish and delivering sustainable solutions without including other parties. By combining technical expertise with a clear understanding of both customer needs and sustainability objectives, it is interpreted that companies can achieve differentiation through holistic solutions that embed sustainability across all project phases. This may also indicate that firms are able to adapt their actions to changing market and regulatory requirements, as mentioned by Yi & Demirel (2023), thereby demonstrating that they are addressing sustainability challenges.

The second aspect has to do with the competitive initiatives of the investigated companies, deemed crucial in their differentiation efforts. Many interviewees shared similar views in this regard and it was noted that several firms have created various forms of tools that take sustainability aspects into account in projects, which have brought in more business and clients. These tools included, for example, carbon footprint calculations in relation to investment. Some firms also considered all aspects of sustainability, not just environmental factors, looking at how a particular action affects all climate targets. These tools are interpreted as a response to a changing environment, where sustainability aspects are now a must for all projects. This responsiveness aligns with the reasoning of Aghimien et al. (2021) and Bartocci Liboni et al. (2022) on Dynamic Capabilities, where the response of the examined firms can be seen as a manifestation of proactivity, their ability to adapt to changing market conditions, and provide value-creating alternatives for their customers. The interpretation of Teece (1997) can also be considered relevant in the firms' ability to create competitive initiatives, where the firms' demonstration of Dynamic Capabilities create innovations that can contribute to advantages even in times of change or turbulence. In a similar sense, interviewees emphasized that they have created strategy teams whose purpose is to create innovative solutions in the field of sustainability, which increases their differentiation. Such initiatives can also be considered to be in line with claims advocated by Bari et al. (2022), that firms through a demonstration of Dynamic Capabilities can create proactive solutions in response to a changing environment, contributing positively for both customers or society, thereby fostering differentiation and a strategic fit.

The third aspect includes the firms' capabilities and efforts to be one step ahead in the field of sustainability. It is clearly implied in the results that being at the forefront of sustainability can provide competitive advantage, and if a company is one step ahead of its competitors and has a forward-looking approach, the argument for gaining advantage is not far away. However, this is easier said than done. For example, Adam & Lindahl (2017) pointed out in their study in the construction industry that it is considered fairly straightforward to identify what should be done,

but all the more difficult to capitalize on the opportunity. That said, it does not mean that the firms in this study have missed an important aspect or are unable to take advantage of the fact that they are actually at the forefront. Instead, it may be considered a testament to the firms' Dynamic Capabilities, where they show a high degree of proactivity in their sustainability work. Supporting the latter claim are the theoretical contributions of Yi & Demirel (2023) and Bari et al. (2022), who argue that if a company demonstrates sustainability-related Dynamic Capabilities, i.e. being able to identify and exploit business opportunities in sustainability, it can create a long-term strategic fit. For example, one way to demonstrate sustainability-related capabilities was to integrate an environmental and social approach into the company's business model. This is also evident in the results presented, in various forms. By, for example, integrating sustainability expertise within organizations, one can create a forward-looking approach to sustainability innovations and focus on what should be done after achieving sustainability. This could be in the form of focusing on achieving regenerativity and on shaping the firm with the aim of increasing sustainability in society, which are measures that are also in line with what Yi & Demirel and Bari et al. advocate. The results thus indicate that consultancy firms in the ACE industry are interpreted as demonstrating a high-degree of proactivity and sustainability-related Dynamic Capabilities, which can lead to increased strategic fit and differentiation in their sustainability work.

The fourth aspect has to do with international competence, which according to the results presented was demonstrated in the larger consultancy firms operating on a global stage. By having international expertise, these firms can benefit from a large pool of resources in their work to identify trends in the field of sustainability, but also potential solutions to take advantage of opportunities. In previous literature Ning & Kwak (2022) point out that the consultancy industry is extremely competitive. If firms demonstrate Dynamic Capabilities by expanding their current resources, they can become more adaptive and innovative in a changing environment and place themselves at the forefront, as so also noted by Aghimien et al. (2021) and Bartocci Liboni et al. (2022). It can thus be argued that utilizing international expertise drastically increases firms' opportunities to achieve differentiation as they take sustainability efforts to a global level. By leveraging international expertise, these firms can tap into a broader scope of insights to identify trends and opportunities in sustainability, which contributes to their strategic fit in the market.

It is clear that the strategies demonstrated by consultancy firms to increase their strategic fit and differentiation in sustainability work are closely linked to the concept of Dynamic Capabilities. By providing actions such as holistic solutions, competitive initiatives, a forward-looking approach to sustainability, and international competence, firms demonstrate their ability to adapt, innovate, and lead in a changing environment. Through proactive actions and sustainability-related Dynamic Capabilities, firms not only address current challenges, but also position themselves for long-term strategic fit in the market. As presented in the findings, and also supported by the literature, firms are not only reacting to the market but are also a contributing factor shaping the future of sustainability in the ACE industry.

7
Conclusion

In this study it was aimed to investigate the Dynamic Capabilities demonstrated by consultancy firms in the ACE industry in their transition towards a more sustainable sector. Additional objectives were to investigate which capabilities were considered necessary to support a sustainable transition and whether their Dynamic Capabilities lead to perceived competitive advantages. Based on the presented results and subsequent analysis and discussion, the following conclusions can be drawn:

Firstly, it has been shown in this study that sensing capabilities are well developed among consultancy firms in the ACE industry, allowing for the effective identification of new opportunities in the field of sustainability as well as the monitoring of market changes. It can also be concluded that sensing capabilities, such as external scanning, creating specialist units, participating in collaboration forums, and focus on client dialogue, were the strongest component of the Dynamic Capabilities framework. By the firms demonstration of these capabilities as well as using a systematized process in their sustainability work, it enhances their ability to be well aware of changes and opportunities.

In terms of seizing and reconfiguring capabilities, it has been identified that the engineering consultancy firms demonstrate capabilities in both areas. As for seizing capabilities, the firms emphasized their abilities to create a sustainability-driven company culture, coordinating competencies, having a continuous client dialogue, and provide sustainability initiatives. With regard to reconfiguring capabilities, the main focus was on adapting working methods, establishing partnerships, balancing competences, selecting customers and markets, and investing in education. Although, these capabilities could be deemed less well-developed than their sensing capabilities. The firms were more unaware of the capabilities they demonstrated and the activities they performed. This was further demonstrated by the fact that seizing and reconfiguring activities were repeatedly mixed with each other. In this study it has thus been highlighted that there is a knowledge gap regarding the demonstration of Dynamic Capabilities. By putting the findings on Dynamic Capabilities from consultancy firms in the industry against a theoretical background, it has also been revealed that consultancy firms in the ACE industry are demonstrating several Dynamic Capabilities that support the transition towards a more sustainable sector and thereby moving in the right direction.

Given the important role consultancy firms play in the industry's sustainability transition, it is crucial to increase the awareness and understanding of Dynamic Capabilities, especially in terms of seizing and reconfiguring capabilities. A recommendation to the industry is therefore to increase the understanding of seizing and reconfiguring capabilities. Although firms demonstrate capabilities in these areas, they are not as well developed as their sensing capabilities. By improving their ability to address sustainability opportunities, from identifying opportunities to adapting rapidly in order to seize them, and adapting the organization to work in a sustainable way, consultancy firms in the ACE industry can contribute significantly to the sustainability transition. Being able just to identify opportunities in the field of sustainability is not enough, it is equally important to act upon these to contribute to actual change.

Second, it can be concluded that courage to drive change is a catalyst for driving the development of the ACE industry in a more sustainable direction. If firms have the courage to dare to challenge norms, to dare to propose alternative approaches, and to dare to embrace the fact that innovative ideas can actually fail, consultancy firms may be heading in the right direction. If demonstrating courage, firms can succeed in creating an environment characterized by innovation and proactivity, but it would be unrealistic to only regard a high degree of courage as something that facilitates increased sustainability in a competitive industry such as the ACE industry.

To achieve a long-term sustainable transition, it can be argued that consultancy firms should place great emphasis on meeting the sustainability challenge together, where it would be suggested that a lot of focus should be placed on increasing collaborative skills and sustainability knowledge. A sustainability transition is not something anyone can be expected to solve on their own, so if firms place an increased focus on collaboration, not only will innovation thrive, but they can also integrate diverse perspectives into their work, which can lead to more effective solutions and increased chances of transitioning towards greater sustainability. Similarly, it is recommended that firms continue to invest in increasing sustainability understanding and competence in their respective organizations. This recommendation contributes to firms being better able to adapt to changing market conditions and to drive positive change in the industry's sustainability efforts.

Third, the discourse on whether demonstrated Dynamic Capabilities lead to competitive advantage emerged in contrasting narratives. In Narrative 1 the importance of Dynamic Capabilities was emphasized in terms of leading to continued relevance of consultancy firms in a dynamic market. While in Narrative 2 it was implied that these capabilities actually lead to clear advantages through increased customer satisfaction. Although a unanimous consensus did not appear, the insights gained from each narrative contribute to a nuanced understanding of how the consultancy firms position themselves in their sustainability efforts in relation to other competitors. What the synthesis of these findings also emphasizes is the multifaceted nature of Dynamic Capabilities implications, where demonstrating them may not always result in competitive advantage, but instead can promote one's strategic fit in the market and firm resilience.

To conclude, it is of great importance for consultancy firms in the ACE industry to continue to develop flexible, innovative and customer-oriented capabilities and offerings in their sustainability efforts, although the impact of demonstrating Dynamic Capabilities on competitive advantage may be uncertain. On the other hand, if firms actively demonstrate these capabilities and implement sustainability initiatives, they can not only meet market needs but also be a player influencing the future of sustainability in the ACE industry. This study thus contributes to a deeper understanding, and additional context, of how Dynamic Capabilities, competitive advantage, and sustainability are interlinked for consultancy firms.

8

Future Research

In the future, the following research directions may be of interest to further explore and deepen the understanding of the concept of Dynamic Capabilities in the ACE industry. One possible method to gain a deeper insight would be to conduct follow-up interviews with the same interviewees a few months later. This strategy could allow researchers to access more in-depth and detailed information once the interviewees have had time to familiarize themselves with the topic, potentially leading to a more nuanced and detailed discussion of Dynamic Capabilities.

Another direction for future research would be to include a more detailed overview of the different Dynamic Capabilities or components within the concept. This thesis has created an overall mapping of the opportunities to promote sustainability development within the ACE industry. A more specialized and focused study could offer a deeper understanding of how each specific Dynamic Capability can influence and improve the ability of companies to manage change and promote sustainability.

Future research could also focus on investigating consultancy firms that are less prominent in their sustainability efforts, or demonstrate strong sensing capabilities only, aiming to identify how firms can integrate sustainable Dynamic Capabilities into their businesses. By comparing such firms with industry leaders whose demonstrating strong seizing and reconfiguring capabilities, future research could intend to explore strategies and practices that can facilitate organizational transformation. In addition, the imbalance between the different Dynamic Capabilities could be highlighted, providing insights on how companies can deepen their sustainability competences and move beyond simply sensing opportunities, but also to seize them and reconfigure for long-term sustainability transition.

Although the aim of this thesis was to contribute to the generalizability of previous research on Dynamic Capabilities, it is important to point out that a single study on consulting firms in the ACE industry cannot be considered representative of the whole field. Therefore, it is desirable that future research continues to explore Dynamic Capabilities in the ACE industry to create a more comprehensive and generalizable understanding. By building on the findings and methodology of this thesis, future research can contribute to consolidating and expanding the knowledge of Dynamic Capabilities.

Despite the complexity of the topic, it is important to undertake research in this area, and this thesis has helped to establish a foundation for future investigations.

By offering a first mapping of Dynamic Capabilities within consulting firms in the ACE industry, this thesis can serve as a starting point for future research and help to broaden and deepen the understanding of the topic.

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A

Appendix - Interview Guidelines

The interview questions used in this study are presented below. The questions were formulated in accordance with the research questions of the thesis, which are shown in bold italics. The authors considered it important to ensure that the questions themselves did not inquire into the concept of Dynamic Capabilities per say, but instead formulated in a way that covered all parts of the theoretical framework, which the questions below demonstrate.

Inledning

Vi har en bakgrund inom industriell ekonomi och samhällsbyggnad, och vårt arbete handlar om att kartlägga hållbarhetsrelaterade dynamiska förmågor hos teknikkonsultbolag. Hållbarhet i detta arbete definieras som miljömässig hållbarhet.

Kort information

Vi tänker att intervjun kommer att pågå i ungefär 45-60 minuter. Innan vi sätter igång intervjun vill vi bara stämma av med dig om det är okej om vi spelar in intervjun, för att vid senare tillfällen kunna lyssna igen, transkribera osv. Resultaten som presenteras i rapporten från intervjun kommer att vara anonyma, alltså varken namn eller företag kommer att presenteras, enbart roll.

Bakgrund

Vad är din roll idag och vad är din relation till hållbarhetsarbete?

What Dynamic Capabilities can be identified in engineering consultancy firms within the construction and real estate sector to support the transition towards more sustainable building practices?

Sensing

a. Hur identifierar ert företag trender, förändringar och behov inom bygg- och fastighetssektorn när det gäller hållbarhet?

- Om vi börjar med hur ni identifierar trender
- Om vi går över till hur ni identifierar förändringar
- Och om vi avslutar med hur ni identifierar behov

b. Kan du beskriva hur ni går tillväga för att övervaka och uppfatta nya möjligheter inom hållbarhetsområdet?

- Vilka processer använder ni?
- Vilka verktyg använder ni?

c. Hur reagerar ni på signaler från marknaden när det gäller hållbarhetskrav och hur påverkar detta er strategi och verksamhet?

Seizing

a. Hur tar ni tillvara på de möjligheter ni identifierat för att utveckla nya tjänster eller affärsmodeller inom hållbarhetsområdet?

b. Kan du ge exempel på initiativ där ni har agerat snabbt för att ta vara på möjligheter inom hållbarhetsområdet? Hur lyckades ni med detta initiativ?

Reconfiguring

a. På vilket sätt organiserar ni era resurser, kompetenser och processer för att ta tillvara på möjligheter inom hållbarhetsområdet?

- Om vi börjar med hur organiserar ni era resurser för att ta tillvara på dessa möjligheter?
- Om vi sedan går in på hur ni organiserar era kompetenser för att ta tillvara på dessa möjligheter?
- Och om vi avslutar med hur ni organiserar era processer för att ta tillvara på dessa möjligheter?

b. Hur anpassar ni era arbetsmetoder för att integrera hållbarhetsmål i era projekt och kunduppdrag?

c. Kan du beskriva hur ni anpassar er verksamhet för att vara agila och responsiva på förändringar inom hållbarhetsområdet?

Which Dynamic Capabilities support the transition towards more sustainable building practices?

Vilka förmågor anser du vara viktiga för att stödja omställningen mot en mer hållbar bygg- och fastighetssektor?

- Vilka förmågor krävs för att identifiera och ta till vara på möjligheter att ställa om mot en mer hållbar praxis?
- Hur behöver man som företag strukturera sina metoder och resurser för att faktiskt genomföra omställningen?

→ Innebär denna strukturering en anpassning, i så fall på vilket sätt?

How does the adopted Dynamic Capabilities of engineering consultancy firms affect their ability to develop and implement sustainable solutions?

Kan du dela med dig av några konkreta exempel på hur era förmågor har bidragit till utvecklingen av hållbara lösningar i era projekt?

- På vilket sätt identifierade ni denna möjlighet?
- På vilket sätt tog ni tillvara på möjligheten?
- Hur anpassade ni er för att implementera ert initiativ?

– Bidrog era förmågor till en branschöverskridande utveckling vad gäller hållbarhet, och i så fall på vilket sätt?

How do engineering consultancy firms perceive that Dynamic Capabilities can generate competitive advantage in their sustainability efforts?

– På vilket sätt har era förmågor inom hållbarhetsarbete påverkat era möjligheter att differentiera er?
– Anser ni att era förmågor skapar konkurrensfördelar inom hållbarhetsområdet, i så fall på vilket sätt?

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