SHAPING INTERNAL MARKETS

A QUALITATIVE STUDY OF THE SHAPING OF INTERNAL MARKETS FOR INVESTMENT OPTIONS AND THEIR IMPLICATION FOR SUSTAINABILITY

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Abstract

This qualitative study investigates the underlying practices that shape the internal market for investment options. We do this by applying the theoretical lens of market practice. A multiple-case study was conducted, in which 17 individuals in various roles across different case companies were interviewed. The findings were three-folded. First, corporate strategies often fail to influence the shaping of the market as intended, suggesting that representational practices to guide sustainable strategies often fail to trickle down throughout the organization, leaving smaller sustainable investments more likely to be abandoned. Second, calculative devices often oversimplify sustainability values, presenting a disconnect between representational practices and exchange practices. Such investments thus become reliant on investment sponsors' qualitative arguments to be represented on the internal market. Third, sustainable investment options are more likely to succeed when driven by individuals higher up in the organizational structure, who can better navigate representational practices and bypass standardized processes.

Keywords:
Investment option, resource allocation, capital budgeting, market practices, sustainability

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1. Introduction

To mitigate climate change, significant reductions in carbon emissions are necessary. Global initiatives such as the Paris Agreement (UNFCCC, 2024) and the Sustainable Development Goals (United Nations, 2024), aim to coordinate individuals, companies, and nations in limiting the effects of climate change. Subsequently, growing pressures from regulators, investors and consumers are forcing companies to adopt sustainable strategies and practices. In addition, integrating sustainability into core business strategies is recognized as a key driver of competitive advantage and long-term value creation (Haanaes et al., 2011; Hopkins, 2009). Due to this, putting sustainability on the agenda has become a central question for almost every company.

Tackling climate change is vital for society at large, and with sustainability appearing on the agenda for arguably all companies, the way companies allocate their resources should reflect this priority. However, the reality points towards instances where companies allocate resources towards less sustainable investments. Hence, we need to better understand how companies make resource allocation decisions. Capital budgeting is a critical instrument used by firms in the process of planning where to allocate resources among competing investment opportunities (Sureka et al., 2022). Traditional approaches to capital budgeting have centered around financial techniques and models for evaluating investments. However, historically capital budgeting has been criticized for being too narrow, focusing on financial outcomes for allocating resources, which has led literature to neglect important aspects in the investment processes which eventually would have a large impact on decision-making (e.g., Bower, 1970; Grant & Nilsson, 2020; King, 1975; Smit & Trigeorgis, 2004). Research has extended the scope of capital budgeting to include strategic concerns and account for external forces that influence investment decisions (Bower & Gilbert, 2005; Christensen & Bower, 1996; Noda & Bower, 1996). Other research has emphasized the complexity of actor interactions in capital budgeting, showing that investment appraisals can serve as mediating tools to manage and consider different interests and uncertainties (Miller & O'Leary, 2007). However, while such tools can stabilize conditions and facilitate decision-making, they risk oversimplifying realities, especially considering areas such as sustainability and innovation (Bui & Villers, 2017; Mouritsen & Hald, 2018).

Various research agrees that sustainability considerations add an additional layer of complexity to capital budgeting. Vesty and Oliver (2014) argue that both direct and indirect environmental and social factors can influence investment appraisals but risk being overlooked if not explicitly incorporated into mediating tools. Similarly, Beusch et al. (2022) highlights that companies often struggle to integrate sustainability into their strategies and business activities, which Vesty and Oliver (2014) and Meyer and Kiymaz (2015) suggest is caused by lacking consensus on how to optimally integrate such factors. Despite the important role of capital budgeting in directing investments in the organization, existing literature finds severe shortcomings in current processes for

incorporating complex and uncertain issues, such as sustainability, into investment decision-making. Thus, researchers emphasize the need for further investigation into resource allocation processes (Bower & Gilbert, 2005; Sureka et al., 2022) and a deeper understanding on how sustainability can be better integrated into these processes (Mikes & Metzner, 2023). Against this background, the purpose of this thesis is to identify the underlying practices that influence resource allocation decisions among the many investment options available. By examining the underlying practices that shape the internal market for investment options, we further expect to receive insights into factors limiting resource allocation toward sustainable investments. We do this by applying the theoretical lens of market practice, using the conceptual model suggested by Kjellberg and Helgesson (2007). Hence, our research question is formulated as follows:

How is the internal market for investments shaped within organizations and how does it affect decision-making for sustainable investments?

The findings of this multiple-case study are three-folded. First, the normalizing practice of corporate strategy shapes the internal market for investment options by impacting representational practices such as management control systems. However, there appears to be a disconnect between the two practices, causing a risk of exchange practices to derail from corporate strategy. The risk is larger for small investment options proposing sustainability values due to the way representational practices are designed. Second, representational practices such as calculative devices, risk oversimplifying investment options' values to make the outputs from calculative devices easier to act upon. This leaves sustainable investments often being unfavorably represented on the internal market. Third, investment options conveying potential value that go beyond calculative devices are more likely to be accurately represented if the option is driven by an individual at a higher level in the organizational structure due to the need to qualitatively argue for these investments. Again, the way internal markets are shaped leads to smaller investments, with the potential to realize sustainability benefits, more likely to be unfavorably represented on the internal market for investment options. Lastly, to deal with the shortcomings of the internal market for investments, companies tend to drive sustainability initiatives through strategic projects as it allows the investments to be exposed to other practices than the standard ones.

The remainder of the study is structured as follows: Section 2 provides an overview of previous literature within the field of capital budgeting and resource allocation, and a description of the market perspective. This is followed by a presentation of the theoretical framework. Section 3 describes the research methodology, followed by empirical analysis in Section 4. In Section 5, the empirical findings are discussed and contrasted with previous literature. Lastly, the final section provides a conclusion of the study, as well as presenting limitations and suggestions for future research.

2. Theoretical development

The following section presents theoretical development. Section 2.1 examines existing literature on capital budgeting, resource allocation and sustainability. In Section 2.2 the theoretical lens of market practices is explained, followed by a presentation of the theoretical framework in Section 2.3. Lastly, Section 2.4 will explain how the theoretical lens and framework will contribute to existing literature.

2.1 Previous literature within capital budgeting

Sureka et al. (2022) describe capital budgeting as an instrument that helps in the process of planning where to allocate resources among several investment options. Many studies on capital budgeting have focused on the financial models, techniques and underlying assumptions used to evaluate and choose among investments. Early studies found that the payback period is the preferred technique, while discounted cash flow (DCF) models were the least used and appreciated among the many capital budgeting techniques (Miller, 1960; Pike, 1996; Schall et al., 1978). However, while the payback period is still widely used, over time there has been a shift to more sophisticated models such as DCF models and internal rate of return (IRR) (Sureka et al., 2022). Graham and Harvey (2001) found that large firms tend to rely more on the net present value (NPV) technique, while smaller firms tend to prefer the payback period. Furthermore, as they investigated the underlying assumptions, they found that large firms tend to use a company-wide discount rate rather than adjusting it to specific projects (Graham & Harvey, 2001). In general, the financial lens of capital budgeting has been dominant, and firms rely heavily on financial models such as DCF, NPV and IRR models to evaluate investment opportunities (Graham & Harvey, 2002). However, the so-called traditional capital budgeting methods have been criticized for being too narrow and thus overlooking broader dimensions that affect the evaluation of investment options and capital budgeting decisions.

Literature addressing some of the critical shortcomings of financial models has grown in parallel. Smit and Trigeorgis (2004) argue that traditional valuation methods often fail to capture strategic values and are shortsighted, only suitable for evaluations of investments where future cash flows are known. For complex decisions with strategic implications, they suggest that real options offer a more dynamic and flexible approach. Real options enable the inclusion of values such as the ability to revise future decisions based on e.g., external factors such as competitors' or suppliers' reactions. Real options include options to expand, abandon, wait, contract, and redeploy resources as needed. Similarly, Grant and Nilsson (2020) criticize and question the importance of analyzing and using capital budgeting tools. They argue that it is both the strategic and financial rationales created by the expertise of decision-makers that impact capital budgeting decision-making, not the tools they use. Further, they found that even though some strategic rationales are

financialized and can be integrated into the tools, some are not and their impact on decision-making depends on intuitive judgement (Grant & Nilsson, 2020).

Despite the criticism toward the financial focus in capital budgeting, strategic rationales in combination with financial rationales were early recognized by researchers studying investment processes (Bower, 1970; King, 1975). Bower (1970) was among the first to widen the scope of capital budgeting literature, looking beyond financials, by introducing the Resource Allocation Process (RAP). The first RAP involved two core processes, definition and impetus, and a third one named structural context. The structural context process captured the forces that in turn shaped the two core processes. Burgelman (1983b) describes structural context as organizational and administrative mechanisms that are in place within an organization to guide the current corporate strategy, set top-down by corporate management. Burgelman (1983b) further developed the theory outlined by Bower (1970) by adding strategic context as an additional force that shapes the two core processes, definition and impetus. He suggests that in addition to structural context being set top-down to guide corporate strategy, bottom-up initiatives continuously evolving in an organization lead to modifications and refinements of the corporate strategy, which then shape the structural context top-down again. Thus, the core processes in the RAP are affected by both top-down and bottom-up forces (Burgelman, 1983a). Similarly, Arjaliés and Mundy (2013) acknowledge that organizational mechanisms, in particular the use of management control systems (MCS), are effective in enforcing the corporate strategy by directing attention to the desired priorities. The authors made these findings by studying how companies develop sustainable capabilities outlined by the corporate strategy.

King (1975) also acknowledged the focus on valuation techniques within capital budgeting literature and directed attention to the process of decision-making. In his two case studies of major capital investment decisions in large British companies, he identified several weaknesses in the formal procedures, which only accounted for a small part of the decision-making process. Consequently, he raised further attention to the decision-making process by proposing a seven-stage model starting with triggering, and then progressing with screening, definition, evaluation, transmission and then ending with decision. This model emphasized the importance of a decision-making framework that goes beyond financial factors affecting capital budgeting decisions (King, 1975).

Literature within capital budgeting has broadened, but mostly stayed within organizational boundaries. However, as scholars found anomalies that could not be explained by the original theory, the scope of capital budgeting widened even further by including two external factors that affect the resource allocation process. The first external factor, namely the product market context, was identified by Christensen and Bower (1996). By studying 18 companies the authors found that companies tend to allocate capital toward investments that target areas where they currently see customer demand and thus the largest profits. This behavior can create short-term benefits, but also risk causing suboptimal allocation of capital for long-term performance as companies tend to

underinvest in areas that could benefit the company in the future. This is since emerging customer demands and upcoming products are less considered than current demands during the RAP (Christensen & Bower, 1996). Thus, the product market context considers how current customer demand and products affect the RAP and was added to the original theory (Bower & Gilbert, 2005). The second external factor added to the RAP is the capital market context, which was initially found by Noda and Bower (1996). The authors found that actors in the capital market can affect the RAP directly through, for instance, lenders that can introduce restrictions for resource allocation via covenants, or indirectly by selecting board members and executives which will in turn affect the allocation of capital (Bower & Gilbert, 2005).

The revised model thus includes external forces beyond the strategic and structural contexts found within organizational boundaries. The revised model explains the resource allocation outcomes as a result of strategical, structural, capital market and product market contexts. Further, it views the realized strategy as an outcome of several resource commitments. This allows strategy, the resource allocation process, and the realized strategy to be continuously created through multiple activities on multiple levels in the organization (Bower & Gilbert, 2005). The new model thus acknowledges external forces and actors at multiple levels having an impact on the RAP, leaving room to study *how* they interact and affect each other. This gap was acknowledged by Pfeiffer and Schneider (2010, p.1) who widened the scope of capital budgeting even further, proposing it to be a process that *"defines a set of rules to govern the way in which managers at different levels of the hierarchy produce and share information about investment projects"*. Their findings thus concern how the different actors communicate in order to influence each other during the decision-making process. Further, their findings of the impact of human behavior and interaction are extended to the interaction with for example regulators (Pfeiffer & Schneider, 2010), which constitute an external factor not identified in the RAP proposed by Bower and Gilbert (2005).

Building on the idea of several actors and factors influencing capital budgeting decisions (e.g., Bower & Gilbert, 2005; Christensen & Bower, 1996; Noda & Bower, 1996) various other studies have focused on understanding how they interact and influence each other by studying the creation of investment appraisals, which in practice proved to be complex. Burchell et al. (1980, p.15) pioneered the use of investment appraisals as a post hoc *"rationalization machine"* to legitimize value-based motives that underpin resource allocation decisions, including political ones, especially under uncertain conditions. Subsequent research has found similar results, pointing out that investment decisions can be driven by rationalizing values and motives (Hirst & Baxter, 1993; Northcott, 1991; Warren & Seal, 2018) as well as strategic rhetoric (Warren & Jack, 2018; Warren & Seal, 2018). The identification of values' and politics' impact have developed ideas of an even wider scope of capital budgeting, including how industries, markets, and governments work together on priorities beyond individual businesses (Miller, 1991; Miller & O'Leary, 2007). Miller and O'Leary (2005a, 2005b, 2007) found that these

interests are considered through innovative investment appraisal methods to coordinate resource allocation decisions under uncertainty, leaving investment appraisals to be seen as a mediating instrument. The authors thus find, in contrast to for example Burchell et al. (1980), that mediating instrument is not just to be seen as a *"rationalization machine*" to find answers and justify decisions, but a mediating tool that helps manage and consider different interests, relationships and uncertainties among several internal and external actors. They refer to the accounting and valuation techniques previously mentioned as representations of reality for the different actors involved, serving a mediating role by facilitating interactions between companies and thus contributing to the making of markets (Miller & O'Leary, 2007).

Miller and O'Leary (2007) thus suggest that mediating tools can facilitate decision-making and help create markets under uncertain conditions. Mediating tools can be argued necessary, as Haka (2006) claims uncertainty to be one of the biggest challenges in making investment decisions, especially for long-term investments. Factors of uncertainty can be changes in market stability, long-term pricing, and potential future policies. However, the attempts to provide a picture of reality with accounting and valuation techniques to facilitate decision-making come at a cost. Mouritsen and Hald (2018) found that supply chain scorecards, used as mediating tools to facilitate decisions, risk oversimplifying reality as they leave qualities such as technological innovation out of the equation. Instead, only values the customer decided should be accounted for were included, which reduced suppliers' offerings to being standardized and products commoditized. This was since product differentiation such as technological innovation was not accounted for through the mediating tool (Mouritsen & Hald, 2018). Creating more certain conditions can thus be argued to be desired to facilitate decision-making for the long term. Bui and Villiers (2017) observed an accelerating use of regulations to enforce political policies and address macro-economic concerns. However, they found that companies often adopt conservative strategies related to long-term important issues, such as climate change, as companies found the prediction of regulations concerning sustainability difficult. Thus, they question the effectiveness of regulations to impact decision-making relating to climate change, as they can be argued to instead increase the uncertainty.

The identified difficulties in decision-making for the long-term, mediating tools' benefits and shortcomings in facilitating the making of markets, and the great uncertainty regarding climate change has led to a growing literature on investment appraisals for sustainable investments. In contrast to Bui and Villiers (2017), who argue that regulations risk creating greater uncertainty and making decision-making difficult, Mikes and Metzner (2023) show evidence of how the integration of internal carbon prices in investment appraisals can facilitate a green transition through accounting and ultimately influence decision-making. Vesty and Oliver (2014) on the one hand found similar results, as they argue that environmental and social factors can have a direct impact on investment appraisals and thus decision-making. However, they at the same time argue

that there are indirect environmental and social factors as well, which intentionally or unintentionally risk being ignored if not included in the mediating tools, such as accounting models. Similarly, Beusch et al. (2022) find that companies often struggle to integrate sustainability into strategy and business activities. Vesty and Oliver (2014) and Meyer and Kiymaz (2015) further find limited integration of such factors in the capital budgeting process, suggesting the cause to be lack of consensus on how to optimally integrate such factors. Vesty and Oliver (2014) argue that the lack of practical guidance leaves decision-makers disadvantaged. Thus, they shed light on the need to adapt accounting systems and tools to enable decision-making, otherwise decisions will be more heavily affected by actors' own measurement and judgement to include sustainability. This is in line with Grant and Nilsson's (2020) findings that the impact of strategic rationales that are not financialized and integrated in tools are dependent on intuitive judgement.

However, it can be discussed whether the aim should be to financialize and integrate sustainability issues in mediating tools or not. On the one hand, Contrafatto and Burns (2013) found that the only sustainability controls that had effects on the organization were the ones associated with financial metrics. This could be seen as an argument for aiming to financialize sustainability issues and include them in tools and MCS to ensure that they are acted upon. However, Contrafatto and Burns (2013) argue that the profit-focus inhibits sustainability integration, and trying to include financialized sustainability metrics in MCS may simply reinforce economic focus within the organization. Further, several authors argue that the profit-maximizing mindset is dominant, which hinders full integration of sustainability and causes sustainable strategic plans to derail and convert to a profit-focus again (e.g., Contrafatto & Burns, 2013; Narayanan & Adams, 2017; Narayanan & Boyce, 2019).

To conclude, capital budgeting can be described as an instrument that supports companies in the planning of where to allocate resources among several investment options. The scope of research has broadened over time, from a narrow focus on valuation techniques and models to acknowledging the wider process of resource allocation and realizing the impact of strategy, as well as investment decisions' impact on realized strategy. Further development has extended the scope from internal considerations to include external forces having an impact on the resource allocation process, leading researchers to study investment appraisals as mediating tools to facilitate interactions between the many actors involved. Lastly, it has been recognized that uncertainty about all the forces complicates the mediating tools' impact on decision-making. In particular, sustainability-related uncertainty has proven difficult to integrate into mediating tools used to facilitate long-term decision-making. We argue that it is crucial for all actors to be aware of how markets for investments are shaped, and the shortcomings of the current investment practices that shape the markets to better address these risks and create better conditions for the sustainable investments needed to reach global targets.

Hence, answering the previously stated research question becomes relevant:

How is the internal market for investments shaped within organizations and how does it affect decision-making for sustainable investments?

In the following section the theoretical perspective of market practice will be introduced, as it will guide our analysis of how the internal market for investments is created.

2.2 Method theory

The following sections will describe the chosen method theory (Section 2.2.1), how it will be applied in our study (Section 2.2.2), and lastly Section 2.2.3 elaborates on why the method theory will add to the existing literature on capital budgeting and resource allocation.

2.2.1 Introduction to the method theory

Capital budgeting is by Sureka et al. (2022) defined as an instrument that helps in the process of planning where to allocate resources among *several investment options*. Research has to a large extent focused on explaining the process of resource allocation (e.g. Bower & Gilbert, 2005; Burgelman, 1983b; Christensen & Bower, 1996; Noda & Bower, 1996) and how several forces are incorporated through mediating instruments to represent the different investment options and facilitate decision-making (e.g. Burchell et al.,1980; Miller & O'Leary, 2007; Vesty & Oliver, 2014). Thus, it is reasonable to study the phenomena of investments as an *internal market of investment options*. By taking this view, we expect to gain insight into how the internal market is shaped. First, we seek to understand how investments in a customer organization are represented on the internal market of investment options. Second, by understanding what practices that shape the market, we aim to gain insight into the factors limiting decisions for resource allocation toward sustainable investments.

When studying markets, the practical relevance of research that closes the gap between theory and practice has been argued vital by Brownlie and Saren (1997), and researchers have repeatedly advocated for the need to study practical workings of markets in order to improve the characterizations of them (Axelsson & Easton, 1992; Håkansson, 1982). Building on the lack of systematic research on market practices, Kjellberg and Helgesson (2007) developed a conceptual model aiming to first present a more detailed depiction of the outcomes of market practices and secondly, offer deeper insights into the mechanisms that result in these outcomes. The authors take an ontological perspective that draws on sociology of science, and especially on the concept of translation (Callon, 1986; Callon & Latour, 1981; Latour, 1986, 1987; Law, 1986). Followingly, the starting point is that reality is not fixed or purely socially constructed; rather, it emerges and evolves through ongoing interactions between different entities. The model is thus not built on assumptions that market characteristics can be identified and that fixed properties can be

defined but aims to investigate how people in the market define and shape these properties in practice. The result is a three-fold conceptual model of market practice, including exchange practices, representational practices and normalizing practices. The practices will be explained separately, and thereafter the concept of translation will be explained, which is a key part of the model that describes how these practices are interlinked and influence each other.

Normalizing Practices

Normalizing practices include the establishment of rules, norms and standards set by different groups and actors that companies in the market should obey, and thus is a practice that shapes the market. These guidelines aim to shape markets in a certain direction, and even though the market in some cases does not adapt as intended, Kjellberg and Helgesson (2007) argue that it does not take away the fact that attempts were made or that the objectives should be neglected. Normalizing practices can for an organization be either external (such as laws, policies or externally set industry standards) or internal (such as voluntary certifications and corporate strategies).

Representational Practices

Representational practices refer to activities that help to illustrate or describe how markets function. This is needed for actors to be able to make sense of markets which are abstract concepts that consist of individual exchanges of a specific good over time, and Anand and Peterson (2000) emphasize that how they are represented is followingly as essential in shaping markets as the actual exchange of goods. That is, the act of representing something influences the very thing it is supposed to represent (Latour, 1986; Osborne & Rose, 1999). Such representations of markets can be exemplified by market reports, financial models, consumer segmentation data, and sales forecasts that in turn affect actors' behaviors and exchanges in the market.

Exchange Practices

Exchange practices include the concrete activities involved in completing actual, individual economic exchanges. The definition includes all activities related to each transaction, such as describing the product, advertisement, price negotiations, delivery terms and distribution management which help to temporarily stabilize conditions and enable an economic exchange to occur (Kjellberg & Helgesson, 2007). The authors state that the exchange practices are not only related to or influenced by the seller and buyer, but all actors that are involved and take interest in the process. Further, Chakrabarti et al. (2013) suggest that exchange practices also include informal activities such as social contracts, information exchanges and social interactions.

Translations

Kjellberg and Helgesson (2007 p. 143) describe that *"concrete activities undertaken by various actors intersect and affect both the individual economic exchanges that take*

place, the images of markets that are produced and the objectives that actors establish for themselves and others", leading to the concept of translations. Thus, the practices flow, transform and shape the market in the process, in a complex process of mutual influence. The authors suggest six links that connect the three previously described market practices.

Normalizing practices' impacts

Kjellberg and Helgesson (2007) suggest that normalizing practices influence exchange practices by providing rules and tools that shape the actions and behavior of actors in the market. For example, Forssell and Norén (2004) demonstrate how the requirements set by the Swedish Public Procurement Act (PPA) were transformed into tools that influenced subsequent exchange practices. Additionally, voluntary standards, like fair trade and eco-labelling, demonstrate how norms shape exchange practices (Boström, 2003). Normalizing practices also influence representational practices through norms concerning measures and methods of measurements, that is the images and descriptions of a market depend on what is measured and how it is measured, stemming from norms in the market (Kjellberg & Helgesson, 2007).

Representational practices' impacts

Representational practices influence practices by creating images of markets that form topics of discussion. Exchange practices are influenced by the results of representations being used as inputs in the exchange activities, such as topics for discussions, and thus affect actors' future actions. Representational practices also influence normalizing practices through descriptions, as the images and descriptions of markets are used when forming new norms, legislation or strategies (Kjellberg & Helgesson, 2007).

Exchange practices' impacts

Exchange practices impact normalization practices by revealing interests of different actors in the market. These are taken into consideration when forming new norms and can also initiate new reforms, legislation or business standards. Lastly, the measurements generated in exchange practices are used as inputs in representational practices and reveal information about how actors perceive the market and can thus generate new images and representations of markets (Kjellberg & Helgesson, 2007).

Effectiveness of linkages

An important note to the model is that the efficiency of the linkages is highly dependent on contextual factors and the actors involved. Firstly, the effect of market practices is highly dependent on that someone picks it up (Kjellberg & Helgesson, 2007). For example, a representational activity such as a market report will not have any influence if the information provided is not picked up by any actor that influences either normalizing practices or exchange practices. Or, a law will not have any influence if it is not followed or in some way incorporated into the other practices. This line of argument is advocated

by Chandler and Vargo (2011), suggesting that context influences actors, but actors themselves influence the context in which they operate. Secondly, the implications of market practices in shaping the market are affected by the effectiveness of the linkages themselves. Kjellberg and Helgesson (2007) claim that since they are produced by actors picking practices up, their own values can influence and alter the way the translations work and thus their effectiveness.

2.3 Theoretical framework

To understand the internal market for investment options, we propose a theoretical framework derived from the conceptual model proposed by Kjellberg and Helgesson (2007). To better fit the purpose of our study, we have made some modifications to Kjellberg and Helgesson's (2007) model.

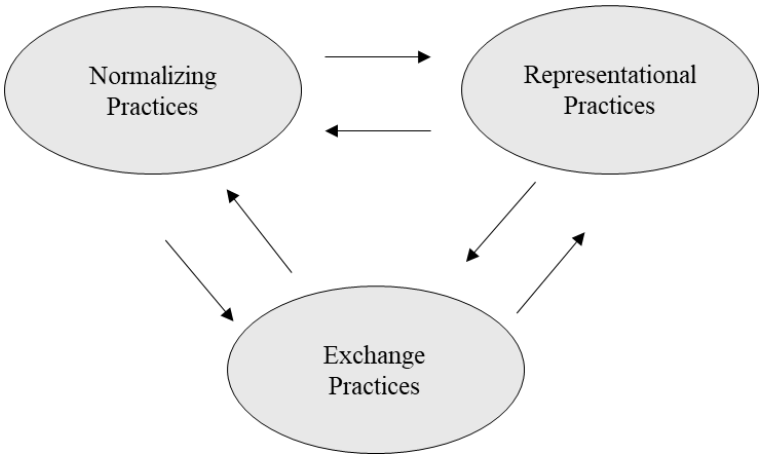

Figure 1. Theoretical framework

The three practices, normalizing, representational and exchange practices, and their linkages are presented in Figure 1. We make two modifications to the inherent perceptions of the model. Firstly, we will not view the market as a place where suppliers introduce their products to different customers, as often exemplified by the authors. Instead, we will view the market as an internal place where different investment options viable to the company are introduced for internal decision-makers to decide upon. Thus, we view the market as a place where different investment options are competing against each other for resource allocation, rather than products competing for customers. Secondly, this view entails slight modifications to how we view and analyze market practices. Normalizing practices are applied in a similar way as described by Kjellberg and Helgesson (2007), including the establishment of rules, norms and standards set by both external and internal actors such as laws and corporate strategies. A slight modification is that we do not view them as aiming to guide e.g., products offered in a market, but to guide towards which investments options resources are allocated. Representational practices are suggested by

Kjellberg and Helgesson (2007) to include market reports, customer segmentation data and sales forecasts. We rather apply representational practices according to the perspective of a customer, thus including budgets, capital spending data, carbon emission data, supplier segmentations and mandates of decision-making. Lastly, when applying exchange practices we put emphasis on, as described by the authors, the fact that it is not only the supplier and buyer that are involved. In our context, this can be exemplified by a business manager trying to get his investment option chosen by the internal decision-maker, not just a supplier trying to get their product selected by a consumer.

2.4 How the theoretical lens will add to the domain theory

We believe that the theoretical lens of market practices will add to the domain theory and generate new insights for two main reasons. Firstly, it will enable us to gain insights beyond theories mainly explaining outcomes that characterize markets, such as valuation models, strategy, decision-making layers and tools. Kjellberg and Helgesson's (2007 p. 140-141) conceptual model takes an ontological view, stressing the *"emergent and plastic character of reality"* where *"properties are neither natural facts nor social constructions imposed on shapeless matter", but instead "outcomes of a continuous recursive process involving materially heterogeneous entities"*. We argue that the existing literature on capital budgeting primarily theorizes the outcomes of practices, leaving a gap in fully understanding the processes that lead to these outcomes. For example, the revised RAP model by Bower and Gilbert (2005) recognizes that the process of resource allocation can form and determine the firm's realized strategy. However, the focus is on the *outcome* and not explicitly *how* the initial strategy or resource allocation process was formed in the first place. To fully understand investments, we need to go beyond theorizations of outcomes that exist in the market and apply a lens that can give insights into the processes that *create* these outcomes and thus *shape* the market.

Secondly, existing literature finds that sustainability issues and regulations regarding sustainability have introduced new objectives to the corporate strategy which (should) impact the decision on how to allocate resources among several investment options. The conceptual model suggested by Kjellberg and Helgesson (2007) has previously been used by several scholars to investigate how the introduction of new considerations changes markets (e.g., Chakrabarti et al., 2013; Storbacka & Nenonen, 2011). As sustainability considerations can be argued relatively newly introduced in resource allocation decisions, we expect the lens of market shaping to enable the discovery of new valuable insights. Further, the fact that sustainability is a topic that is currently changing rapidly, we believe that a model derived from an ontological perspective becomes even more valuable. By trying to understand how people in the market define and shape the properties in practice, rather than trying to define fixed properties and characteristics, we believe our insights will remain valuable even though the topic of sustainability in itself most likely will change.

To conclude, by understanding how markets for investment options are shaped, we aim to generate insights beyond previous literature that largely focus on outcomes and existing properties of markets. Instead, we aim to contribute with insights into the continuously evolving market practices and how these in turn shape the outcomes.

3. Research methodology

The following section will describe the research methodology. First, Section 3.1 outlines the research approach, including the research strategy, design and setting. Thereafter, Section 3.2 describes the empirical material, followed by Section 3.3 that explains how the data has been analyzed. Lastly, considerations for the research quality are discussed in Section 3.4.

3.1 Research approach

3.1.1 Research strategy

This study was conducted within the interpretative paradigm of social science, aiming to understand how individuals in customer organizations navigate the objectives of resource allocation, to ultimately reach investment decisions. This understanding was derived from analyzing the socially meaningful actions underlying resource allocation decisions as observed during interviews with participants in the case companies. This is in line with Neuman's (2000) description of the interpretive social paradigm as one focused on uncovering the socially constructed meanings individuals attribute to their actions. The interpretive research paradigm emphasizes understanding, interpretation, and the pivotal role of language in constructing social reality (Chua, 1986). In this view, *"[s]ocial reality is emergent, subjectively created, and objectified through human interaction"* (Chua, 1986 p. 615). Our approach has been to gain knowledge about how individuals attach meaning to their actions by subjectively interpreting empirical observations. We found this perspective valuable, as it helped us to reveal that individuals attach subjective meanings to investment decisions. For example, the same investment option can be interpreted as strategically aligned by one individual but not by another, or certain sustainability benefits may be considered valuable for some while being disregarded by others. Furthermore, we acknowledge that the meanings and intentions behind resource allocation decisions are embedded in broader social and historical practices, endowing the actions with retrospective significance (Chua, 1986). Following this interpretive framework and our aim to understand how individuals navigate the objectives of resource allocation, we found it suitable to conduct a qualitative study (Ahrens & Chapman, 2006). Similar to the theoretical framework in this study, a qualitative methodology makes the ontological assumption that *"empirical reality is objective and external to the subject"* (Chua, 1986 p. 611).

3.1.2 Research design

To understand what aspects influence individuals in customer organizations when making an investment decision, we conducted a multiple-case study. This approach is appropriate for two key reasons. First, according to Yin (2009), multiple-case studies offer a denser base for theory building while enabling comparability and identifying similarities. Second, multiple-case studies allow for more generalized theoretical development compared to single-case research (Eisenhardt & Graebner, 2007). In this way our chosen approach allows us to analyze the perspectives of multiple industrial firms, their supplier, and other external stakeholders with the aim of gaining several perspectives into how internal markets of investment options are shaped. Furthermore, a robust set of interviews with individuals from different stakeholder organizations at various levels within those organizations provides a strong foundation for extensive analysis (Yin, 2009). By adopting a multiple-case study approach, we can examine data not only within an individual company context, but also across industries and countries. This comparison allows for identifying differences and similarities while reducing individual biases (Yin, 2009).

3.1.3 Research setting

This study was conducted during the launch of the supplier's Energy Savings Sales tool concept, designed to help customers identify ways to save energy. The tool aims to convey sustainability values and integrate these into customers' business models, by demonstrating both the financial and sustainability value that the supplier's products provide customers with. However, despite the clearly defined benefits of the supplier's products and services, some customers sometimes opt for less sustainable and financially viable technologies and, consequently, emit more CO2 than otherwise would have been the case. Hence, by studying how individuals at customers of the supplier navigate resource allocation we can increase our understanding of how the internal market for investments is shaped and ultimately learn why some customers prioritize suboptimal options, echoing the findings by Vesty and Oliver, (2014) and Grant and Nilsson (2020).

Existing research predominantly focuses on single organization's resource allocation processes and the internal and external factors it considers (Bower & Gilbert, 2005; Burgelman, 1983b; Christensen & Bower, 1996; King; 1975; Noda & Bower, 1996). By studying the customers' resource allocation processes through insights from both the customer and supplier perspective, we expect to gain knowledge about potential values that are intentionally or unintentionally excluded by the customer in the investment decision (Vesty & Oliver, 2014). The theoretical lens of market practices is particularly suitable in this research setting, as it captures the various practices and forces shaping investment decisions.

Secondly, limited attention has been directed to sustainability in the field of capital budgeting and resource allocation. This gap is confirmed by researchers' call for further

investigation and a deeper understanding on how sustainability can be better integrated into resource allocation processes (Mikes & Metzner, 2023). By studying the same type of investment across different customers, which could be motivated on both sustainability and productivity grounds, we can identify when and under what conditions sustainability is considered or not. This research setting also allows for increased understanding of the competition between sustainable and alternative investments in the internal market for investment options, which further contributes to uncovering the factors limiting resource allocation toward sustainable investments.

3.2 Empirical material

3.2.1 Primary material

The primary material in this study consists of interviews with individuals at various levels within the supplier's organization, customers' organizations, as well as third-party organizations. The interviews were conducted in a semi-structured way, which allowed for flexibility to adapt questions based on the participants' responses and the topics that emerged during the interviews (Bryman & Bell, 2015). The collection of primary material started with interviews conducted with the supplier, focusing on general capital budgeting themes to understand their perception of the customers' investment processes and the challenges they face in influencing these decisions. We interviewed individuals across various levels and divisions, such as sales, business development and product development, to gain comprehensive insights into how customers' resource allocation is perceived from the supplier's perspective.

From the interviews with the supplier organization, as well as site visits and informal interviews, we identified three appropriate customers to interview. By interviewing these three customers our aim was to acquire a thorough understanding of the practices that shape the internal market of investment options across different organizations. The three customers operate in different geographies, represent various industries and have diverse histories and relationships with the supplier. At the customer organizations, we interviewed individuals across different levels in the organization who are directly or indirectly involved in investment processes, from C-level professionals and sustainability strategists to people driving specific investments such as procurement people and operational people. By interviewing people at various levels, we aimed to get insights into not only the resource allocation processes, but also the underlying structures and criteria shaping the overall processes and understanding how these are formed. The questions were adjusted depending on the position of the interviewee, but generally concerned corporate strategy, management control systems, key stakeholders' interests, investment criteria, calculative devices and key decision-makers. These themes generated valuable insights into the different areas that shape the internal market for investment options.

After each interview, the data collected was analyzed and organized to identify potential patterns and interesting areas to direct additional focus during subsequent interviews. As new insights and theoretical ideas emerged from multiple interviews, we revisited the recordings of each interview to explore additional details or confirm earlier observations that might have been missed initially. The selection of interviewees followed Bell et al.'s (2019) approach. Initial interviews were selected on the basis of convenience and relevance sampling, where the interviewees were chosen based on the accessibility and expectation of relevance. Subsequently, interviewees were selected based on snowball sampling, where insights about relevant themes and guidance from former interviewees helped us identify and connect with new prospects.

In total, we conducted 15 interviews over three months, involving 17 interview prospects, where each interview lasted 30-180 minutes (see Appendix A). All interviews were recorded and transcribed using Microsoft Teams after the interviewee was informed and had given permission. The interviews were held in either Swedish or English, based on the interviewee's preferences. Following this, some of the quotes in the empirical section (Section 4.2) have been translated. Most of the interviews were conducted through teams, while some were held on-site at the supplier's headquarters in Sweden. Alongside these interviews, seven bi-weekly meetings were organized throughout the same period with the Business Development Team (see Appendix B). These meetings focused on discussing new insights and raising concerns related to interviews and industry-specific clarifications. The team also provided support in connecting us with additional individuals at the customer organizations to allow for further perspectives on the themes observed.

To prepare for our study and to become familiar with the products that the supplier offered and its customers, additional data was collected through six preparatory meetings with a senior advisor in the supplier organization (see Appendix B). These meetings provided an overview of the company's history and products, as well as an opportunity to ask contextual questions and learn more about the research setting. In addition, three site visits to the supplier's headquarters were made (see Appendix B). The first two occasions, with the authors visiting separately, involved an introduction to the supplier's history and new sales initiative, historical run-down, a round-tour of the factory, and informal conversations during lunch and coffee breaks. The third occasion involved participation at a conference organized by the supplier, where some of the customer organizations studied participated. The topic of the conference evolved around energy savings where the supplier, customers and industry experts presented how they work with sustainability issues. Beyond insights from presentations, the three-day long conference allowed for informal observations and insights during lunches, coffee breaks and dinners.

3.2.2 Secondary material

This study further incorporates secondary data collected from both internal and external materials. Internal materials include internal presentations and videos related to the supplier organization's new Energy Savings sales tool. External materials were primarily sourced from the supplier's and customers' websites, including details on product portfolio offerings, use cases and investor materials. Collectively, the secondary material provided valuable insight regarding the supplier's sales approach, as well as customers' external communication regarding sustainability strategy and targets.

3.3 Empirical analysis

To answer the research question, this study follows an abductive approach as suggested by Dubois and Gadde, (2002). This approach is also referred to as systematic combining, as it facilitates a combination of deductive research and inductive research (Dubois & Gadde, 2002; 2014), where the empirical findings and its positioning against theories is constantly reflected upon, which contribute defining and continuously developing the research question (Ahrens & Chapman, 2006). Lukka and Vinnari (2014) proposes a differentiation between different levels of theories, resulting in the concept of domain theory and method theory which guided our choice of theoretical lens used for empirical analysis. Initially, the analysis drew on the framing perspective (e.g., Goffman, 1974), which provided insights into how companies use accounting tools as framing devices to integrate sustainability into capital budgeting practices. This perspective highlighted the complexity of integrating sustainability into capital budgeting and how resource allocation in this context is highly influenced by the interests of multiple stakeholders. We further recognized that framing significantly impacts investments decisions, as different stakeholders and individuals represent investments in diverse ways. However, within the framing perspective we did not find a suitable framework that could fully explain our empirical observations. Through iterative analysis, we identified the perspective of market practices that could help us understand how various forces affect companies decision-making. Ultimately, the conceptual framework chosen was Kjellberg and Helgesson's (2007) work on market practices, as it provided explanations for what we saw in our empirical data and could be integrated with the theories of capital budgeting and resource allocation. Specifically, the market practices framework enabled a richer understanding of the practices underlying the outcomes, rather than simply providing a description of the outcomes. For example, from our interviews we could see that individuals evaluate investment options based on the outcomes of calculative devices. By changing the framework, this allowed us to go beyond describing the outcomes, to generate insights into how these were created in the first place. Overall, this iterative process of continuously moving between theory and empirical data enriched our study by deepening our understanding of both (Dubois & Gadde, 2002). The three themes identified in the empirical data consequently emerged as a result of constant iteration. As

our empirical findings guided the development of the theoretical framework of the study, the research question was also modified as a consequence of the emergence of new theoretical themes.

3.4 Research quality

Lukka and Modell (2010) suggest that the aspects of authenticity and plausibility should be considered, to ensure validity of the study. Authenticity was achieved by providing detailed descriptions and incorporating direct quotations from interviewees to preserve the inherent qualities of their perspectives. These quotations are further presented in the empirical section of the study to ensure the core findings remain credible and limit the impact of the authors' own interpretations (Lukka & Modell, 2010). Additionally, our commitment to engage in informal meetings and company workshops allows us to better present accurate description of the research context, thus enhancing the authenticity of the study (Scapens, 2004). To address potential bias which are present in case studies (Yin, 2009), we deployed several measures. First, we constantly iterated the empirical data and analyzed transcripts of interviews separately before discussing together (Bryman & Bell, 2011). To avoid narrative biases, we gathered data from individuals in various roles and with a variety of hierarchical positions in several organizations. Second, to ensure plausibility of the research findings, through abductive reasoning multiple theories were applied to the empirical data to derive meaningful insights, rather than adhering to a predefined approach. Furthermore, respondent validation was ensured by bi-weekly discussions with representatives of the supplier (Lincoln & Guba, 1985), to confirm that our interpretations of data were both credible and accurate in relation to their experiences.

4. Empirical analysis

This section consists of two main sections. Section 4.1 will provide an overview of the case companies studied, drawing on empirical material collected from one supplier, four customer cases, and one industry organization. Section 4.2 presents empirical data, structured based on the three themes suggested as determining factors in shaping the internal market for investment options: Corporate Strategy, Organizational Structure and Calculative Devices.

4.1 Background and context

4.1.1 Supplier organization

SupplyCo

The supplier, from now on named SupplyCo, is a multinational company that provides advanced technological solutions for heat transfer, separation and fluid handling. SupplyCo operates through three business divisions: Energy, Food and Water, and

Marine. The focus in this thesis will be on products provided by the Energy division, and more specifically the heat exchangers. Heat exchangers are mainly used in heavy industry applications and facilitate heat exchange between two fluids of different temperatures. The application can be used in industries for critical process purposes such as cooling or heating, as well as for energy efficiency purposes. By improving energy efficiency and heat recovery, heat exchangers can play a critical role in reducing energy consumption and environmental impact across various industries. Energy usage is dependent on how the process is designed and what equipment is used. The company is a global leader in developing innovative equipment, systems, and services designed to optimize industrial processes and improve energy efficiency. Thus, they have created a concept; the Energy Savings Sales Tool aiming to quantify the energy-saving benefits their heat exchanger could provide in the customer-specific process. Despite the proposed benefits, sometimes customers still opt for less sustainable and financially viable technologies.

4.1.2 Customer organizations

CustomerMetals

CustomerMetals has been a customer of SupplyCo for many years. The company is a Swedish metals and mining company and a pioneer in implementing sustainable practices, including reducing emissions, increasing recycling capacity, and ensuring safe working environments. CustomerMetals has a long and established relationship with SupplyCo, with a history of many investments in SupplyCo's products and collaboration with salespeople to optimize processes.

CustomerChemicals

CustomerChemicals is a multinational chemical company headquartered in the US, and i one of the world's largest producers of chemicals, plastics, and materials used across various industries. CustomerChemical's processes require many heat exchangers for them to be able to operate, and have historically used a different technology than the one offered by SupplyCo. Recently, they entered a long-term contract with SupplyCo to optimize processes and increase energy efficiency.

CustomerMaterials

CustomerMaterials is a global energy and chemical company headquartered in South Africa. The company converts natural resources, such as coal and natural gas, into valuable fuels, chemicals, and other industrial products. The company has started investing in renewable energy and sustainable technologies to reduce its reliance on fossil fuels. It aims to play a key role in producing green hydrogen and other low-carbon energy solutions. The company has made investments in SupplyCo's products but does not have as an established relationship as CustomerMetals and CustomerChemicals.

CustomerFossil

CompanyFossil is a Finnish company that originally was a traditional oil refining company, but now invests heavily in research and innovation, developing technologies to refine renewable raw materials and expand the use of sustainable alternatives. Their original and new processes require heat exchangers to operate, but they do not have an established relationship with SupplyCo.

EnergyAssoc

EnergyAssoc is an initiative that was established by a global leader in electrification and automation technologies, together with SupplyCo. It launched in 2021 and aims to promote energy efficiency as a critical pathway to achieving sustainability goals and combating climate change. It works as a collaborative platform encouraging companies, organizations, and individuals to take concrete actions to reduce energy consumption and carbon emissions. The association has attracted hundreds of partners across various sectors, including major corporations, smaller businesses, and organizations that are committed to improving their energy use. By bringing together diverse stakeholders, the initiative amplifies efforts to address global energy challenges.

4.2 Three overarching themes shaping the internal market for investment options

4.2.1 Corporate Strategy

The first empirical theme identified in shaping the internal market for investments is the corporate strategy, which we suggest being a normalizing practice as it establishes rules, norms and standards within organizations.

"Sustainable investments work better when they are driven top-down, from a C-level. You cannot expect from an operational manager working according to a budget to investigate more expensive solutions, albeit holding long-term benefits, without strategic direction" – Manager at EnergyAssoc

As illustrated by the quote above, a Manager at EnergyAssoc has identified the importance of corporate strategy in providing top-down strategic direction throughout the organization, consequently shaping the internal market for investments among customer organizations. The CFO of CustomerMetals further describes that: *"Our sustainable strategy is driven by external pressures from investors, customers, banks, and regulations concerning license to operate"*. External pressure from stakeholders as normalizing practices thus requires CustomerMetals to direct their corporate strategy towards the expectations of their stakeholders. As a result, CustomerMetals have managed to create both an external and internal image of being sustainably focused, as further described by the CFO: *"Investors see us as a sustainability-driven company, and they also expect that from us going forward, and every co-worker is committed for better environment, it is part of the culture"*. Sustainability has thus become a core part of their corporate strategy,

and as a result the product portfolio has progressed towards materials that enable a sustainable transition. On a group level, CustomerMetals which is a Swedish company, has also committed to the Sustainable Development Goals (SDGs). However, regulation as a normalizing practice becomes increasingly complicated for global organizations. The Sourcing Manager at CustomerChemicals states that *"European goals are clearer and require net zero emissions faster than in the US. Thus, the European sites become leaders within the company concerning sustainability".* Regulations can thus become difficult for the company to navigate, as the normalizing practices of regulatory pressure differ depending on region, but the company aims to set a company-wide strategy and form company-wide representational practices to enforce the strategy.

Group-level goals that are externally reported heavily affects how companies allocate their resources, according to the Manager at EnergyAssoc who states that "*Investment opportunities are evaluated based on what they [the company] have committed to in terms of scope 1 and 2, and specifically to the extent that the investment helps to achieve these targets".* The Procurement Manager at CustomerMetals confirms the impact of group-level targets on investment practices as he claims that the targets communicated externally will be prioritized over other internal targets, and thus *"[...] the investments targeting reductions of carbon emissions for the activities that today produce the largest share of the total emissions will be prioritized. In our case this means that investments in heat exchangers today will be ranked relatively low on that list since they, in comparison to other investments, only have an incremental impact on energy savings and in turn the set goal"*. The quote shows a nuance in how corporate strategy affects investment decisions, adding a level of prioritization to it. That is, a corporate strategy directing focus towards carbon reduction does not necessarily benefit all investment options with a carbon-reducing edge, as it will guide actors to prioritize the ones with the largest impact when evaluated for that criterion. Corporate strategy and external pressures as normalizing practices guide decision-making on the internal market for investment options, and consequently have an impact on sustainable investment decisions. The normalizing practices achieve this guidance through translations into representational and exchange practices, explained in sections 4.2.2 and 4.2.3.

"SupplyCo's competitive advantage is that their heat exchangers can be applied in industrial processes when they are complex, and now as CompanyFossil is underway to transition from oil- to renewable energy-production, production will be less complex with lower temperatures and pressure. This means that SupplyCo's heat exchangers will be of less value for renewable energy production processes". – Sales Manager at SupplyCo

CompanyFossil has historically not considered sustainability as part of their corporate strategy. However, normalizing practices such as pressures on carbon disclosure and customer demand have forced them to set turnaround agendas which lead to major changes in their core business model and strategy. As a result, the internal market for investments is reshaped where heat exchangers as relatively small and low carbon-impact

investments no longer will be sufficient, and transformational projects will be preceded in line with the transformational corporate strategy. The Managing Director at EnergyAssoc observed how *"Knowledge about smaller investments is not known at C-level and are therefore often being dismissed. There is a disconnect regarding micro-investments that can be summed up and eventually have a larger aggregated impact".* Thus, for microprojects to be considered within a transformational strategy it requires strong conviction in the cumulative value that can materialize from multiple smaller investments, something organizations often fail to recognize. The theoretical model explains this as an ineffective linkage between representational and exchange practices, resulting in a failure in providing accurate information about the cumulative value of smaller investments available on the internal market.

"Sustainable investments are typically done in the form of projects where several divisions and external experts work together with the largest emitting processes" – Procurement Manager at CustomerMetals

Among all customers interviewed it became evident that a common way to reach corporate strategic sustainability goals is to drive carbon reduction investments on a strategic project basis. This is done by first identifying the processes and activities with the highest emissions and thereafter setting up a project group with related experts. Compared to regular investment processes, not only do these projects gather new expertise, but they also facilitate cross-division collaboration. The Sourcing Manager at CustomerChemicals states that *"Normally, investments in heat exchangers are decided on at the operational level and they do not consider carbon taxes as part of the evaluation. […] However, still the monetary effect of carbon taxes will hit the tax center at the higher level of the organization, and thus it can work as a catalyst for initiating a project that will be driven from the top targeting reduction of carbon emissions".* In this case tools and measurements stemming from normalizing practices such as carbon taxes do not naturally target operational-level actors that are directly engaged in the investment decisions. Instead, they affect the company on a group-level, which in turn lead to the initiation of strategic projects that facilitate sustainability considerations for investments. Investments driven as strategic projects have implications for the resource allocation as a project-based investment will be categorized differently in terms of decision-making level (further elaborated on in section 4.2.2), evaluated by experts and individuals at higher levels with other incentives (discussed in section 4.2.2) and subject to other calculative devices (explained in section 4.2.3). All of these factors will significantly impact how the investment is framed and represented on the internal market for investments.

4.2.2 Organizational Structure

The second theme identified in shaping the internal market for investment options is the organizational structures in place for decision-making. The section is divided into three sub-sections, firstly we will describe how investments are categorized into a specific level

in the decision-making structure. Secondly, we will explain how management control systems and incentives impact the importance of decision-making structures. Lastly, we will explain how these structures entail implications for decision-making, being dependent on who is driving an investment option.

How investment options are categorized into a level of decision-making

"Investments that are above 100m SEK are decided upon on a board level, the CEO is involved for investments around 30m SEK, and for investments around 10m SEK the business unit manager is responsible." – CFO at CustomerMetals

The way that investments are divided into categories constitutes a representational practice, as it will determine what mandates for decision-making the investment options will be exposed to. CustomerMetals' investments and their level of decision-making are dependent on the monetary size, as exemplified by the benchmarks shared by the CFO. This means that larger investments will be assessed at a higher level in the organization, while lower-sized investments can be approached at a lower level. SupplyCo's heat exchangers will not make up a large enough monetary size on a single basis to be considered at a higher level in customers' organizations, as agreed by Sales Manager and Sales Manager Service. *"Heat exchangers are typically ranked as 10 or 11 in a project and make up around 10% of total factory costs among customers"*. One of the Sales Managers further problematizes how customers evaluate heat exchangers on a single-product basis and explains that in cases when SupplyCo succeeds in bundling the sales of heat exchangers they reach a higher decision-making level among customers. This ultimately shows how representational practices among customer organizations influence which mandates of decision-making an investment option will fall under.

Another factor affecting the categorization of investments into a specific level of decision-making is the strategic importance of the investment. According to a Sales Manager (Service) at SupplyCo, investment decisions that directly impact customers' core operational processes or that have a transformational impact are made at higher levels, whereas investments into components with a lower overall system significance are handled at lower levels. Another Sales Manager at SupplyCo describes how one of his customers, CustomerFossil, has undertaken a transformational strategy by changing their product-focus from fossil fuels to renewable energy. Hence, they did not prioritize the investment in SupplyCo's heat exchangers, which rather provide an incremental effect on sustainability through energy efficiency improvements. The customer has an investment window every five years where the factories stop, and they can implement new technologies in their processes: *"This year the investment agenda did not prioritize energy efficiency, but rather a more all comprehensive transformational sustainability focus which resulted in other investments being more critical"*. The incremental contribution of heat exchangers is thus not aligned with the transformational strategic focus, which left the investment at a lower level in the decision-making hierarchy. The investment categorization process is confirmed by the CFO of CustomerMetals who states

that *"Decisions for investments of strategic significance have to be taken on a higher level regardless of monetary size"*.

Investment categorization has implications for how the market is shaped in three ways. Firstly, we know from the corporate strategy section (Section 4.2.1) that sustainable investments are more effective when they are driven top-down. For these investments, a categorization to a lower level of decision-making can thus be disadvantageous, risking the investment option to be deprioritized. A lower categorization of the investment will also increase the likelihood of the earlier described disconnect in realizing the accumulated value of several microprojects, thus failing to prove a significant sustainable impact aligned with the corporate strategy. Secondly, the level of decision-making has a great impact on which incentives the decision-maker has, as will be further elaborated on under *Management Control Systems and Incentives*. Lastly, the categorization will affect what kind of calculative devices will be used for the evaluation of the investment, further elaborated on in Section 4.2.3.

Management Control Systems and Incentives

The management control systems within an organization constitute a representational practice, as it will provide topics for discussion and impact evaluation criteria for decision-making, which in turn shape the market. Within CustomerMetals, business units are run independently, with procurement being an overhead supporting function serving all units. Managers within the business units are mainly evaluated based on ROCE, but also have KPIs related to production and carbon emissions, although ROCE currently has a larger weight. Further, the Procurement Manager at CustomerMetals argue that the incorporation of a carbon-related KPIs is not viewed as clear enough to guide investment decisions: *"Business unit managers will always focus on price contra production regarding investment decisions, and in order for them to consider CO2 emissions they need clear directives from the top management. […] They [business unit managers] mean that it is a responsibility of the top management to come with clear directives on what you can or should invest in based on CO2 emission arguments".* This can be explained by Kjellberg and Helgesson's (2007) model as a failure of the representational practice to translate into affecting exchange practices, as the influence of the information represented is dependent on whether someone picks it up. In this case, directives are not clear enough on what to pick up and not. Furthermore, operational personnel within business units are solely evaluated based on KPIs directly related to production outcomes such as safety, disruptions and volume. People within procurement have KPIs related to cost and internal customer satisfaction. The representational practice of management control systems thus dictates which criteria that should be considered, appreciated and evaluated which in turn impacts which investments on the market are seen as "good" or "bad". Management control systems as a representational practice is influenced by normalizing practices such as regulations and corporate strategy, which shape the internal goals and thus KPI-targets.

Having committed to the SDGs, CustomerMetals has implemented carbon emission related KPIs to make it a consideration in investment decisions and thereby shape the market for investments. However, the effectiveness of management control systems on investment decisions will depend on how company-wide goals trickle down in the organization to where the decisions are made. For CustomerMetals, only individuals at the higher level of the organizations have incentives that are tied to their sustainability performance, as explained by the CFO: *"All top 100 managers have KPIs related to carbon emissions".* This highlights how sustainability in investment decisions will be better emphasized higher up in the organization, and more limited at the lower levels. The representational practice of management control systems thus creates a barrier for sustainable investments categorized at lower levels within the customer organization, where sustainability arguments will be given less consideration compared to higher organizational levels. The same risk is evident for CustomerMaterials as the Head of Sustainability states that their organization have: *"[…] no incentives in place for professionals that are involved in processes for the smaller investments to reduce carbon emissions."* Similarly, a Sales Manager at SupplyCo observes that his customer CustomerFossil has little decentralized decision power, where the procurement division is evaluated on alignment with a set budget, as well as delivery time, and essentially nothing beyond installment. To summarize, we have identified that customer organizations may have a company-wide strategy to reduce carbon emissions, but with a poorly designed management control system they risk failing to implement the strategy throughout the organization, which leaves some, often smaller, sustainability investments abandoned. The theoretical model could describe this as the link between normalizing practices (regulatory and strategic) not being effective enough to influence the representational practices (MSC) which in turn lead to a failed economic exchange, i.e., investments that could be argued having a strategical alignment are not being made.

Another factor that will affect the shaping of the market is the time horizon which investments are evaluated on in customer organizations. Time horizon considered is impacted by the categorization of the investment. As discussed, this will be of importance as it determines what organizational level an investment option will be evaluated on, which in turn determines what incentives the specific actor will have. Generally, SupplyCo's heat exchangers are more expensive than competitors and other substitutes, but are proven to provide long-term cost and energy efficiency savings. For customers to account for these benefits, they need to evaluate SupplyCo's heat exchangers from a long-term perspective. However, from the interviews it becomes clear that customer organizations experience conflicting interests between realizing the long-term value of SupplyCo's heat exchangers and investing in alternatives which provide better short-term financial incentives, i.e., lower CAPEX. This will be the case for investments that are evaluated at lower levels of the organization, since the individuals involved, as previously discussed, often are evaluated on production-related metrics, as well as limited towards a set budget. On the contrary, decision-makers on higher levels have incentives that are

better aligned towards realizing the long-term implications for investments and thus can influence the budget in such cases. This relates back to the findings on CustomerMetals where business unit managers are evaluated on ROCE and carbon emissions, and not necessarily limited to a budget. Thus, if the investment can prove long-term value, a higher CAPEX amount will not be a problem. A Sales Manager at SupplyCo described that he always aims to get in contact with site leaders in customer organizations as they are *"attracted by long-term savings, while maintenance personnel simply follow the short-term maintenance budget"*.

Investment Option Sponsor

The organizational structure and way investment options are categorized into different levels of decision-making will impact how the market is shaped as it determines who will "own" and drive the investment internally. This will in turn influence how the investment is framed towards other investment options on the market, due to the design of representational practices such as MCS systems.

The empirical data suggests that individuals in customer organizations are attracted by different values in the investment option. Sales Manager (Service) at SupplyCo explains that they need to *"[…] present values aligned with their expertise for them [individuals in the customer organization] to be willing to drive the project internally"*. The Sales Manager (Service) describes the investment process as first starting with a process engineer who works close to the production floor, identifying the potential need for a heat exchanger. They write a specification on what is required and send this to procurement who collect supplier quotas and evaluate these based on the specifications. After this, procurement recommends the appropriate investment to the decision-maker within the organization. If the decision maker inhibits technical capabilities and is directly involved in the production: *"[…] they will have to carry the outcome of the investment and therefore value quality higher while procurement rather focus on budget alignment and delivery, i.e. nothing beyond installment."* This highlights the fact that depending on which person is assigned the point of contact with SupplyCo, various criterion will be evaluated differently. Another Sales Manager further emphasizes that: *"It is important to identify and get in touch with the right people within the customer organization as they will not be convinced on the same grounds. For example, the process engineer will value technical functionalities and energy efficiency, whilst the financial people will value ROI. Therefore, you cannot rely on a process engineer to argue for it internally but instead you must get in touch separately with these people to present different arguments"*. Depending on who SupplyCo gets in contact with during the exchange practice will lead to the investment being framed differently when being presented. Similarly, the Sustainability Manager at CustomerMetals confirms the importance of selling into several individuals in the organization, as an investment is a result of a collaborative multi-step process involving multiple layers of the organization which means that convincing one person is often not enough.

For CustomerChemicals, a determining factor for the decision to invest in SupplyCo's heat exchanger was that the investment option sponsor had a position at a higher level in the organization. Thus, she had more insight into what different actors would be appealed by and could share relevant information with SupplyCo for the investment option to be framed favorably on the internal market. The Sales Manager (Service) described how the investment option sponsor *"[…] asked for inputs and arguments from SupplyCo to be able to convince other internal stakeholders, such as adjustments to prices and delivery times".* As she was able to share information about CustomerChemical's representational practices during the exchange practice, this enabled SupplyCo to adapt their offering. Thus, the investment option was framed to better align with the representational practices in the customer organization. There is a clear example of when the Sales Manager (Service) was informed about the representational practices in CustomerChemicals: *"The procurement manager in CustomerChemicals explained that he was evaluated on discount and not price, and thus asked us to set a higher price with a discount".* In this instance, an economic exchange was facilitated by the insights that SupplyCo received about the representational practices of the customer's management control systems, which allowed SupplyCo to better represent the investment towards the decision makers. As a result, the exchange practice of information sharing enabled the adaptation of the terms, which changed the way the investment was presented on the internal market and compared to other investment options. However, the empirical material has revealed situations where the investment option sponsor fails to frame the investment attractively to individuals that are important for the final investment decision, which will be described in section 4.2.3. In this case, the investment option sponsor was at a lower level in the organizational structure which points to the finding that getting the investment driven by an individual at a higher level is more favorable.

4.2.3 Calculative Devices

The last theme identified to influence the market for investments is calculative devices and decision-making flexibility. The calculative devices stem from normalizing practices and constitute a representational practice as they frame investment options against each other, which in turn have implications for exchange practices.

"The same assumptions that are set top-down once a year are to be used throughout all models for all investments in the company". – CFO at CustomerMetals

When CustomerMetals evaluate investments, they already set an IRR target of 10% which generally applies for all investments, including SupplyCo's heat exchangers. Simplicity is important for models to be used practically, and there seems to be little room to make models very sophisticated or customized. Thus, CustomerMetals use the same inputs for cost of capital, carbon price and energy cost. However, when CustomerMetals makes larger investments, they require a more sophisticated evaluation process where for instance the cost of capital can be adjusted to better reflect the actual cost of capital for

the specific investment. Head of Sustainability at CustomerMaterials confirms that *"Sophisticated models are not used for these smaller investments, but more often payback times".* The flexibility of the model is thus determined by the categorization of investments. SupplyCo's heat exchangers are typically not large enough investments to qualify for the sophisticated evaluation processes, where inputs can be adjusted. This means that SupplyCo will have a hard time convincing customers to implement a lower cost of capital in their calculative devices when evaluating investments in heat exchangers, even though they might be able to prove both sustainability benefits and cost savings in the long-term. One of the Sales Manager at SupplyCo further acknowledges that *"Selling a large bundle of, for instance, 20 heat exchangers will give us a better hit rate for the investment to go through",* as this will allow for more sophisticated models and adjusted inputs. However, there are cases where more sophisticated models can be used even for small investments. The Sourcing Manager at CustomerChemicals explains that when investments are driven as a strategic project *"[…] you can do more advanced calculations such as Total Cost of Ownership where e.g., costs for carbon emissions over the lifecycle will be considered".* The standardized calculative devices and inputs are by Kjellberg and Helgesson's (2007) model described as tools for measurements that stem from the normalizing practices. These are in place to guide the business activities, such as investment decisions, to align with the corporate strategy. The results of the representational practices in turn have implications for the exchange practices, as it determines what will be seen as valuable and finally which investment options that will result in an economic exchange.

"NPV is sometimes not entirely sufficient […] There is flexibility in incorporating qualitative arguments which are complementary to financial models. This is not uncommon for sustainable investments where some value which cannot be quantified can still be accounted for". – CFO at CustomerMetals

Financial or strategic gains that are not included in the standardized calculative devices are not always disregarded. The CFO at CustomerMetals argues that sustainability investment often cannot only be evaluated based on an NPV calculation but needs to be complemented with qualitative arguments since some values can be difficult to quantify and incorporate in their financial models. A Sales Manager at SupplyCo further recognizes that the importance of presenting qualitative arguments for these investments make SupplyCo highly dependent on the internal investment option sponsor for them to be considered: "*[…] I think that we would be able to communicate the value of the investment better if we were able to discuss with the decision-maker directly rather than relying on process engineers to argue qualitatively"*. The empirical data thus suggests that the representational practices allow for flexibility but are dependent on the investment option sponsor to present the investment correctly to decision-makers on the internal market for investments. In general, the predetermined evaluation methods and criteria consequently restrict flexibility during exchange practices, making it difficult for individual actors within customer organizations to adjust the specific investment, which

also in turn restricts SupplyCo's ability to present values beyond what customer's pre-determined models and assumptions allow for. It is only when investments are large or strategically important enough that decision-making structures allow for nuanced qualitative criteria to be considered, and more sophisticated evaluations take place. This often involves engagement from higher-level decision-makers.

Another case shows that while there is room for qualitative arguments that cannot be quantified into a cost item or included in an NPV, these arguments are often still translated into quantifiable terms to make investment options comparable on the internal market. The Procurement Manager at CustomerMetals explains that sustainability is considered by *"[…] sending out a questionnaire which the suppliers themselves fill out. They then receive a scoring based on different sustainability aspects. Subsequently, a scoring model is used to compare different suppliers based on different criteria. […] the suppliers are to fill out CO2 emissions for their products, but there are still no standardized processes in place to compare these and how the information should be integrated in the decision-making process".* The questionnaire that is used during the exchange practice will then be used as an input in the scoring model which works as a representational practice. By having a standardized approach to representing qualitative arguments for investments on the market, the decision-makers can compare different suppliers and include the information in their decisions. However, there is a lack of guidance regarding to what extent these should be integrated in decision-making. Thus, without guidance on how they should be integrated the practices risk to be less influential. This is explained by Kjellberg and Helgesson (2007) as a practice is dependent on someone picking it up, otherwise the link from that practice will be less effective and fail to shape the market.

Several normalizing practices such as carbon taxes and subsidies influence calculative devices, as representational practices, which in turn will affect the exchange practices. The CFO at CustomerMetals state that *"Diesel and carbon taxes are effective for us since many of our investments for energy efficiency will still be financially driven. These regulatory drivers, therefore, help us motivate investments which may not be justified from a business case perspective but still will be needed from a license to operate perspective"*. This means that for CustomerMetals the linkage from normalizing to representational practice is effective, where incentives drive sustainable investments and make these financially viable. A Sales Manager at SupplyCo further argues that legislation around sustainability is essential in driving energy-saving investments among their customers as these will otherwise lose against investments that only increase productivity. However, according to the CFO at CustomerMetals *"The assumptions and known cash-flows of the current year is used throughout the whole investment horizon, and we don't make any assumptions on future potential increases in carbon taxes".* Thus, the effect of carbon taxes on a sustainable investment with a 20-year investment horizon will be less than it realistically might should as these are expected to increase going forward. Although considered a well-functioning normalizing practice, carbon taxes do to some extent lack clarity and consistency, which will have an impact on companies'

ability to forecast the true monetary effect of investments. This can be explained by the framework, as actors find it difficult to pick up the normalizing practices as intended by regulators, such as the increasing carbon taxes. This inhibits the effectiveness of the linkages and impacts their ability to shape the market as intended.

Another example, where several stakeholders agree that regulatory drivers for sustainability are insufficient concerns subsidies intended to encourage such investments, which customers rarely utilize for energy-saving investments. For CustomerMetals, the reason is that the decisions about investments are made before even knowing if the investment will be qualified for these subsidies, and thus potential cost savings will not be incorporated in their financial models. The Managing Director at EnergyAssoc further states that: *"Regulatory consistency is another topic that is important for companies to drive investments and get subsidies and to be able to include carbon taxes in their financial models and so on"*. This is a clear example of how the regulatory landscape for sustainable investments is far ineffective in providing sufficient incentives for companies to incorporate into their investment decision-making. Another reason for insufficient incentives is the bureaucracy related to applying for these compensation schemes: *"For example in Finland to get compensation you need to report which energy efficiency measures you took and there is a lot of bureaucracy around that"*- Sustainability Manager at CustomerMetals. These constitute resource barriers and thus disturb the effectiveness of the link between normalizing, representational and exchange practices. To summarize, uncertain and inconsistent regulations around sustainability leave the customer unable to make accurate assumptions concerning these, which means that the linkage between the effect of regulations as a normalizing practice on calculative devices as a representational could to some extent can be considered inefficient.

5. Discussion

5.1 Sustainability strategy determines resource allocation towards investments

As seen in the empirics, strategy guides which investments that will be prioritized in customer organizations. CustomerFossil has a sustainability strategy to reduce carbon emissions but expressed that improving energy efficiency was not part of the most urgent issues during this investment window, thus prioritizing other investments aligned with their strategy. While prior studies highlight the role of the strategic context to shape the core processes in the resource allocation process as emphasized by Bower and Gilbert (2005), we add on to this research by suggesting that investment processes and decisions also depend on how far the company has come on their way towards realizing their strategy. Following this, an investment aligned with strategy, such as a heat exchanger targeting reductions of carbon emissions, can be abandoned if the company has more pressing challenges at that point in time. Ultimately, we suggest that the timing in relation to a company's strategic journey drives how investment options will be represented in the

organization. Building on the importance of strategic alignment, an investment option's competitiveness is dependent on how well its alignment with strategy is conveyed in the internal market. The empirical data suggests that there is a disconnect regarding micro-investments which can be accumulated to have a larger strategic impact, thus failing to prove alignment. King (1975) emphasizes the phase of "transmission" in the decision-making process, which refers to accurately representing relevant information to the decision-maker. This failure of transmission can by the theoretical framework be explained as an ineffective link between exchange and representational practices, as they fail to accurately represent the available market for investment options. Altogether, this suggests small investments to be disadvantaged and at a larger risk of being inaccurately represented towards competing investments.

Further, according to Burgelman (1983b) organizational mechanisms, such as MSC, are in place to guide the corporate strategy. CustomerMetals, which have committed to carbon neutrality, directly link carbon-related KPI's to the evaluations of its top 100 managers, which consequently drive resource allocation towards investments with a high impact on carbon reduction. Still, sustainability does not constitute an evaluation criterion for the individuals deciding on resource allocation for the smaller investments. In addition, CustomerMetals puts a larger weight on ROCE compared to carbon emissions in manager evaluations. This reflects the findings of Contrafatto and Burns, (2013), Narayanan and Boyce (2019) and Narayanan and Adams (2017) who argue that the profit-maximizing mindset is dominant, hindering full integration of sustainability into organizational decision-making and causing the sustainable strategic plan to convert to a profit focus. This disconnect further helps explain why sustainable investments driven top-down among the customer organizations tend to be more effective than those driven bottom-up. This is due to overarching strategic goals which may not translate into investments at the operational level because they are not directly tied to how resources are allocated or prioritized in daily activities. As Kjellberg and Helgesson (2007) argue, in certain settings normalizing practices (such as setting strategic goals) and representational practices (such as KPI's) can be seen as separated from the exchange practices. As a result, corporate strategy as a normalizing practice has limited power to influence exchange practices due to its disconnect from representational practices like MCS.

The increasing use of regulations to impose sustainable practices has pushed customer organizations to navigate these and consider alternative capital investments. A Sales Manager at SupplyCo argues that the legislation around sustainability is essential in driving energy-saving projects among customer organizations, as resources will otherwise be allocated towards projects that generate higher volumes and greater monetary output, consistent with the findings of Contrafatto and Burns, 2013, Narayanan and Boyce, 2019, and Narayanan and Adams, 2017. However, CustomerChemicals operates as a global organization and experience difficulties in implementing company-wide sustainability strategies due to the variability across different geographical regions.

This builds on the research of Bui and Villiers (2017), who highlight that regulations related to climate change often generate greater uncertainty rather than clarity. Thus, the complexity of navigating and adhering to various regulatory frameworks across geographies further adds to the uncertainty regarding sustainable investments. In addition to regulatory inconsistency, customers experience pressures from capital markets in the resource allocation process, as found by Noda and Bower (1996). As discussed in the empirics, CustomerMetals describe how they experienced external pressures from both investors and banks in developing and communicating a sustainable strategy. Bower (1970) and Burgelman (1983b) proposed a second external force identified to influence the RAP process, being the product market context. In line with their findings, we found that since CustomerMetals' product portfolio is directed towards sustainability-driven markets, their customers in turn demand sustainable solutions. Alternatively, CustomerFossils operates in markets dominated by fossil fuels, where customer expectations around sustainability could be argued less pronounced. The product market context led CustomerFossils to prioritize short-term investments, neglecting long-term sustainability due to stable demand for their existing products. However, as expectations have shifted within this hard-to-bade industry, CustomerFossils is transforming its strategy, focusing on renewable energy and splitting resources between its legacy business and a new sustainable one**.** These findings, thus, illustrate how differing market contexts influence how firms perceive external demands and allocate their resources in response to sustainability pressures. Normalizing practices such as regulations, capital market demands and product market context, in turn pressures customer organizations to set sustainable agendas and integrate sustainable practices, not only to maintain legitimacy with stakeholders, but to stay ahead of competition (Haanaes, et al, 2011). However, while regulations as normalizing practices seem to have great power to influence representational practices, their impact sometimes falls short due to short-term financial goals, bureaucracy, and the uncertainty linked to sustainability initiatives. This misalignment highlights the challenges that customer organizations face in translating external sustainability enforcements into consistent practice.

5.2 Accounting for sustainability in calculative devices

CustomerMetals emphasizes the effectiveness of incorporating regulatory incentives, such as carbon taxes, in calculative devices. Calculative devices in this case can be seen as a mediating tool that helps manage and consider the interest of actors external to the company, as suggested by Miller and O'Leary (2005a, 2005b, 2007). However, CustomerMetals still does not assume future changes in carbon taxes in their calculative devices due to the uncertainty around regulations on sustainability, and in other cases regulatory incentives, such as subsidies, are not accounted for at all. This is in line with Haka (2006) who claim that uncertainty related to, for example, unpredictable future policies and long-term pricing are among the biggest challenges in making investment decisions, especially for long-term investments. Thus, when customer organizations

evaluate investments, they run the risk of not accounting for their full potential future value, which could lead to suboptimal investment decisions, and as Vesty and Oliver (2014) argue, leaving decision-makers disadvantaged. This is further caused by a lack of guidance on the incorporation of sustainability in customer organizations, as suggested by Vesty and Oliver (2014). We suggest that the risk of calculative devices excluding sustainability considerations is higher for smaller investments, as these are evaluated using less sophisticated models with fewer adjustments. Similar to our findings, Vesty and Oliver (2014) further highlight that investment decisions are significantly impacted by the individuals' own measurements and judgements when sustainability is not considered in calculative devices. We contribute to these findings by demonstrating that the probability of succeeding in incorporating such sustainability considerations depends on the organizational level of the decision-maker and the investment option sponsor. Representational practices such as the categorization of investments often place smaller ones at a higher risk of being undervalued, and sustainability aspects being excluded.

Simplicity in capital budgeting techniques is important, especially in large companies, where Graham and Harvey (2001) found that they tend to apply a company-wide discount rate rather than adjusting this for specific projects. However, Smit and Trigeorgis (2004) argue that the standardized methods have shortcomings in valuing investments with future strategic advantages, such as sustainability investments. According to Mouritsen and Hald (2018) this is due to mediating tools only accounting for standardized values considered by the customer, leaving product differentiations suggested by the supplier out. This is evident in our findings, as customers determine values that will be considered through specifications written to procurement or through the questionnaire filled out by the supplier. Our study extends this research by suggesting that a value included in a mediating tool does not necessarily mean it will have implications in shaping the market. As explained by Kjellberg and Helgesson (2007), a representational practice's effectiveness in shaping the market is dependent on it being picked up by someone. In our study we find that values represented by the questionnaire did not necessarily influence the resource allocation, as there was a lack of clear directives on how decision-makers should incorporate and prioritize the scoring in the investment decision. Another example confirming that the effectiveness of representational practices being dependent on someone picking it up, is shown by the impact of KPIs. Empirics clearly show that there are not clear enough directives on how carbon-related KPIs should be integrated in investment decisions for them to be effective.

Further, we contribute to existing literature by suggesting that customer organizations recognize the shortcomings of traditional resource allocation processes by driving sustainable investments as strategic projects. As suggested by Bower and Gilbert (2005), resource allocation decisions will determine the realized strategy, and to avoid the realized strategy to diverge from the intended corporate strategy, customers have introduced a new way to drive investments to reach sustainability goals. The practice of driving strategic projects facilitates cross-divisional collaboration, engages experts and

enables calculations outside standardized processes. This is something not explicitly addressed in literature, which largely focuses on standardized processes and their modifications to facilitate sustainable investments. Strategic projects allow investment options to be introduced to new exchange practices that involve individuals across different organizational levels and are subject to other representational activities, directly derived from the normalizing practice of corporate strategy. These can also enable the realization of the accumulated value which could be derived from several microprojects.

5.3 Sustainable investments are better represented when sponsored by individuals higher up in the organizations

The empirical data confirms that a multitude of individuals are involved in the decision-making process among customer organizations. Thus, information about the investment option will bypass several stages and individuals before reaching the point of a final decision. This is particularly highlighted in the "impetus" stage in Bower and Gilbert's (2005) RAP theory and the "transmission" stage in King's (1975) decision-making process model. In line with Pfeiffer and Schneider (2010, p.1), we find that the human behavior and the way different actors share and communicate information can affect the framing of, and thus actors' perception of, an investment option. Further, we agree with Grant and Nilsson (2020), who find that it is the expertise of the decision-makers to create strategic and financial rationales that are of importance in capital budgeting decision-making, not simply the tools they utilize. Thus, the different values proposed will be weighed differently depending on who is driving and evaluating the investment option. We build on these findings and suggest that investment options are more likely to be represented favorably on the internal market if the individual driving the investment option is higher up in the organizational hierarchy. One reason for this is because they possess insights into the representational practices in place, thus enabling them to adjust the representation of the investment option during the exchange practice to better align with these practices and attract the many actors involved.

Further, we suggest that the advantage of driving investment options at higher hierarchical levels particularly holds true for investments emphasizing sustainability values, for three main reasons. Firstly, the empirics show that only some sustainability values are quantified and accounted for in the calculative devices. Consequently, qualitative arguments become particularly important to ensure that all proposed sustainability values are considered in investment decisions. This is in line with Vesty and Oliver (2014) who argue that values excluded from accounting tools are dependent on individuals' own judgement for them to be considered. Similarly, Grant and Nilsson (2020) suggest that the impact of strategic rationales that are not financialized and incorporated in tools are dependent on intuitive judgement. We argue that individuals in higher organizational positions have greater ability to make strategic arguments that go beyond standardized models, due to their larger decision-making power and accountability. Secondly, they are

more likely to be incentivized to consider sustainability criteria and also consider longer time horizons for investments, for instance, through MCS, which amplifies the suggestion that sustainable investment options are more favorably driven by actors higher up in the organization. This argument aligns with Burchell et al. (1980) and suggests that an investment appraisal can be used as a post hoc "rationalization machine" enabling investment option sponsors to legitimize motives for resource allocation decisions, when they in fact might already be convinced by their view of the investment option's attractiveness. Thirdly, empirics show that individuals higher up in the organization are more likely to be incentivized to consider a longer time horizon when evaluating investments, which is often needed for particularly sustainable investments. Further, they are not bound by budgets to the same extent and can thus undertake investments with higher initial CAPEX costs but long-term values. Consequently, this suggestion implies that the way investment options are categorized through the representational practices leaves smaller investments at a larger risk of being represented unfavorably on the internal market.

6. Conclusion

This study aimed to generate a greater understanding of how the internal market for investment options is shaped, and what implications this has for sustainable investments. This was studied through the lens of market practices using the conceptual model suggested by Kjellberg and Helgesson (2007), to answer the previously stated research question:

How is the internal market for investments shaped within organizations and how does it affect decision-making for sustainable investments?

Overall, the internal market for investment options is shaped by the normalizing practice of corporate strategy, which is guided and enforced by representational practices which in turn affect the exchange practices. However, we argue that there is a disconnect between normalizing and representational practices, which affects how the investment options will be represented on the internal market and ultimately determines whether an economic exchange will occur or not. We contribute to existing literature through three main findings.

Firstly, we contribute to existing literature by providing an understanding of how corporate strategies influence, or in some cases fail to influence, the shaping of the internal market for investment options as intended. We thus acknowledge the connection of strategy with resource allocation as previously done by Bower and Gilbert (2005), and the importance of organizational structures to enforce the corporate strategy throughout investment processes, similar to Burgelman (1983b). We add to this literature by suggesting that representational practices to guide the strategy often fail to trickle down throughout the organization, leaving investments at a lower level in the organization more

likely of being unaffected by the corporate strategy as intended. Further, we argue that even in cases where representational practices are in place to align actions with strategy, they fail to do so if the information represented is not incentivized among individuals to act upon. This particularly holds true for investments incorporating sustainability value, as there is a lack of guidance on how these metrics should be acted upon in contrast to common parameters such as costs and profits. We also introduce the factor of timing in relation to strategy, proposing that a company's stage in its strategic journey, largely affects how resource allocation is prioritized. This can explain why investments aligned with strategic goals still can be left abandoned, as companies at an early stage in their journey will tackle the most pressing issues first. Again, the realization of an investment's strategic alignment poses a larger risk for small investments due to representational practices failing to accurately represent the collective effect of micro-investments.

Secondly, we contribute with a more nuanced understanding of how calculative devices as representational practices shape the internal market for investment options. As previously found, we confirm that these tools are used and needed to facilitate interaction and management of several actor's interests, both external and internal as suggested by Miller and O'Leary (2005a, 2005b, 2007). However, we also acknowledge the shortcomings and risks of oversimplification, leaving potential values out and their incorporation in evaluations reliant on an actor's own judgement, as suggested by Vesty and Oliver (2014). We add to this literature, by suggesting that the way investment options are categorized into using more or less sophisticated models and assumptions, leaves smaller investment options incorporating sustainability values increasingly reliant upon an investment sponsor, and their willingness and ability to promote qualitative arguments to represent the investment on the internal market. Further, we add to the literature of Mouritsen and Hald (2018) by suggesting that standardized tools risk commoditizing investment options, but even if represented in a tool the value risk being overlooked in case no actor is incentivized to pick up the information provided and act upon it.

Thirdly, the above-mentioned disconnect between normalizing and representational practices, and shortcomings of calculative devices, shape the market in such a way that sustainable investment options are more likely to be presented favorably if they are driven by an individual higher up in the organization. We suggest this to be the case as they are more likely to have information about the representational practices in place that shape the market. Thus, they use this information during the exchange practice to extract values and adjust the investment option to make it more favorably represented in the internal market. Further, we argue that they have a better ability to use qualitative arguments, which are needed when all values are not captured by the standardized tools and practices in place. Lastly, we argue that the organizational structures in place to guide the corporate strategy are more likely to successfully incentivize sustainability considerations at higher levels as they fail to trickle down to the lower levels.

The disconnect between normalizing and representational practices, and their impact on exchange practices, appears to be recognized by the companies themselves, as suggested by our empirics. We find that their response is to address critical strategic issues through strategic projects, deliberately circumventing standardized resource allocation processes resulting from practices in place. This approach addresses the risk of the realized strategy deviating from the intended, as can happen if investments that are unfavorably represented on the internal market, due to fallacies in the practices and the translations that shape the market, are neglected. To our knowledge, this phenomenon has not been explicitly explained by previous literature concerning sustainable investments, which primarily focuses on theorizing standardized investment processes.

We suggest that our study not only contributes with theoretical findings, but also with practical ones. By using a theoretical lens intending to close the gap between theory and practice, our findings suggest that normalizing practices are disconnected from representational. We suggest that this leaves investment options suggesting sustainability values at a larger risk of being unfavorably represented compared to competing investment options. Further, the risk is even larger for small investments. By raising awareness of these risks and providing knowledge about how the market is shaped, individuals and actors active in the market can better (1) adjust practices and translations in place and (2) be extra vigilant when dealing with such an investment. This can contribute to companies better realizing the intended strategy, and finally contribute to reaching societal goals at large.

The findings and contributions of this study are subject to limitations. Firstly, we have studied market practices. However, we have not observed practices as they occur but built our findings on interviews with people talking about practices in retrospect. This could have implications as the insights we received might have been impacted by interviewees' subjective constructions and interpretations of practices. Further, as interviewees were informed about the aim of our study the insights given risks being retrofitted to show how sustainability is integrated into the different practices. Further, we as researchers have interpreted the responses, which also are subject to subjectiveness. Secondly, our findings are based on customers that were (1) willing to participate in a study aiming to understand market shaping and the effects on sustainable investments, and (2) the majority of companies studied have undertaken such investments that our study finds being at the largest risk of being neglected. Thus, our sample risk being biased towards studying markets that are shaped relatively beneficial for smaller investment options suggesting sustainability values.

Based on our findings and limitations, we see a possibility for future researchers to study how internal markets are shaped for a sample of companies that have not undertaken such investments that our study suggests being at a large risk of being unfavorably represented. This could give deeper insight into whether internal markets are shaped differently, or if there are other factors than market shaping that determine whether an investment option

is selected or not. Such a factor could be argued found in our study, as we observe the activity of driving investments through strategic projects. This is a phenomenon not earlier observed by literature, and we suggest future research to study the resource allocation process within these strategic projects as they seem to have different outcomes than standardized processes. Lastly, we suggest future research to further study our finding of timing in relation to the strategic journey. This is to our knowledge not studied before and could generate insights valuable for suppliers and investment option sponsors on when in time an investment option is suitable to put time and effort into driving internally.

7. References

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8. Appendix

Appendix A: Overview of interviews

#	Prospects	Role	Date	Length (min)	Company
1	3	Business Development Team	04/09/24	180	SupplyCo
2	1	Sales Manager	02/10/24	45	SupplyCo
3	1	Finance & Sales Manager	02/10/24	30	FinancingCo
4	1	Sustainability Manager	03/10/24	45	CustomerMetals
5	1	Sales Manager Service	03/10/24	45	SupplyCo
6	1	CFO	04/10/24	45	CustomerMetals
7	1	Sales Manager	04/10/24	45	SupplyCo
8	1	Head of Eurasia Sustainability	07/10/24	45	Customer Materials
9	1	Sourcing Manager	07/10/24	60	CustomerChemicals
10	1	Managing Director Energy Efficiency	14/10/24	30	EnergyAssoc
11	1	Sales Manager	14/10/24	45	SupplyCo
12	1	Sales Manager	18/10/24	45	SupplyCo
13	1	Procurement Manager	13/11/24	45	CustomerMetals
14	1	Procurement Manager	22/11/24	45	CustomerChemicals
15	1	Business Developer	03/12/24	45	CustomerMetals
Weekly conversations					
1	1	Senior Advisor	11/06/24	45	SupplyCo
2	1	Senior Advisor	27/06/24	45	SupplyCo
3	1	Senior Advisor	14/07/24	45	SupplyCo
4	1	Senior Advisor	07/07/24	45	SupplyCo
5	1	Senior Advisor	11/08/24	45	SupplyCo
6	1	Senior Advisor	04/08/24	45	SupplyCo
7	1	Business Development Team	15/08/24	60	SupplyCo
8	3	Business Development Team	17/09/24	30	SupplyCo
9	2	Business Development Team	01/10/24	30	SupplyCo
10	3	Business Development Team	15/10/24	30	SupplyCo
11	1	Business Development Team	29/10/24	30	SupplyCo
12	3	Business Development Team	12/11/24	30	SupplyCo
13	2	Business Development Team	26/11/24	30	SupplyCo

Appendix B: Site visits and informal interviews

#	Topic	Session date	Length (min)
1	Factory tour	18/06/24	120
2	Informal lunch	18/06/24	30
3	History/showroom	18/06/24	30
4	Sales initiative introduction	18/06/24	45
5	History/showroom	29/08/24	60
6	Informal lunch	29/08/24	60
7	Factory tour	29/08/24	120
8	Sales initiative presentation	02/09/24	60
9	Service center tour	02/09/24	60
10	Lab tour	02/09/24	60
11	Informal dinner	02/09/24	120
12	Customer presentations	03/09/24	240
13	Customer presentations	03/09/24	380