

WHAT ANCHORS NEW STRATEGIES?

THE ROLE OF MCS HIERARCHIES IN STRATEGIC CHANGE
TOWARDS SUSTAINABILITY

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Abstract:

In this paper, we conduct a single case study of the R&D department of TransportCo to explore the role of hierarchies within MCS (Management Control System) packages in reprioritizing R&D efforts to drive strategic change towards sustainability. Through integrating strategic change literature and the notion of anchor practices, we show how MCSs play unequally important parts in implementing strategic change. In our case firm, we find that a new interactive budgeting forum took the role of anchor practice and was crucial in redirecting R&D investments in the early stages of strategic change, through what we refer to as ‘strategic anchoring’. However, the budgeting forum was unsuccessful in mitigating ‘disharmony’ between different interpretations of the core identity (the ‘constitutive rule’) of the firm. To compensate, management created independent MCS packages within R&D to redirect resources in accordance with the new strategy. Unlike previous research on MCSs in strategic change towards sustainability, our findings highlight the central role of hierarchies in periods of such change. By studying disharmony between different interpretations of the constitutive rule, we also elaborate on the tensions between profitability and sustainability.

Keywords:

Strategic change, sustainability, management control anchor practices, organisational identity

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1. Introduction

As we are entering a new decade, we know that it will contain some of the most radical and exciting changes that our industry has seen since the internal combustion engine replaced the horse and the steam engine one hundred years ago.
– CEO at TransportCo

Today, the competitive landscape is changing faster than ever: the average lifespan of companies in the S&P 500 is currently 18 years, down from 35 years in the late 1970s (McKinsey, 2019). Companies are facing rapidly changing business landscapes, resulting in increasing pressure on firms to renew their strategies (Simons & Dávila, 2020). Sustainability is rising as a disruptive trend, becoming a force that does not merely affect practices of firms (such as reporting or risk management), but that is also driving need for strategic change towards sustainability (Gond et al., 2012; Nidumolu et al., 2009). Management accounting researchers who have studied strategic change towards sustainability indicate that sustainability and sustainable development may require changes to business models, development of new technologies, and the adjustments of Management Control Systems (MCSs) (Bui & de Villiers, 2017). Research indicates that MCSs play important roles in the implementation of new strategies (Gond et al., 2012), but that facilitating sustainability through MCSs can be difficult, as MCSs are typically developed to support a profit-seeking rationale (Narayanan & Boyce, 2019).

Although several management accounting articles on strategic change towards sustainability (see e.g. Crutzen et al., 2017; Gond et al., 2012; Narayanan & Boyce, 2019) have taken a ‘systems as package’ perspective (Malmi & Brown, 2008)¹, prior literature has not been able to draw clear conclusions on what makes a particular configuration of a package successful in driving change. From a conceptual point of view, prior literature has tended to assume equality between MCSs in a particular package, not studying whether some MCSs can be more important than others in periods of strategic change. In other management accounting research domains, some

¹I.e. studied not only how MCSs are designed, but also how they are used and relate to each other within a broader package. A package is defined by Malmi and Brown (2008) as “*a collection or set of controls and control systems*”.

MCSs – referred to as ‘anchor practices’ – are found to have a dominating role within MCS packages by controlling other MCSs in the same package (Ahrens, 2018; Carlsson-Wall et al., 2020). Ahrens (2018, p. 82) notes that his findings “cast[s] doubt on the realism of certain extant managerial prescriptions for control”. The findings of these researchers indicate that the implicit assumptions of equality found in previous research in strategic change towards sustainability represent a simplistic view of MCSs. In order to study whether inequalities between practices can help us understand the circumstances in which MCSs can facilitate or hinder strategic change, this paper explores the following research question: *What role do hierarchies between management control systems have in strategic change towards sustainability?*

To address our research question, we conduct a single case study of TransportCo, a manufacturer of heavy commercial vehicles that is undergoing deep-seated strategic change towards sustainability. Through the new strategy, TransportCo has committed to become a leader in the industry’s transformation to sustainable transport. The strategic change entails that existing vehicle technology, which is based on internal combustion engines (ICE), will be entirely replaced with new autonomous, connected and electric (ACE) vehicles. This results in pressure on the Research and Development (R&D) department to develop this technology. Focusing on the R&D department, we adopt the notion of anchor practices (Ahrens, 2018; Carlsson-Wall et al., 2020; Swidler, 2001), which shows how some MCSs control others, to study the role of hierarchies within MCS packages in driving strategic change towards sustainability. The case of TransportCo, as understood through the analytical lens of management control anchor practices, provides the following contributions to accounting literature:

First, we contribute to management accounting literature on strategic change towards sustainability by illustrating how the use of anchor practices can be central in supporting a new strategy through what we refer to as ‘strategic anchoring’. In the case of TransportCo, the anchor practice was successful in driving initial strategic change despite that other MCSs in the R&D department remained largely unchanged. Our findings add the critical perspective of MCS hierarchies to better understand the role of MCSs in strategic change. It is a perspective that has been largely overlooked by extant

accounting literature on strategic change towards sustainability (see for example Arjaliès & Mundy, 2013; Gond et al., 2012; Narayanan & Boyce, 2019).

Second, we contribute to anchor practice theory by introducing the possibility of ‘disharmony’ between different interpretations of the ‘constitutive rule’ of an organization in periods of strategic change. The constitutive rule can be understood as the identity that defines the character of a company (Ahrens, 2018; Carlsson-Wall et al., 2020; Swidler, 2001). By showing how different enactments of this rule can exist across *space*, we extend Carlsson-Wall et al.’s (2020) findings that different enactments of a constitutive rule can exist across *time*. The process of introducing new interpretations of the constitutive rule in an organization is dynamic, complex, and related to power structures in the organisation, as shown by the attempts of managers in TransportCo to create independent MCS packages to promote their interpretation. As such, we also show the limitations of the anchor practice in periods of strategic change.

The remainder of this paper is organised as follows: the next section reviews the accounting literature on strategic change towards sustainability and introduces the theoretical lens through which we will understand the case of TransportCo. Thereafter, we present our research methodology. Then, our empirical analysis of TransportCo is presented, followed by a discussion of our main contributions. Finally, the last section summarises the findings, discusses its limitations, and suggests further research.

2. Theory

In this section, we first review a sample of management accounting research on management control systems (MCSs) and strategic change towards sustainability, which broadly defines the borders of our theoretical domain. Subsequently, we introduce the notion of anchor practices as a theoretical lens. Finally, we combine the two research areas to provide insights that will guide the empirical analysis.

2.1. MCSs and Strategic Change Towards Sustainability

Strategic change towards sustainability is becoming an increasingly interesting field of research, as companies are attempting to develop competitive advantages through sustainability-focused strategies (Ioannou & Serafeim, 2019). In this first part of the theory section, we summarize a review of the management accounting literature on strategic change towards sustainability, particularly discussing the characteristics of such change, tensions that may arise from its implementation, and how MCS reconfiguration is used to drive change.

2.1.1. Characteristics of Strategic Change Towards Sustainability

From a business perspective, sustainability can be understood as the strive to substantially improve environmental and social performance in line with for instance the UN Sustainable Development Goals (Crutzen et al., 2017). While sustainability is the intended outcome of the improvement efforts, ‘sustainable development’ is the process through which companies move towards it (Arjaliès & Mundy, 2013). The UN World Commission on Environment and Development report (1987) defines development as sustainable if it can “meet the needs of the present generations without compromising the ability of future generations to meet their own needs” (p. 42). The definition embraces the complexity of considerations across time as well as multiple dimensions of resources, including environmental, social, and economic. The complexity of the notion of sustainability has also been emphasized in management accounting literature, where ambiguity still exists around its definition and how it can be translated to the context of corporations (Arjaliès & Mundy, 2013; Contrafatto &

Burns, 2013; Narayanan & Boyce, 2019). In this study, the focus will be directed on the environmental dimension of sustainability.

Although a growing body of management accounting research has given attention to sustainability issues during the past decade (e.g. Arjaliès & Mundy, 2013; Contrafatto & Burns, 2013; Gond et al., 2012; Guenther et al., 2016; Narayanan & Boyce, 2019), existing research has largely focused on how the use of sustainability MCSs may lead to the strategic *integration* of sustainability (Arjaliès & Mundy, 2013; Contrafatto & Burns, 2013; Gond et al., 2012; Guenther et al., 2016). In this stream of literature, the strategic integration of sustainability is generally observed to result in minor changes to the organisation, indicating adoption of common practice rather than an attempt to generate competitive advantages through sustainability.

Bui and de Villiers (2017) elaborate on how organisations' strategic responses to external sustainability pressures can take different forms and require a varying degree of organisational change. The study finds that the level of environmental risk, regulatory risk, and market opportunity related to sustainability, affect the kind of strategy a firm will adopt. Moderate environmental risk or opportunity in combination with high regulatory uncertainty was observed to result in the integration of sustainability-related aspects into the existing business activities, for example by monitoring carbon emissions or buying carbon credits. In contrast, high environmental risk or opportunity in combination with low regulatory uncertainty implicated more creative responses based on entirely new strategies and technologies. R&D was highlighted as a central enabler of creative strategic responses as they necessitated innovation in low-carbon technologies.

The findings of Bui and de Villiers (2017) shed light on the distinction between strategic *integration* of sustainability-related issues and strategic *change* towards sustainability. While strategic integration of sustainability likely preserves the existing business strategy, strategic change towards sustainability alters it. In this study, the notion of strategic change towards sustainability emphasises the *replacement* of pre-existing business strategies with new strategies that are explicitly targeted towards fostering sustainable development. For businesses perceived as unsustainable, as exemplified by Bui and de Villiers (2017), strategic change towards sustainability can

be expected to put substantial pressure on R&D functions in order to redirect current business activities.

2.1.2. MCS and Purpose-related Tensions in Change Towards Sustainability

In the management control literature, views on the role of MCSs in strategic change towards sustainability vary between studies. Arjaliès and Mundy (2013), Gond et al. (2012), and Adams et al. (2007) convey that MCSs can act as catalysts for organisations to implement change efforts in the direction of sustainability. For instance, Arjaliès and Mundy (2013) found that MCS are used to provide formal processes that guide support employees in their efforts to achieve sustainable organisational goals.

In contrast, other studies argue that MCSs can be sources of inertia that obstruct strategic change towards sustainability (Contrafatto & Burns, 2013; Narayanan & Boyce, 2019). According to Narayanan and Boyce (2019), MCSs may be poorly adapted for controlling sustainability objectives since they “often reflect a set of organisational values that engender a profit seeking ethos” (p. 1232). In their study, the authors find that when the value of a sustainability-related action cannot be translated into an improved financial outlook, it is met with opposition from decision makers. This opposition is typically supported by existing accounting and control mechanisms. Similarly, Narayanan and Adams (2017), Contrafatto and Burns (2013) and da Silva Monteiro and Aibar-Guzmán (2010) find that MCSs hinder the implementation of strategic change towards sustainability by supporting more deeply embedded strategic objectives that align with a profit-seeking rationale. Narayanan and Adams (2017) further argue that sustainability practices cannot be fully integrated into organisational practices without changes in the ideological core of the organisation.

Underlying these arguments is a problematizing of the view of sustainability practices as aligned to corporate profitability (Narayanan & Adams, 2017, Narayanan & Boyce, 2019). This reflects a more general discussion that has been held for decades: that of the compatibility of sustainability and profitability, which is connected to the shareholder versus stakeholder perspective on corporate responsibility. The discussion has intensified recently, in conjunction with the 50th birthday of Milton Friedman’s famous paper in which he declared that “the social responsibility of a business is to increase its

profits” (Friedman, 1970, p. 17). It is a statement built on the belief that sustainability and profitability are incompatible (Bush, 2020; Mayer et al., 2020) and became a precursor to an era where this belief dominated, leading to short-termism in support of maximising shareholder value (Lipton, 2020).

However, the view of incompatibility between sustainability and profitability has become increasingly contested over time (Lipton, 2020). In accounting and finance literature, it is highlighted how sustainability often increases shareholder value (Bush, 2020; Fama, 2020; Ferrell et al., 2016; Lipton, 2020; Malik, 2015; Riccaboni & Leone, 2010). According to Riccaboni and Leone (2010), firms can create shareholder value by implementing sustainability strategies in at least two ways: by increasing revenue through innovative sustainable products or by realizing costs efficiencies by what is called ‘eco-efficiency’. The latter may for instance include realizing lower energy costs, better utilization of assets, and less waste in production. In financial theory, value creation can also stem from management of sustainability-related risk (Siegrist et al., 2020), something that has also been highlighted in several strategic change studies in the management accounting field (e.g. Bui & de Villiers 2017; Arjaliès & Mundy, 2013). For instance, in their 2017 study, Bui and de Villiers analyse how climate risk impacted company strategies and found that when climate risk increased, “Organisations' strategies changed in response, moving from a stable strategy to different combinations of anticipatory, proactive, and creative strategies” (p. 4). As many companies indeed focus on increasing shareholder value, aspects such as growth potential, cost reduction, and risk mitigation are strong drivers in the implementation of sustainable strategies.

Nonetheless, it is inevitable that sustainability must be integrated into an inherently financial context of a commercial corporation. Strategic change towards sustainability may go beyond or be misaligned with profitability objectives that are embodied by the pre-existing strategies and organisational values (Narayanan & Boyce, 2019).

Therefore, several studies stress that initiating sustainability-focused strategic change is likely to result in intra-organisational tensions (Contrafatto & Burns, 2013; da Silva Monteiro & Aibar-Guzman, 2010; Narayanan & Boyce, 2019). The design and use of MCSs can be crucial in managing these tensions and directing the outcome of

sustainability-related change efforts (Contrafatto & Burns, 2013). However, the observed bias of MCS towards measurable financial objectives highlights the importance of the reconfiguration of MCS to enable strategic change towards sustainability.

2.1.3. (Re)configuring MCSs for Strategic Change Towards Sustainability

In management accounting theory, the traditional view is that MCSs should be aligned with the strategies of an organisation (Simons, 1995). As strategies change, there is a pressure to adapt or substitute MCSs in order to keep this ideal alignment (Narayanan & Boyce, 2019). While some sustainability-focused strategic change papers have studied control systems individually, others have found that the capability of an organisation to mobilize change efforts is dependent on how the MCSs operate as an interrelated whole (Crutzen et al., 2017; Gond et al., 2012; Narayanan & Boyce, 2019). Thus, attaining the right configuration between control systems is presented as crucial to implement sustainability-focused strategies (Gond et al., 2012). However, while individual systems can be relatively easily adapted, the larger configuration typically consists of a more complex and rigid structure. In management accounting research, the notion of MCSs as ‘packages’ highlights that “different systems are often introduced by different interest groups at different times, so the controls in their entirety should not be defined holistically as a single system, but instead as a package of systems” (Malmi & Brown, 2008, p. 291). Since a package consists of several interrelated MCS introduced for different purposes in different points in time, adapting the configuration of the entire package is a complicated matter.

Consequently, a package of systems likely includes control mechanisms that are imperfectly co-ordinated (Crutzen et al., 2017; Merchant & Otley, 2020). Arguably, this should be true particularly during a process of strategic and organisational change, when certain control mechanisms change to align with the new strategy while others remain constant. Although management accounting research emphasizes the importance of alignment between MCSs in order to facilitate change towards sustainability (Narayanan & Boyce, 2019; Riccaboni & Leone, 2010), the view on MCSs as ‘package’ implies that it is loosely rooted in reality to assume that systems can be reconfigured simultaneously and completely (Merchant & Otley, 2020). Indeed, in Narayanan and

Boyce's (2019) study of a multinational property construction and investment company that commits to rigorous efforts to improve sustainability engagement, reconfiguration of MCSs were implemented gradually. First, changes in external and internal communication were observed, followed by changes in organisational policy. Later, internal sustainability reporting was introduced. Similarly, the study of Crutzen et al. (2017), which explores how European firms shape MCSs to achieve their sustainability objectives, find that companies tend to initially focus on either informal or formal controls. Companies did not focus on both at the same time; instead, formal controls followed informal or vice versa. The authors argue that the underlying reason is that the adoption of new MCSs requires resources, including time.

If reconfigurations of MCSs are implemented gradually, a subsequent question then becomes if certain priorities regarding the sequence of the reconfiguration, are more effective than others in promoting sustainability in an organization. Gond et al. (2012) explore the link between MCS configurations and strategic integration of sustainability by distinguishing between the effect of 'diagnostic' and 'interactive' MCSs on strategy. While interactive use of control systems provides input for strategy making, diagnostic use helps in the achievement of existing strategies. The authors convey that priorities in reconfiguration should depend on the intended outcome of strategic adaptation or realisation.

In the study by Narayanan and Boyce (2019), the reconfiguration of communication ('belief system'), organisational policy ('boundary system') and sustainability reporting ('diagnostic system') led to increased access to information and perceived strategic importance of sustainability issues, but did ultimately not result in corrective action to improve sustainability performance. The authors highlight the absence of interactive use of sustainability MCSs in the organisation and explain that "[i]nstances of sustainability information being discussed at managerial meetings were sporadic and done in a business-centric manner, thus continuing 'business as usual'" (Narayanan & Boyce, 2019, p. 1228). Thus, this particular configuration of MCSs seemed to promote information gathering but failed to enforce action by the organisation.

Contrafatto and Burns (2013) convey that the level of integration between different MCSs may be important for an organization's ability to mobilize change towards

sustainability. Similarly, Gond et al. (2012) use the concept of ‘systems integration’ to illustrate that when successfully integrating sustainability aspects in the control systems, MCSs can act as catalysts for organisations to implement change efforts in the direction of sustainability. So, while the combination of MCSs used to integrate sustainability has been studied in the abovementioned research, the relationships between the control systems have not. Arguably, this is another aspect that may affect the overall influence of the MCS package. The lack of attention to relationships between MCSs is a possible reason for why the management accounting literature on strategic change towards sustainability has contradictory findings on whether MCSs inhibit or catalyse strategic change. Perhaps the question is not *whether* or *which types* of MCSs can inhibit or catalyse change, but rather *under what circumstances* they can do so.

The empirical findings by Narayanan and Boyce (2019) illustrate that elevation of sustainability to high-level corporate strategy does not by itself translate into action. Rather, they seem to suggest that some MCSs can effectively stifle change efforts by playing a more central role in shaping the agenda of organizations. However, this was not something that was further analysed by the authors, mirroring the habit of previous studies in the domain of side-stepping the question of relationships between MCSs.

If some MCS are more central in stifling change, and if some particular sequences of reconfiguration are better than others to drive change, it seems to imply that identifying what is the most important MCS in a package is crucial for the understanding of that package in periods of change. We explore this possible centrality of certain MCSs by studying how the hierarchical structure within a MCS package facilitates or inhibits strategic change efforts, and if organisations can actively influence hierarchies between control systems to facilitate change. We analyse this through the lens of anchor practice theory first introduced by Swidler (2001) in the field of cultural sociology.

2.2. Management Control Anchor Practices

In the first part of the theory section, we discussed several limitations in the extant literature on MCSs and strategic change towards sustainability. Most notably, while the literature highlights the importance of how MCSs are configured, it focuses on the

combination of control mechanisms rather than the relationship between them. The role of hierarchies between MCSs is left largely unexplored in the literature. In this second part, we introduce anchor practices theory in an attempt to address this gap.

2.2.1. Anchor Practices and the Constitutive Rule

Management control anchor practices is a recent concept in management accounting research, that builds on and extends the perspective of MCS packages. Introduced to the management accounting research field by Ahrens (2018) and picked up on by Carlsson-Wall et al. (2020), these studies draw on the notion of anchor practices coined by Swidler (2001) in cultural sociology.

Fundamentally, the findings of these researchers show that management control systems within a package are not equally important – instead, there is a hierarchy of practices, where some practices control or ‘anchor’ other practices (Ahrens, 2018; Carlsson-Wall et al., 2020). The prior are referred to as ‘anchor practices’ while the latter are referred to as ‘subsidiary practices’. The anchor practices are more central and more controlling than other practices (Swidler, 2001), but also provide structure in the organisation by enacting what is called the ‘constitutive rule’ (Ahrens, 2018; Carlsson-Wall et al., 2020; Swidler, 2001). The constitutive rule “define[s] an entity’s nature as well as the identities of its members by constituting key social relationships” (Ahrens, 2018, p. 64), and are “enduring and relatively stable social structure[s]” (Carlsson-Wall et al., 2020, p. 6). Indeed, it is the very fact that anchor practices enact the constitutive rules that makes them central (Carlsson-Wall et al., 2020), by linking subsidiary practices to the constitutive rule. In Ahrens (2018) in-depth study of ‘R’, a German retail bank, R’s cost control practice was identified as an anchor practice, which used other practices for its ends and reinforced the constitutive rule of R. The constitutive rule was to “continuously seek cost reductions while maintaining or enhancing the quality of services” (p. 78). Similarly, Carlsson-Wall et al. (2020) identified an integrative liaison device as an anchor practice in their case company ABB Robotics, which enacted the constitutive rule of being the technology leader.

While subsidiary practices are controlled by anchor practices, subsidiary practices do not merely execute the scripts of anchor practices. Instead, they also ‘flesh out’ anchor

practices and contribute to defining its attractive makeup (Ahrens, 2018), and, in extension, also flesh out the functioning of the constitutive rule (Carlsson-Wall et al., 2020). Ahrens (2018, p. 82) finds that “anchor practices do not so much tie other practices to them as shape the context in which other practices are conducted”. Such context shaping and control may be met with resistance, and the study highlights that an anchor practice is, despite its centrality, still just an element in a wider context of practices (Ahrens, 2018).

Nonetheless, the notion of anchor practices adds considerable insight to how MCS configurations function, that have been lacking in management accounting literature in general and in strategic change literature in particular. As Ahrens (2018) notes, these findings render the conventional focus on the design of individual MCSs simplistic. Ahrens (2018) highlights that while more classical MCS studies, such as that by Simons (1995), “acknowledges the complexity of combining the right tools for the job, /.../ it glosses over the complexity of connecting management control activities with the specific practices that are already present in the organisation” (p. 82). Indeed, the findings of Ahrens (2018) and Carlsson-Wall et al. (2020) are indicative of additional layers of complexity, rendering the more classic management accounting notion that managers can use a standard set of tools to turn their intentions into reality questionable.

2.2.2. Strategies as Enactments of the Constitutive Rule

In Ahrens’ (2018) study, the strategy of R was not addressed in greater detail; throughout the paper, the focus was instead on the relationship between anchor practices and the constitutive rule. The concept of constitutive rule in itself, however, is not a strategy and not prone to change, as strategies may be. Central to the very definition of constitutive rule is the concept of enduring identities (Ahrens, 2018; Swidler, 2001) and Carlsson-Wall et al. (2020) found that the constitutive rule in ABB Robotics “was stable over time and never challenged” (p. 21).

Carlsson-Wall et al. (2020), however, build further on the concept of anchor practices by specifying the link between constitutive rules and strategies. They find that despite the stable nature of constitutive rules, they can be expressed through different strategies and thus enacted in various ways (Carlsson-Wall et al., 2020). In other words, strategies

can be understood as how the somewhat general constitutive rule is translated into more concrete ways of addressing an organisation's specific environment. In their study, ABB Robotics adapted its strategies due to variations in the economic environment of the company, resulting in different conclusions over time regarding e.g. which customers to target, potential market size, and technological preferences. Indeed, as can be seen in ABB Robotics as well as in the case of R in Ahrens' (2018) study, constitutive rules are typically quite broadly defined, leaving room for interpretation.

While the findings of Carlsson-Wall et al. (2020) indicate some flexibility of the constitutive rule, the link between the constitutive rule and the strategies that enact them also indicates that strategies are limited by the constitutive rule, in the sense that the strategies must enact the constitutive rule in some way. Carlsson-Wall et al. (2020) note that "At first sight, it may appear as /.../ Robotics was constantly in flux /.../. Analysing the situation in more detail, however, we can see that the changing strategies relate to different ways of enacting the same constitutive rule" (p. 32). These findings suggest that in a context of strategic change, even deep-seated change is grounded by a more enduring identity and might not be as radical as it first appears.

Carlsson-Wall et al. (2020) also elaborate on the link between anchor practices and strategies, finding that since the anchor practice enacts the constitutive rule, it affects the strategies that emerge by ensuring that these strategies do not deviate excessively from the constitutive rule. According to Carlsson-Wall et al. (2020), anchor practices thus have central roles in the grounding of strategies and avoiding that emerging strategies are based merely on opportunism, referred to as 'dynamic conservatism'. In the case of ABB Robotics, the dynamic conservatism contributed to avoiding a potential strategic proliferation and the possible collapse of the constitutive rule (Carlsson-Wall et al., 2020).

While Carlsson-Wall et al. (2020) never explicitly used the term 'strategic change', the case company in their study underwent at least two periods of strategic change that were addressed in the study. During the first, a new anchor practice was explicitly developed as a reaction to a perceived increase in complexity of enacting the firm's constitutive rule. As such, the study indicates that anchor practices are not static, and can be designed and added to a MCS package. The paper only touched on this matter, however,

not studying in detail why the new anchor practice was developed. The authors explicitly call for “further research that focuses on how anchor practices actually come about, whether and how they evolve or if they are replaced by ‘new’ anchor practices.” (Carlsson-Wall et al., 2020, p. 22).

2.3. Theoretical Development

In this section, we integrate the notion of management control anchor practices (comprising constitutive rule, strategies, anchor practices, and subsidiary practices) with previous research on strategic change towards sustainability. Consequently, we combine two areas of research that complement each other: the management accounting literature on strategic change towards sustainability, on the one hand, has not taken hierarchies into consideration; while the anchor practices framework, on the other hand, has hitherto been a stable model, not taking into consideration periods of change.

In light of the insights on hierarchies from anchor practice theory, it is likely that some MCSs have a more central role in hindering or catalysing strategic change. According to strategic change literature, MCSs are important links between the strategy of a firm and outcome (Contrafatto & Burns, 2013; Gond et al., 2012; Adams et al., 2007). Building on this knowledge, the alignment of an anchor practice with a new strategy should be particularly important for the outcome of that strategy – more so than the alignment between the subsidiary practices (that the anchor practice exerts control over) and the strategy. Therefore, we theorise that the existence of an anchor practice could play a central role in periods of strategic change, while subsidiary MCSs play a lesser role. With this discussion in mind, we argue that to truly understand MCSs in strategic change, one must identify the anchor practices among these systems, and study the role of the anchor practice in relation to other (subsidiary) practices.

However, since strategies can be understood as enactments of the constitutive rule (Carlsson-Wall et al., 2020), and anchor practices strengthen the power of the constitutive rule in the organization, the alignment of the anchor practice and the strategy is moderated by the constitutive rule. In the context of strategic change, new strategies are implemented in a context with a pre-existing constitutive rule. This is a

rule that strategies may enact in new ways (as Carlsson-Wall et al., 2020 have shown), but must nonetheless consider. Therefore, it might be useful to reflect on what constitutive rules represent and why they exist. Why does ABB Robotics in Carlsson-Wall et al.'s (2020) study have the constitutive rule of being a technology leader, and why does the German bank R in the study of Ahrens (2018) have cost reductions and quality management as their constitutive rule? It seems that these rules represent a fundamental conviction of how the companies can succeed in their respective market, and thus be profitable. As such, constitutive rules in these cases can be argued to be closely related to the financial purpose of the firm.

The insight that constitutive rules might be closely connected to financial objectives, poses interesting questions in the context of strategic change towards sustainability. How do sustainability-focused strategies relate to the pre-existing financially oriented constitutive rules? Prior research (Contraffato & Burns, 2013; da Silva Monteiro & Aibar-Guzmán, 2010; Narayanan & Adams 2017; Narayanan & Boyce, 2019) has shown that there can be tensions between sustainability goals and financial goals, indicating that sustainability-focused strategies could be misaligned with existing constitutive rules. However, from the findings of Carlsson-Wall et al. (2020), we also know that new strategies may enact constitutive rules in new ways, indicating some flexibility of the constitutive rule. The notion that strategies can enact the constitutive rule in different ways indicates that constitutive rules can also be interpreted in slightly different ways. Arguably, a new sustainability-focused strategy would require a new 'interpretation' of the constitutive rule in order to avoid misalignment with the pre-existing financially oriented constitutive rule.

If constitutive rules can be interpreted in new ways in periods of change, it can be questioned whether going from one interpretation of the constitutive rule to another can occur seamlessly. It is plausible that several interpretations of the constitutive rule might exist simultaneously. In the case of strategic change towards sustainability, one would be more related to profitability and one more related to sustainability. The idea that there can be different interpretations at the same time underlies the theoretical possibility of that there could be 'disharmony' between co-existing interpretations.

At the very definition of anchor practice lies the notion that anchor practices enact the constitutive rule (Ahrens, 2018; Carlsson-Wall et al., 2020; Swidler, 2001). In a setting where several different interpretations of the constitutive rule exist simultaneously, the question becomes which interpretation of the constitutive rule that the anchor practice enacts. We introduce the theoretical possibility of ‘strategic anchoring’ – that is, to introduce a new anchor practice or adapt an existing anchor practice to enact a specific interpretation of the constitutive rule. As Carlsson-Wall et al. (2020) have illustrated, anchor practices can be designed by managers, suggesting that strategic anchoring can be a conscious and active measure taken by managers to establish new interpretations of the constitutive rule in the organization, and by doing so, driving strategic change.

In what follows, a case study of the management control anchor practices in the R&D department of an organisation undergoing change towards sustainability is analysed to explore these developments and demonstrate how they play out empirically. But first, the research methods of this paper are presented.

3. Method

3.1. Research Design

The analysis of this paper draws on empirical data from a single case study of TransportCo, a manufacturer of heavy commercial vehicles that is undergoing strategic change towards sustainability. The single case study research design allowed us to study the role of MCSs in a company's strategic change in depth and detail, which is a strength inherent to the single case study methodology according to Dyer and Wilkens (1991). They argue that multiple case studies "tend to neglect the more tacit and less obvious aspects" (Dyer & Wilkens, 1991, p. 615). Capturing tacit and less obvious aspects was deemed important in our case in order to fully understand the role of MCSs in the process of strategic change towards sustainability. The case study approach is also noted by Eisenhardt (1989, p. 548-549) to be "particularly well-suited to new research areas or research areas for which existing theory seems inadequate", and thus appropriate for the observed need of novelty in our research area.

The choice of a single case study is not unique in the field of management accounting research in general or the strategic change domain in particular. Indeed, it has been the preferred research method for most strategic change researchers (see for instance Chenhall & Langfield-Smith, 1998; Contrafatto & Burns, 2013; Narayanan & Boyce, 2019; Simons & Dávila, 2020). The choice of a single case study was therefore seen as appropriate in order to increase comparability with previous research. Several strategic change researchers that have chosen the single case study design have conducted longitudinal studies (Simons & Dávila, 2020). However, due to the time constraint of this paper, an extensive longitudinal study was not an alternative. Consequently, the longer change process is captured through interviewees' recollections and by complementing them with secondary data.

The single case study design has enabled the use of management control anchor practices as method theory. As Ahrens (2018, p. 67) notes, "the question of which MCS and activities one should study is complicated by the fact that one cannot identify an organization's anchor practices before entering the field". Hierarchies and relationships

between different MCSs are complex and require an understanding of the MCS package that is both deep and broad. In other words, one must understand the subtle details of individual MCSs in the organisation as well as the broader package of systems. In hindsight, it would have been difficult to use the notion of management control anchor practices as method theory if we had not opted for the single case study research design.

3.2. Selection of Research Setting

The selection of TransportCo was based on several factors. First, the case company provides a suitable context for studying deep-seated strategic change towards sustainability. The study takes place four years after the appointment of a new CEO, an event often connected to periods of strategic change (Simons & Dávila, 2020). Indeed, the company has since then pledged to become a leader in the sustainable transformation of an industry with a major environmental impact. By committing to Science Based Targets, TransportCo must reduce its own CO₂ emissions by 50% to 2025, using 2015 as a baseline, and emissions from its products in use by 20% during the same time frame. It is evident that the implementation of the new strategy will require fundamental changes in operations and business models, as well as the development of new technologies. For example, the implied shift from combustion engines to electrical vehicles necessitates a reorganization of the service network.

Second, the R&D department was chosen as a focus in our study since R&D is shown to play a central role in strategic change towards sustainability in situations of high sustainability-related risk or opportunity (Bui & de Villiers, 2017). Similar preconditions at TransportCo made R&D an interesting context to conduct the case study in. Furthermore, the R&D department of TransportCo has historically been experts in continuous improvements but is now forced to shift focus to more novel innovation. This poses challenges for the division in terms of reorganisation and acquisition of new knowledge. In such a setting, the role of MCSs in catalysing or inhibiting change becomes particularly interesting.

Third, the case company offered generous opportunities for us to study the organisation. With a HQ in Sweden, we were able to access the facilities and conduct several

interviews physically. Furthermore, the company granted access to a broad variety of individuals, both within R&D and elsewhere in the organisation. Through the broad access to interview subjects we were able to gain an overview of the organisation necessary to identify important MCSs. We were also able to gain the depth necessary to understand the interactions between the constitutive rule, the new strategy, and MCSs in detail.

3.3. Data Collection

Our primary data source consists of 24 individual interviews in TransportCo that were conducted from September to December using a semi-structured approach. As the case study research rarely follows a linear course (Langely, 1999), it was deemed necessary to use a collection method that allowed for flexibility. The semi-structured interview format allowed us to explore areas that arose during the interview process.

The interviews were made with individuals from various departments in the organisation, focusing primarily on the R&D department but also including professionals from production, strategy, HR, and accounting. In some instances, multiple interviews were conducted with the same individuals to get clarifications or to further explore areas of interest that arose later in the interview process. An overview of the interviews conducted can be found in Appendix A. Interview questions were formulated to study MCSs in strategic change towards sustainability. The interviews followed a similar pattern where the interviewees began by describing their current role and career journey within the company, followed by questions about the structure and culture of the R&D department and the company. Next, the interviewees were asked about strategic change, management control practices, and how they were connected. A more detailed interview structure containing question topics is presented in Appendix B. All semi-structured interviews were conducted in Swedish, recorded and subsequently transcribed, and then translated into English to be used as quotes in the paper. The average length of these interviews was 62 minutes.

The interviews were complemented with additional sources of data, such as managerial documents, on-site observations, and publicly available information. These sources of

data, in particular the annual reports, were helpful in understanding how the strategy of TransportCo developed over time. The complementing sources of data were also used in order to better understand the statements and observations gathered in the interviews and to ensure an alternative perspective to which the interviews could be contrasted.

3.4. Data Analysis

We applied an abductive research approach when analysing the collected data, where data collection, analysis, and theoretical development emerged iteratively (Ahrens & Chapman, 2006; Dubois & Gadde, 2002; Lukka, 2014; Lukka & Modell, 2010). The approach largely followed the process described by Ahrens and Chapman (2006, p. 836) where “[p]roblem, theory and data influence each other throughout the research process. The process is one of iteratively seeking to generate a plausible fit between problem, theory and data.” The abductive approach has been used in research on management control anchor practices (Carlsson-Wall et al., 2020). As Ahrens (2018) notes, an issue with studying anchor practices is that it is difficult to identify the anchor practice before gaining an overall understanding of the MCS package. Indeed, when collecting the empirical material, we were initially guided by a broader interest in the role of MCS in strategic change towards sustainability, not focusing particularly on management control anchor practices. The focus on anchor practices emerged later in the research process.

The empirical data were transcribed verbatim and manually encoded using a qualitative software program (NVivo) according to emerging sub-categories that were broadly related to the theoretical domain. The data were independently coded by the researchers and any differences in coding were discussed until consensus was reached. The unit of coding was sections of text, rather than keywords or phrases. The coding was done iteratively as new categories emerged throughout the interview and coding processes. When the initial analysis was contrasted to the domain, a need to incorporate an additional analytical lens to interpret our data emerged. The process of the data analysis is broadly illustrated in Figure 1.

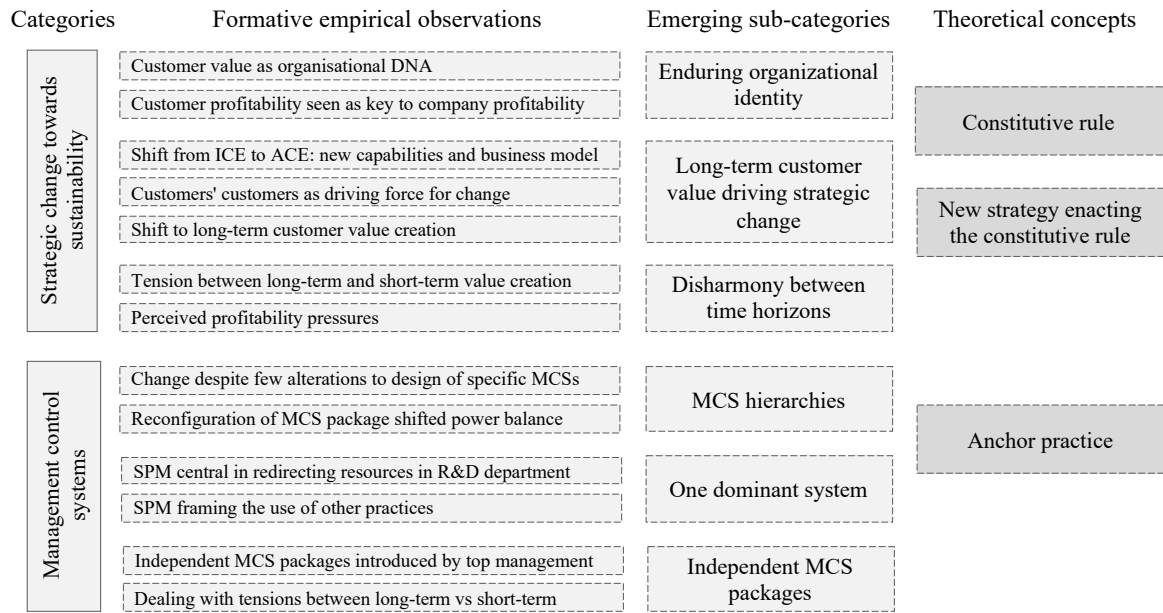


Figure 1. Process of data analysis

As the sub-categories emerged and exposed the existence of hierarchies and a stable organisational identity, the anchor practice literature rose as a useful tool for understanding the empirical material. The emerging sub-categories and the theoretical concepts that arose from the data analysis were the basis for the theoretical development in 2.3 and subsequently guided the empirical analysis in section 4. The first three sections in the empirical analysis relate directly to the constitutive rule, the new strategy and how it enacts the constitutive rule, and the new anchor practice. However, several limitations to the anchor practice were also identified in the empirical material, leading to the development of sections 4.4 and 4.5. In particular, the empirical material indicated that some R&D projects that were perceived as more long-term and had strong top management support nonetheless struggled with the existing R&D process. Therefore, section 4.4 presents one such project – FTR – to illustrate the complexity in enacting the constitutive rule. Lastly, section 4.5 elaborates on the limitations of the anchor practice by discussing the separate structures that were developed in the R&D department.

4. Empirical Analysis

4.1. Customer Value as the Constitutive Rule

[TransportCo] is an extremely customer-driven company. It is the first time I have come to a company where you talk so much about the customer. – Electrification Officer

TransportCo was founded in the late 19th century and has since grown to employ about 50,000 people and sell heavy commercial vehicles in 100 countries. The company is widely regarded as a premium brand, whose products are at the top price range in the market. The products enjoy large popularity amongst customers, despite the high prices. The premium positioning is motivated by selling highly customised products, with high lifecycle profit, and of top quality. When reflecting on the high price, a Strategy Manager comments:

[Many customers] have almost exclusively bought TransportCo despite that it is, according to most customers, by far the most expensive truck in the market. Why do they do that? Well, because they get the best life cycle profit [with us]. Because that is what they are looking for, if they can afford investing for the long term. /.../. Which means that fuel consumption, driver education, wear, reparation need, maintenance, and of course payload, such things that are important for the customer, are also important to us.

The company has historically been successful at delivering these properties in their trucks, supported by the firm's knowledge of internal combustion engines ('ICE'). For more than a century, the company has focused almost entirely on developing and producing trucks. While TransportCo does also produce other heavy commercial vehicles, these constitute a lesser part of the overall portfolio. This narrow focus has allowed TransportCo to develop, manufacture, and assemble virtually all components of their vehicles in-house. Historically, the R&D department has specialised in incremental innovation, where small but continuous improvements are made in existing components. As these improvements constituted natural small steps, there was little need for an elaborate R&D strategy. Instead, R&D projects were typically initiated bottom-up. The incremental innovation approach and bottom-up culture is tightly integrated with the company's lean philosophy inspired by Toyota.

The focus on continuous improvements and the narrow focus on trucks has allowed the company to successfully deliver state-of-the-art products. Indeed, TransportCo has gained multiple awards throughout the years for its traditional ICE vehicles. For instance, the trucks of the company have been awarded for being the most energy-efficient in the world consecutively for the past 4 years. When referring to being best in class, however, TransportCo does not mean purely technologically, but rather in terms of being the best solution for the customer. Several respondents highlighted that R&D projects where the customer is not in focus are unlikely to be continued. As an Electrification Director comments: “Virtually all the [R&D] presentations I see focus on that the customer is going to make more money or get a better product.”

The customer focus is not only seen in R&D, but in all parts of the organisation. In the annual reports, for instance, it can be read that “[TransportCo’s] business model is about improving our customers’ profitability based on our deep understanding of their needs.” The notion of customer focus is a central part of TransportCo’s identity, that is stressed by all respondents, and which guides decisions across the entire organisation. As such, the customer focus represents the constitutive rule of TransportCo (Ahrens, 2018; Carlsson-Wall et al, 2020; Swidler, 2001). This identity is deeply rooted in the individuals of the company. Throughout the interviews, employees at TransportCo would refer to the company as ‘us’ or ‘we’, instead of using terms like ‘the company’, ‘top management’, or similar, more distancing, terms.

According to several employees, the constitutive rule of TransportCo is tightly connected to TransportCo’s own profitability. Within the company, there is a conviction that customer focus is the best way to accomplish profitability. The customer focus is considered to be central in enabling the company to deliver black numbers consistently for almost a century. A Strategy Manager describes the relationship between the constitutive rule and profitability as “They get the best life-cycle profit with us. /.../. And their profit becomes our profit”. In that sense, the constitutive rule can be interpreted to imbed and represent financial objectives. This is similar to the case company in the study of Narayanan and Adams (2017), where profitability was deeply integrated with the ‘ideological core’ of the case company. However, as discussed by an

Electrification Director, there are also situations where the customer focus can directly stand against the profitability ambitions of the firm:

I can definitely imagine and see projects that we invest in which are good for the customer but bad for TransportCo. /.../. But that we would allow a product that the customer would make less money on, that I have a hard time seeing.

In other words, the constitutive rule in the case of TransportCo should not be seen as synonymous with profitability. Instead, the constitutive rule seems to act as an extension to profitability, that aids the profitability of TransportCo as a general rule, but where it is not always the case. The constitutive rule of TransportCo is indicative of an additional complexity compared to the line of reasoning of Narayanan and Adams (2017), where the core of the case company was more strictly related to profitability.

As a part of the customer value focus of TransportCo, the company has long focused on decreasing fuel consumption of its vehicles. The company, which had continuously improved ICE technology for over a century, has been highly aware of how energy efficiency can be directly translated into higher customer profitability. So, when environmental sustainability gained awareness among legislators and other stakeholders, TransportCo was positioned as an environmental efficiency leader in its industry. A Strategy Manager recalls: "[In] 1997, TransportCo received the Great Energy price (Stora Energipriset) in Sweden for its energy savings. I was involved and pushed for [further energy savings] for eight years, from 2002 until 2010." However, while environmental aspects were taken into consideration already in the 1990s, and before then as well, it was a technical issue of emission control, and not yet the central strategic issue it would become.

4.2. Reinterpreting the Constitutive Rule through Strategic Change

Now it is more uncertain. What solutions do customers want? – Research Manager

During the 2000s, it gradually became clear for TransportCo that a combination of climate change, urbanization, and new technologies had the potential to reshape the heavy commercial vehicle industry. After personal vehicle manufacturers had begun to

invest heavily in hybrid electric technology in the 1990s, TransportCo followed suit by introducing a hybrid technology division in the mid-2000s. Hybrid technology had the promise of reducing CO₂ emissions during short-haul travel but was not yet viable for heavy commercial vehicles. One of several challenges with the electric technology was that the batteries required were extremely heavy, impacting the payload of the vehicles. As a result, the internal combustion engine was expected to have a considerably lower cost of ownership compared to hybrid engines for many years to come, which was translated into the belief that it would superiorly cater to the customers' needs.

However, Scania's traditional perception of customer needs was questioned when the dynamics of the downstream value chain showed signs of change. TransportCo's direct customers, consisting mainly of large trucking companies that deliver system solutions to their own customers, had traditionally been the perceived target customer. Now, as the customers' customers were making increasingly serious efforts to become more sustainable, they approached TransportCo directly to find solutions, effectively broadening the definition of customers for TransportCo. A Strategy Manager recalls an experience from 2010:

I visited a customer in Chile, which was a customer driving trucks for Chile's largest brewery. And this is interesting, because their customer was not our customer there and then. But they decided that they would decrease their CO₂ footprint. So they thought: 'how is this going to happen? And what can we do?' The person responsible for logistics at the brewery got the same assignment as everybody else, which was to decrease the footprint by 20% before 2020. He didn't know how to manage this /.../ and then he sees a billboard by the side of the road. It says: 'TransportCo offers ecolution'. So he calls TransportCo's own distributor in Santiago and wants to learn about what ecolution is.

Similar to the case of Carlsson-Wall et al. (2020), the widened view of the target customer led to increased complexity in the enactment of TransportCo's constitutive rule. 'Total cost of ownership' was challenged by alternative value measures, such as 'total ownership economy', which incorporates indirect costs of the vehicle. By collaborating with customers' customers, TransportCo enacted the constitutive rule also with highly innovative R&D projects. In 2013, the company initiated a research project to develop its first electrical bus. The project involved only a handful of the several thousand engineers in R&D and was initially met with disapproval from parts of the department. However, as the project proceeded the attitude slowly changed. A Research Manager describes the event:

And so, when we were to construct that first electrical bus there was a powerful opposition internally because ‘no, we are not going to work with electric vehicles.’ That was the general perception. But then, during the time period that we built it, things started to change externally around TransportCo, and that was when – in my opinion – it became obvious that we had to turn a page and start investing in these things.

Until the mid-2010’s, the company had gradually shifted towards sustainability through shifting attitudes and bottom-up R&D projects like that of the electrical bus. The process intensified greatly towards the end of 2015, when a new CEO was appointed at TransportCo. Shortly after in 2016, the CEO announced his vision for the corporation as “*driving the shift towards a sustainable transport system*”. The vision entailed to “*create a world of mobility that is better for business, society and the environment*” and was broken down into a strategy of three pillars: energy efficiency, alternative fuels and electrification, and smart and safe vehicles. The introduction of the new strategy was a public commitment to take a proactive rather than reactive role in the transformation from ICE to automated, connected, and electric vehicles (‘ACE’). A technological shift of this magnitude meant that new organisational capabilities needed to be acquired and that existing capabilities would become redundant. The company’s operational focus of continuous improvements that had constituted the bulk of R&D projects needed to be shifted towards more radical innovations using new technologies.

While the development leading up to the launch of the new strategy was gradual, interviewees described its introduction as the source of accelerated change in the company and the implementation of a new business strategy that involved an unprecedented degree of uncertainty for the company. There existed no single solution, and the views on the most promising technologies for delivering the highest customer value differed between companies as well as individuals. A Research Manager describes:

Now we have to enter the more innovative part of our world; try to find innovations and scale them so that they eventually can become our new core. This is a challenge. Historically, we didn’t need to be so incredibly good [at this], because customers have often adopted what we have produced, and we have known beforehand what the customer needs – nearly better than the customer itself. Now it is more uncertain. What solutions do customers want?

The uncertainty about customer demand across time led to a distinction between what created customer value now and what enabled customer value in the future. It was a distinction that had not existed before, since customer characteristics had been expected to be stable across time. Now, however, the two separate aspects needed to be managed at the same time by the organization. The pre-existing product lines had to be improved to cater to current customer needs at the same time as new solutions had to be explored to build capability to cater to future needs. The new view on customer value constituted a further reinterpretation of the constitutive rule. Thus, TransportCo's new interpretation of customer value as the constitutive rule both had a broadened view of *who* the customer was and distinguished between the *existing* and the *future* customer.

The emerging focus on the future customer did not only mean the development of new technologies, but also the development of new business models. Today, one of the most profitable parts of the business is the aftermarket, including maintenance and repair of sold vehicles. TransportCo offers one of the industry's widest service network, which employs more than half of the company's staff. Since electric vehicles require less maintenance, the source of profit will need to change. Before that happens, the old business needs to finance the new business. In order to maintain the same level of profitability during the shift, the traditional business has to significantly increase its profitability to support the new. A Corporate Controller explains the pressure on profitability:

We have an industry-leading profitability, and it is expected to be sustained year after year after year after year... If you were more radical, you would say that 'no, as we are in a major transition, we get to accept a very different level of profitability during a few years in order to exit as industry leader again on the other side'. But I would say that this is only a theoretical reasoning, it does not really work in practice. Every year still has to be good.

The continued requirements on profitability despite large investments in new sustainable technologies were partially driven by an internal pride of the heritage of large financial successes but were also driven by owner pressure. Some studies argue that sustainability should be value creating (Bush, 2020; Fama, 2020; Ferrel et al., 2016; Lipton, 2020; Malik, 2015; Riccaboni & Leone, 2010), so that there should be no contradiction between investing in sustainable technology and maintaining profitability.

However, the quote above questions the simplicity of such an argument by highlighting tensions between short-term and long-term profitability that stem from sustainability.

Emphasising TransportCo's commitment to a strategic change towards sustainability, the company announced in 2019 that it aimed to set sustainability targets in accordance with the Science Based Target Initiative (SBTi)². The sustainability targets were translated into operational goals, such as the number of electric vehicles to be sold each year. For each diesel-run vehicle on the road that is replaced by a vehicle running on renewable electricity, it would correspond to a certain reduction of CO₂ emissions. A Corporate Controller emphasises how the goals put additional pressure on R&D: "The perhaps most important determinant of the company's ability to deliver on this is tied to how the research and development portfolio is prioritized."

4.3. New Anchor Practice redirecting R&D Resources

[The SPM] has played a crucial role [in the strategic change]. I don't believe we would have been able to make this transition if we had not been so clear regarding that we are going to allocate money and resources to a specific area. [Without it] we would have continued to drive along old tracks. - R&D Controller

As the new strategy emerged, it became clear that TransportCo lacked the competences necessary for delivering ACE products. R&D thus gained a central role in the strategic change as the function that must develop the necessary technology for the shift towards sustainability. As a result, the R&D department had to change focus from incremental innovation to more radical innovation. However, this was easier said than done, as one Electrification Officer describes:

[The heavy commercial vehicle industry] is very competence heavy and prone to slow changes. Then, suddenly, you enter a situation where you don't have the competence in all areas and where [development] is supposed to move very quickly. This is extremely challenging.

²The SBTi is a collaboration between CDP, the United Nations Global Compact (UNGC), World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). It has the purpose of mobilising the private sector to take the lead in achieving the Paris Agreement goals of limiting global warming to 1.5°C above pre-industrial levels.

TransportCo had a linear product development process, from concept development to product development, commercialisation, and follow-up, that allowed the company to streamline the continuous development process. Before the strategic change was initiated, R&D was allocated a single lump of resources from the overall company budget. Projects were funded directly from this lump of funds, based on the merits of each project, through the aforementioned linear product development process.

Proposed projects needed to correspond to different roadmaps. The roadmaps were strategically guiding documents that assessed what competences TransportCo possessed in different areas and how these needed to be developed over time to satisfy customer demands as well as legal requirements. There were different kinds of roadmaps for different areas of R&D. The so-called Product Roadmaps (PRMs) mostly outlined what was required going forward in terms of components of the trucks, not particular technologies such as electric or biogas, since the ICE technology was so dominant. Projects that fit into the PRMs were assessed pre-initiation based on financial measures such as net present value calculations (NPV). After projects were initiated, they were followed up and evaluated throughout the linear development process. This was done mainly through three measures: time, money, and performance (technological traits). In the early research division, where a larger variety of technologies (including ACE technologies) had been researched for a longer period of time, Technology Roadmaps (TRMs) were instead used, which focused on different technologies.

In an environment of slow and incremental change within the same (ICE) technologies the company was already proficient in, these MCSs and the overall R&D process had been sufficient to drive the required technological advancement. In the words of a Research Manager:

[The R&D process] is a very effective filter. /.../. You can be very effective in how you develop new components and adjustments of existing products and it helps TransportCo make a lot of money and so on. /.../. But it is not particularly helpful in a changing world.

As the new strategy demanded entirely new technologies to be developed, there came a need for a method to prioritize resources in a more structured way. Since the R&D was structured so that projects were almost exclusively initiated by the engineers in the line

organization, their expertise in ICE technology and focus on lifecycle profit naturally created inertia in the strategic change process. As a response to the need to translate the strategic change into action, an interactive budgeting forum – called the Strategic Portfolio Meeting (‘SPM’) – was introduced in the R&D department. The forum gained the role of dividing the R&D budget into several ‘buckets’ according to the new strategy. Following the example of the early research division, which had trialled the role of a separate bucket to safeguard resources for more novel research, new buckets were introduced that roughly represented technological areas, such as electrification, alternative fuels, and powertrain. A Commercialisation Manager describes the new forum and the reason for its implementation as follows:

[The bucket system] has emerged in the last years. What could it be? Four, five years or something like that. And it came from [the new strategy] and that we had to steer more [towards the strategy] than we had done before. Before, we had a more homogenous structure /.../, we made cabin projects, we made engine projects, and so forth, and over time we got somewhere [technologically]. But now we needed to redirect [the organisation], and then we needed tools to split it [the R&D projects] up.

Each bucket was fully responsible for allocating its funds to projects related to the area of responsibility of the bucket, using the same MCSs (PRMs, NPV, etcetera) that had been used before in the overall R&D process. The buckets had direct links to different time horizons of the new strategy: out of the eight buckets, three buckets related to ACE technologies, two related to ICE technologies, and three were connected to technologies in between these two. In this way, the SPM was a tool to steer the organisation towards the new strategy by ensuring that sufficient resources were allocated to these technologies – a task the system has been successful in, as an Electrification Officer explains:

The bucket that I work with is the electrification bucket, and we are steadily getting more and more financing, year after year, and there are other buckets that are steadily getting less and less funds. And this follows the strategic development of the company.

Today, the largest bucket is indeed the electrification bucket, up from quite small numbers when SPM was first introduced. This hints about the effectiveness of the SPM in steering towards the new strategy, despite that processes *within* buckets for project

proposal, evaluation, and continuation or possible dismissal have remained largely the same. By steering towards the new strategy, SPM was central in enacting the new interpretation of the constitutive rule. The centrality of a single MCS in strategic change towards sustainability stands in contrast to the findings of Narayanan and Boyce (2019). While the authors convey that a high degree of alignment between multiple MCSs and strategic priorities is important to promote action towards sustainability, the role of SPM in TransportCo suggests that the alignment between *certain* MCSs and strategy is particularly important.

Underlying the findings is how the introduction of the SPM changed the configuration of the MCS package, allowing the SPM to shape the agenda also for pre-existing systems. While most of the other systems were largely unchanged in terms of their design and purpose, they found themselves working within the limits of the buckets. In the words of a corporate controller: “It is the same methods, but of course, we see this in another way now”. For instance, while the PRMs and TRMs still outlined needs for the development of components and technologies, it now did so within each specific bucket. As the ACE buckets grew, the roadmaps relating to these technologies became more important. Similarly, financial models were also designed in the same fashion as before, in terms of calculation methods and applied discount rate, but were now used to prioritize between projects within a bucket. An R&D Controller explains:

[Discussions of NPV] are not held [in the SPM]. We do that on a project level, to prioritize within a bucket. /.../. We don’t have an evaluation of profitability in terms of what a bucket delivers or provides as an overall NPV. /.../. Instead, we discuss more strategic aspects [at the SPM].

By limiting the use of the NPV calculations to within buckets, the introduction of SPM ensured that while financial objectives were taken into consideration, they affected the prioritization between projects that are by nature already (increasingly) sustainable. So, while the designs of these MCSs were typically unchanged, the way they related to other systems and their usage became different after the bucket system was introduced.

By enacting the new interpretation of the constitutive rule and by shaping the agenda of other MCSs, the SPM became an anchor practice in the R&D department (Ahrens, 2018; Carlsson-Wall et al, 2020; Swidler 2001). As such, it played a central role in not

only controlling the implementation of the new strategy and enacting the new interpretation of the constitutive rule, but also enforcing the new interpretation on other MCSs in the department. The relationship between the SPM and other MCSs in the R&D department was not merely one-way, however, as some other MCSs also impacted the SPM. For instance, the roadmaps of individual buckets were used as input in the SPM. A Commercialisation Manager describes how the roadmaps are used in the SPM:

[The roadmaps] become input one level up in the balancing [of the buckets] /.../. When balancing, [we need to] understand what we get if we budget this many funds, what do we get for it? /.../. It is in this sense that SPM uses the [roadmaps], while the [bucket] itself must deliver on what is said.

Indeed, roadmaps are discussed thoroughly in the SPM. By gaining an understanding of current competences, customer need, and the roadmap ahead, respondents argue that the SPM can make more well-informed budgeting decisions. And by knowing the project portfolio of each bucket, the SPM can see what projects would be unprioritized or prioritized within a bucket at certain funding levels for that bucket. In such a way, subsidiary practices in the R&D department also ‘flesh out’ the anchor practice, as described by Ahrens (2018).

However, while the SPM, through its central position as an anchor practice, had been successful in redirecting the R&D project portfolio toward the ACE technologies, several managers stated that it has failed to fully bring in the long-term perspective of the new strategy. In other words, the anchor practice had been successful in enacting parts of the new interpretation of the constitutive rule, but, as can be seen in the case of bolder long-term projects, the old interpretation lingered on in some parts of the R&D department, creating disharmony between the interpretations. We turn to such a project next.

4.4. Disharmony in Interpretations of the Constitutive Rule

Our CEO has a vision beyond 2030. Who is the customer? The customer for FTR doesn't exist today. – Project Manager for FTR³

³ The project has another name in reality.

Several interviewees described that for novel projects, it could be a struggle to get departments to prioritize them over more commercially oriented projects. One main reason for this difficulty was the structure of the R&D department, which was – and still is – organized as a matrix organization. Projects were managed as collaborations between departments of the line organization, where each department focused on a specific technological component of the truck or bus. This meant that a single project could require the involvement of many departments and managers, which in turn were working on multiple projects. The opportunity to implement a new project thus depended on that capacity could be freed up in every required department. The Project Manager for FTR explains:

I think that nine departments were involved in [the project] and just over thirty different groups. So that is thirty group managers that need to be convinced to participate, although they already have work to do for commercialisation projects. Practically all of them do. And then this [project comes along], and the thirty group managers should say ‘fine, I will squeeze this project in, despite that it doesn’t look like anything else that we do in my group’. This creates difficulties.

The project the research manager is referring to is a project called ‘FTR’. In conjunction with the appointment of the new CEO, the decision was made to build a battery-driven electric and autonomous concept vehicle that would envision the future of sustainable transport in cities beyond 2030. In contrast to the vast majority of R&D projects, the FTR project was a top-down initiative. The idea was initiated and sponsored directly by the CEO. The project was not incorporated as part of the main R&D structure but instead led through a separate process by the early research division. This meant that the project resulted in a yearly deviation in the total R&D budget, a deviation that was approved by the CEO each year. The Project Manager for FTR explains one reason behind this strategy:

We didn’t go through the normal process, [because] only the administrative processing time for a project is three years. Then, suddenly, all projects take at least five years to complete, and at that point [the FTR project] would already be outdated.

The project was motivated by the new interpretation of the purpose of customer value that also took the needs of future customers into consideration. It could be customers

five years into the future, but also ten, twenty or thirty years. Strategically oriented top managers believed that creating a concept vehicle would accelerate knowledge building within R&D but also influence the direction of the industry and enable TransportCo to take a leading stance in the transformation.

While the FTR project was not part of the regular R&D process, it still had to draw from the same resource pool as regular projects. The complexity of the project meant that multiple divisions in R&D would have to be involved and that multiple group managers had to coordinate the project. Even though the project was sponsored directly by the CEO, group managers expressed that they found it difficult to prioritize it ahead of projects that were closer to market. An Early Research Director describes that this caused problems in realising the project:

I can say that it was not easy to build it [the concept vehicle], even though the CEO said 'this is what we will do'. When we get down to the organisation, my project leader is met with 'no, we already have other things to do'.

From the reaction of the group managers, there were signs that the new future-oriented interpretation of the constitutive rule was not equally strong across all parts of the R&D department. The launch of the SPM and its bucket system had enabled a reorientation to more future-oriented technologies, but it allowed for different perceptions on how projects were to be prioritized *within* these technologies. Since the same people in the line organization would, often simultaneously, work with future-oriented research and short-term product development within the same technological area, they frequently had to prioritize one type of project or task over another. This, interviewees argued, created a systematic downgrading of long-term research projects. The Project Manager for FTR reflects over why:

You are brought up at TransportCo with a certain mindset, so it becomes difficult to think differently. [In the line organization] you are used to conducting commercialisation projects. Then you think about today's customers and their existing needs.

The engineers in the line organization seemed to have interpreted the constitutive rule differently than the top managers and the support organization in R&D. From the view of the line organization, the existing customer triumphed the future customer. As

indicated by the example of FTR, the coexistence of the two interpretations seems to have created disharmony. This can be underlined by the fact that the FTR project was a top-down initiative rather than a bottom-up initiative. The example of FTR shows that the disharmony between interpretations resulted in tensions and that the management of TransportCo had to provide support (including taking responsibility for financial deviations) to FTR in order for it to be realized.

4.5. Promoting the New Interpretation through Separate MCS Packages

The FTR project is an example of a project that did not follow the traditional structure of the R&D department. It was not the only one. In the past years, the R&D department has set up multiple structures separate to the traditional R&D project process, in order to develop more long-term projects. Another such example is the internal incubator, a division separated from other R&D processes but with tight connections to the early research and innovation division at R&D, which is seen as the most long-term division of the R&D department. It sprang from a research project done in 2016, that was launched to study the internal processes at R&D. A manager that participated in the project describes its findings:

The conclusion of that project was that /.../ there wasn't much room for much more than what is going to be implemented in maybe a 2-3-year horizon, maximum. Simply, it was harder [internally] to motivate more forward-looking concepts.

The project resulted in what became the internal incubator. It was subsequently pitched to the top management in 2018, where it was approved with the purpose of developing more long-term projects with a more 'entrepreneurial approach', connected to the more 'nose heavy' ambitions of the top management. The decision to develop the internal incubator as an independent structure was not obvious from the beginning – in fact, it was first considered to include it in the regular R&D project development structure. A manager at the internal incubator describes the reasoning behind the decision of having it separate:

When we were tasked with setting up the [internal incubator] and drive entrepreneurial projects that were entirely independent and didn't need to relate to any other roadmaps than their own, then we

sat down and looked at okay, what parameters in the [overall R&D structure] would we have to change for it to be accepted /.../. And then, [we realized] it would be so many parameters that it was hard to motivate starting in that end /.../. And then, we thought it would be better to simply set up something separate.

Not taking into consideration any roadmaps or NPV calculations of the larger R&D department, the internal incubator constitutes a separate MCS package in its own right (Malmi & Brown, 2008), disconnected from the main MCS package of the R&D department. The internal incubator received funding from multiple sources in the organisation and became a haven for projects that were not accepted elsewhere, but that the top management still deemed interesting for the new strategy of the firm. With close cooperation with the early research division, the department was able to develop projects that were unique for TransportCo, especially in terms of the level of innovation and the long-term perspective.

Apart from the internal incubator, there were other examples of separate structures created for the purpose of fulfilling the new strategy in ways that were not possible through the main R&D process. One such example was a subsidiary of TransportCo that provided transportation solutions to the customers of the customers of TransportCo. The subsidiary was created in 2016 by the top management of TransportCo to drive the new strategy and understand the customers' customers better. A Business Development Manager involved in the subsidiary describes the importance of having the subsidiary separate:

We see now as we are operating [the subsidiary] that control systems and accounting systems [of TransportCo] don't work. /.../. Typically, the line organisation [of TransportCo] wants you to do as in the overall TransportCo /.../. But since [the CEO of TransportCo] is Chairman of the Board [of the subsidiary], we are allowed to truly think as if we were an independent company. /.../ We think that this is a quite large indicator of that we must change [TransportCo] in the future as well.

While taking different forms, the common denominators of the separate structures that have been created in TransportCo the past years (that the internal incubator and the subsidiary are examples of) is the ambition to not be limited by the main R&D process, that they were either developed by the top management of TransportCo directly, or tightly together with them, and that they constituted separate MCS packages. Malmi and Brown (2008) define a MCS package as “a collection or set of controls or control systems”. By their independent structures, both the internal incubator and the subsidiary

company constituted separate collections of MCSs. The fact that such separate packages needed to be developed in order to promote the long-term ambitions of the new strategy shows that the anchor practice was unsuccessful at fully enacting the new interpretation of the constitutive rule, and thus of fully implementing the new strategy. Not only are the examples of the internal incubator and the subsidiary company indicative of the limitations of the anchor practice, they also show that managers can effectively circumvent an anchor practice (and other MCSs in the package) by setting up separate packages.

The creation of these separate MCS packages show that while the decision to add SPM on top of existing structures and without modifying the design of other MCSs did lead to a significant reprioritisation of investments to the ACE technology and mid-term investments, SPM was not fully able to fully overcome inertia in the R&D process.

5. Discussion

The empirical case of TransportCo generates several insights that are interesting to discuss based on prior literature. First, we develop the notion of ‘strategic anchoring’ as a link between management control literature on strategic change towards sustainability and the notion of anchor practices, that shows how MCS packages can be reconfigured to drive strategic change. Second, we discuss the existence of disharmony between coexisting interpretations of the core organisational identity and relate it to previous findings in anchor practices literature as well as to the ongoing debate on the compatibility between sustainability and profitability.

5.1. Strategic Anchoring – Configuring MCS Packages for Change

Management accounting literature on strategic change towards sustainability recognizes the capability of an organisation to mobilize change efforts to be dependent on how MCSs operate as an interrelated ‘package’ (Crutzen et al., 2017; Gond et al, 2012; Narayanan & Boyce, 2019). Narayanan and Boyce (2019) convey the importance of alignment between MCSs and a sustainability-focused strategy in order to promote action. At the same time, the observed rigidity of an existing configuration of MCSs means that reconfiguration is only implemented gradually in a situation of strategic change towards sustainability (Crutzen et al., 2017; Narayanan & Boyce, 2019). So, in an imperfectly co-ordinated MCS package, where not all MCSs can be configured at the same time, how can change occur? We introduce the notion of MCS hierarchies, which has been studied in other management accounting research domains through the identification of so-called ‘anchor practices’, to enhance the understanding of the role of MCSs in strategic change.

Carlsson-Wall et al. (2020) convey that strategies can be understood as the various enactments of an organization’s constitutive rule, which in turn can be viewed as the organization’s enduring identity. In the case of TransportCo, the constitutive rule was to offer the best value to its customers. Similar to Carlsson-Wall et al. (2020), we could

observe how the increasingly uncertain conditions under which the company operated led to greater complexity in its enactment. Although the essence of the constitutive rule was constant over time, the complexity stemmed from the emergence of additional *interpretations* of the constitutive rule. In addition to the *direct* and *existing* customer, the identity of the customer was also interpreted as the *indirect* customer and the *future* customer. TransportCo's process of strategic change towards sustainability was tightly connected to the emergence of a new interpretation and the new strategy enacted the new interpretation of the constitutive rule.

The strategic change of TransportCo put large pressure on the R&D department, which had to develop new capabilities in ACE technology and go from incremental to radical innovation. In order to drive the strategic change, the configuration of management control systems in the department was changed. The change consisted of the introduction of a completely new control system: an interactive budgeting forum (referred to as SPM in this paper). The addition of a control system rather than the replacement of an existing one highlights the rigidity of the existing MCSs that is observed by Crutzen et al. (2017) and Narayanan and Boyce (2019). Nevertheless, the SPM gained a central, controlling, and determinative role in the MCS package of the R&D department, thus acting as an anchor practice (Ahrens, 2018; Carlsson-Wall et al., 2020; Swidler, 2001).

According to Ahrens (2018) and Carlsson-Wall et al. (2020), anchor practices are shown to provide structure in the organization by enacting the constitutive rule. In the case of SPM, we observed how the introduction of the new anchor practice facilitated the introduction of the new interpretation of the constitutive rule. The SPM was successful in redirecting the R&D investments to the new ACE technologies and thus contributed to the strategic change towards sustainability. Today, electrification is the largest area within the R&D budget of TransportCo, a feat that most respondents credited to the SPM. Interestingly, the redirection of R&D investments was made without further changes to the design of MCSs. As a result, other MCSs were imperfectly aligned with the new strategy. However, while the pre-existing systems were largely unchanged in terms of their design and purpose, they started to be used differently following the launch of SPM. The anchor practice impacted other MCSs by

limiting the contexts in which they were used, and thus exerted control over them. The other MCSs became hierarchically inferior to the SPM, becoming ‘subsidiary practices’ (Ahrens, 2018; Carlsson-Wall et al., 2020) within the MCS package of the R&D department.

We argue that these empirical findings indicate the centrality of anchor practices in facilitating or hindering strategic change towards sustainability. The crucial role of SPM in actualizing the strategic change within R&D highlights that management control systems are not equal. Rather, MCS packages are hierarchically arranged configurations, where some practices control or ‘anchor’ subsidiary practices, to the constitutive rule (Ahrens, 2018; Carlsson-Wall et al., 2020). The case of TransportCo illustrates that anchor practices can be designed to facilitate the enactment of new interpretations of the constitutive rule. By anchoring subsidiary practices to the new strategy that enacts these interpretations, creating such anchor practices can have a powerful impact on change. We refer to this phenomenon as ‘strategic anchoring’.

As illustrated in the case of TransportCo, the initial change materialised despite no further adjustments to the other MCSs in the package. The strategic anchoring was sufficient, at least for initial change, indicating that the potential of such conscious strategic anchoring could be large. As such, our findings contribute to previous management accounting literature on strategic change towards sustainability by adding the notion of hierarchies as a critical perspective that has been systematically overlooked (see e.g. Arjaliès & Mundy, 2013; Crutzen et al., 2017; Gond et al., 2012; Narayanan & Boyce, 2019). Possibly, the lack of attention to hierarchies could be one reason as to why prior literature has come to such different conclusions on the role of MCSs in strategic change towards sustainability.

In their study, Carlsson-Wall et al. (2020) found that anchor practices can be designed rather than merely emerging as a kind of ‘deus ex machina’. Similar to the case of Carlsson-Wall et al. (2020), the anchor practice in our case emerged in connection to a new strategy. In our case, however, the creation of the anchor practice was a conscious choice that was done with the explicit ambition of implementing the new strategy. We thus build on the findings of Carlsson-Wall et al. (2020) by highlighting that the creation of an anchor practice can be a powerful tool for driving strategic change – one

that is within the reach of top managers. As such, our findings also contribute to Carlsson-Wall et al.'s (2020, p. 22) call to further research on "how anchor practices actually come about".

5.2. Dealing with Disharmony

While our findings are similar to those of Carlsson-Wall et al. (2020) in that the constitutive rule of TransportCo became enacted in new ways, we found that the introduction of the new interpretation was not seamless. Although the mid-term sustainability dimension of the new strategy became widely accepted in the organisation, the long-term dimension of the strategy was not. In particular, we found that the new interpretation (of longer-term customer value) was enacted by the SPM, the old interpretation (of shorter-term customer value) endured within buckets to a large degree. Within buckets, the old interpretation was present in certain projects, divisions, and individuals, and resulted in that shorter-term projects were often prioritized before longer-term projects of the same buckets.

In other words, there were not only different interpretations of the constitutive rule in different periods of *time* (as was the case in Carlsson-Wall et al., 2020), there were also different interpretations in different *places* simultaneously in the organisation. Adding to Carlsson-Wall et al.'s (2020) findings that strategies can lead to different ways of enacting the constitutive rule, our findings show how there can be 'disharmony' between different interpretations of the constitutive rule. Several adherents to the new interpretation showed irritation of the endurance of the old interpretation. On several occasions, top managers introduced new structures as attempts to promote the new interpretation of the constitutive rule. These structures were independent of the main R&D process, constituted separate MCS packages, and were populated by individuals that shared the new interpretation of the constitutive rule. Through this design, these structures were able to produce more long-term and innovative projects than the main R&D process.

The examples of manager action to set up separate structures to promote their interpretation indicates that the process of introducing new interpretations of the

constitutive rule is dynamic, complex, and related to power structures in the organisation. As the “DNA of an organisation” (Carlsson-Wall et al., 2020), interpretations of constitutive rules are deeply embedded in MCS, the culture of the organisation, and individuals’ mindsets. As such, new interpretations are not accepted overnight or implemented “with the click of a button”. By showing that multiple (conflicting) interpretations of the constitutive rule may coexist at the same time and that the process of introducing a new interpretation is complex, we contribute to the understanding of “the relationship between an organization’s constitutive rule and the /.../ strategies to enact this rule”, thus answering the call for research of Carlsson-Wall et al. (2020, p. 22).

The difficulty of introducing the new interpretation of the constitutive rule may stem from that the constitutive rule of customer value was tightly connected to profitability. Indeed, the focus on customer value was seen by employees as the reason for TransportCo’s financial success. The new interpretation implied major challenges in sustaining historical profitability levels. Rather, the new interpretation of the constitutive rule was founded on the belief that enabling competitiveness in the long term was done through a sustainable business. The indirect link between *future* customers and the profitability agenda of the company was not fully compensated by the anchor practice, allowing subsidiary practices to promote shorter-term ACE projects. By showing how the new strategy was difficult to implement in situations where sustainability was not in line with short-term profitability, we support the findings of Narayanan and Boyce (2019) and Contraffato and Burns (2013), that claim that sustainability-related action is only supported when it be translated into an improved financial outlook.

However, at the same time, our findings show that part of the misalignment between profitability and sustainability can be *mediated* by the constitutive rule. In our case, the new interpretation of the constitutive rule reduced the level of conflict between sustainability and profitability through shifting the discussion towards profitability in the long run. The apparent mediating role of the constitutive rule adds another dimension to the connection between strategy and institutional logics used as a theoretical lens by Narayanan and Adams (2017) and Narayanan and Boyce (2019).

Indeed, our findings indicate that the connection between the action of individuals and the profitability agenda of an organisation might not be as direct as the studies referred above indicate.

6. Conclusion

This paper has aimed to study the role of MCS hierarchies in periods of strategic change towards sustainability. By drawing upon the notion of management control anchor practices of Ahrens (2018) and Carlsson-Wall et al. (2020) in the analysis of the heavy commercial vehicle manufacturing company TransportCo, we have developed several insights that can aid advancing the way MCSs can be understood in periods of strategic change. Previous research within the field has helped understand how different types of MCSs (e.g. interactive and diagnostic) can play different roles in strategic change (Gond et al., 2012), that alignment between MCSs and strategy are important for strategic change (Narayanan & Boyce, 2019), and that the capability of an organisation to mobilize change efforts is dependent on how MCSs operate as an interrelated whole (Crutzen et al., 2017; Gond et al., 2012; Narayanan & Boyce, 2019). However, previous research has not been able to explain what determines whether a particular configuration of MCSs will facilitate or inhibit strategic change towards sustainability. Our empirical findings indicate that previous researchers have overlooked the question of hierarchies within MCS packages, implicitly assuming MCS equality. We contribute to the literature on strategic change towards sustainability as well as to management control anchor practice theory through two major findings.

First, we contribute to management accounting literature on strategic change towards sustainability by illustrating how hierarchies in MCS packages can play a central role in driving strategic change. In the case of the R&D department at TransportCo, a newly introduced interactive budgeting forum took a dominant role in the wider MCS package, becoming an ‘anchor practice’. By establishing the agenda of the new strategy in other (‘subsidiary’) MCSs, the interactive budgeting forum enacted a new ‘interpretation’ of the TransportCo’s ‘constitutive rule’, which can be understood as the rule that defines the character of the company (Ahrens, 2018; Carlsson-Wall et al., 2020; Swidler, 2001). In the case of TransportCo, the rule was ‘customer value’, and the new interpretation included indirect and future customers in addition to direct and existing customers. We refer to the use of anchor practices in supporting a new strategy as ‘strategic anchoring’. In the case of TransportCo, the strategic anchoring was largely successful in redirecting R&D resources towards the new strategy and thus contributed to the new strategy. By

illustrating the potential of strategic anchoring in driving strategic change towards sustainability, our findings indicate that prior literature (see for example Arjaliès & Mundy, 2013; Crutzen et al., 2017; Gond et al., 2012; Narayanan & Boyce, 2019) has overlooked the critical perspective of MCS hierarchies to understand the role of MCSs in promoting sustainability. While the alignment of MCSs and strategy may be important to enforce action (Narayanan & Boyce, 2019), the distribution of power between MCSs decides which systems must be aligned with strategy in order to do so.

Second, we contribute to anchor practice theory by indicating the possibility of coexisting interpretations of the constitutive rule in an organisation. In the case of the R&D department at TransportCo, different interpretations existed simultaneously in different areas of the department (i.e. across ‘space’). By showing how different enactments can exist across space, we extend Carlsson-Wall et al.’s (2020) findings of that different enactments of a constitutive rule can exist across time. Furthermore, the idea that there can be different enactments across space underlies the theoretical possibility of ‘disharmony’ between interpretations of the constitutive rule. In our case, we did indeed identify disharmony in the perceived importance of existing versus future customers. Although the introduction of the notion of the future customer in the constitutive rule was found to mediate between sustainability and profitability, the disharmony led to that the new strategy was difficult to implement in situations where sustainability could not be translated into financial progress, which support the findings of Narayanan and Boyce (2019) and Contraffato and Burns (2013). In this sense, our findings indicate limitations of introducing an anchor practice without altering other MCSs. As a consequence of this disharmony, top managers at TransportCo introduced new MCS packages that were independent of the main R&D MCS package to promote their own interpretation of the constitutive rule.

These findings are subject to several limitations and contextual factors particular to the studied case company which implies that they might not hold true in other empirical settings. For instance, the study lasted only five months; yet, it has aimed to describe a process that has been undergoing for years. Furthermore, TransportCo is in many ways a special organisation with unique features, such as an extraordinarily powerful culture, an unusually complex matrix structure, and a particularly long history. The uniqueness

of TransportCo, in combination with the choice of a single case study as research design, implicates that the findings should be treated with caution. Indeed, the use of a single case study has several strengths; however, it comes with limitations in terms of generalizability (Eisenhardt, 1989).

This paper reveals several intriguing areas that could benefit from further research. First, our findings and the concept of strategic anchoring should be studied in different empirical contexts. While our study indicates the potential of conscious use of an anchor practice as a driving force in strategic change towards sustainability, it would be beneficial to also understand how anchor practices can act as sources of inertia in strategic change, and under what circumstances they can be so. Second, we have studied an organisation in early stages of strategic change and found that the anchor practice was a powerful tool in these early stages. However, this understanding could be complemented by future research of the role of anchor practices in later stages of strategic change. Third, while most accounting literature on strategic change towards sustainability (including this paper) has focused on how sustainability can be integrated within existing MCS packages, our empirical findings also point to the possibility to set up separate packages that address sustainability and the long-term ambitions of an organisation. This is an interesting perspective that this paper could only scratch the surface on, and that could benefit from further research.

7. References

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8. Appendix

Appendix A: List of conducted interviews

Interviewee title	Number of interviews	Interview length	Interview date
R&D Controller 1	2	60 minutes 30 minutes	15th of September 26th of November
R&D Controller 2	1	80 minutes	2nd of October
Corporate Controller 1	1	60 minutes	23rd of September
Corporate Controller 2	1	80 minutes	28th of September
Early Research Director	3	30 minutes 45 minutes 30 minutes	28th of September 7th of October 27th of November
Research Manager & Project Manager for FTR	2	90 minutes 60 minutes	30th of September 3rd of November
Internal Incubator Manager	1	90 minutes	21st of September
Electrification Director	1	55 minutes	28th of September
Electrification Officer	1	55 minutes	30th of September
Electrification Expert	1	60 minutes	29th of October
Commercialisation Manager	1	85 minutes	5th of October
Strategy Manager 1	1	65 minutes	25th of September
Strategy Manager 2	1	60 minutes	25th of September
Strategy Manager 3	1	85 minutes	7th of October
Business Development Manager	1	60 minutes	5th of November
Production Manager	1	70 minutes	2nd of October
Sustainability Coordinator	1	60 minutes	2nd of October
HR Manager 1	1	90 minutes	27th of October
HR Manager 2	1	30 minutes	12th of November
SPM Member	1	65 minutes	1st of December
Total interviews	24		

Appendix B: Structure of data collection

Categories		Overview of question topics
Background and context	Interviewee background	• Interviewee's history within the company • Current role of the interviewee
	Organizational structure	• Structure of R&D and interaction with other divisions • Information flows and communication between people and divisions
	Culture and capabilities	• Cultural heritage of the organisation (including core values) • How sustainability fits into existing culture and beliefs • Organizational capabilities and competitive advantages • Existing technological capabilities
Strategic change tow. sust.	Old strategy	• Characteristics and challenges with old strategy • Strategic evolution leading up to current change process
	New strategy	• Type and degree of strategic change • Perceived challenges with new strategy • Acceptance and internalization of new strategy • Implications for business models and technology development
	Change process	• Reasons for strategic change • Process and speed of change • Effect on culture, identity, organizational design and systems
MCS configuration	MCSs configuration	• Different types of MCS: resource allocation/budgeting, selection & initiation of projects, project portfolio coordination & evaluation, belief systems • Relationships between MCS
	MCS evolution	• How MCSs have changed through time and in relation to strategic decisions • Intention and outcome of changes • New MCSs
	Role of MCS in strategic change	• MCSs that are perceived to drive or inhibit strategic change • Type and degree of interconnection between MCSs • Perceived conflicts or compatibility between MCSs and sustainability