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## How do Ecologic Sustainability and Business Feasibility Fit Together? – A Pragmatic Constructivist Study

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### Abstract

Although sustainability is appearing increasingly in the core values of many businesses, a considerable variation remains in the extent to which these businesses are committed to ecologic and social dimensions of sustainability, with some still focusing solely on financial performance. This paper unveils and discusses the realities of businesses, where ecologic sustainability and financial feasibility are intertwined, offering insights into the challenges and opportunities encountered by the businesses in navigating these dual imperatives. With the help of pragmatic constructivism (PC), we examine the realities of relevant empirical papers in terms of the facts, possibilities, values and communication present in those realities. Essentially, the realities have been selected under examination from operations, management accounting, and marketing domains, to provide sufficient versatility for our analyses. The value of the paper lies in providing a pragmatic constructivist view on the different realities that deal with the interface of profitability and sustainability management. As a result, the paper encourages further studies on unveiling the underlying values and current realities and practices that have an influence on the sustainability outcomes of the businesses and the society.

### 1 Introduction

Businesses these days face the need to recognize and respond to the huge challenge of ecologic sustainability. Ecologic sustainability, ‘saving the planet’, is often recognized as the top priority in the society, no longer an additional viewpoint to be taken into consideration nor a peculiar, unique source of competitive advantage. At the same time, businesses still focus largely on their financial performance, and quite often, ecologic sustainability has been seen merely as a vehicle of

‘green washing’, i.e., keeping the business’s green impression alive but without actually making changes towards sustainability in the business operations (L. Nørreklit et al., 2024).

The reality is not binary, however; it is not either saving the planet or focusing on the financial performance. Instead, business realities are in-between those two extremes. In this paper, we seek to better understand, how the ecologic sustainability and financial feasibility actually play together in the realities of companies. For this purpose, we employ pragmatic constructivism (PC) in order to 1) actually recognize and understand different realities, to 2) show the ability of PC to actually unveil and make sense of those realities, and eventually to 3) pave the way for developing those realities towards a more sustainable, functioning direction. As a theoretical tension underlying this paper and the PC approach, we have witnessed that even relatively recent studies show a surprisingly underdeveloped stance toward sustainability in business life. These challenges have been recently brought up in several different academic outlets, under several streams of business and management studies:

*“What we are doing makes **zero commercial sense** – I’ll just say that – putting it out there, biodiversity is not something you do for any commercial reasons.”* (an informant in Salmi et al., 2023, p. 17, emphasis added)

*“the biggest challenge is probably how to make it [concrete-element reuse] a **feasible business** as it requires quite strong guidance through legislation or the development of the calculation of these environmental values.”* (an informant in Harala et al., 2023 , p.7, emphasis added)

*“Since I have become older, wiser and more cynical, I have increasingly noticed that this world revolves around the economy. Therefore, for these solutions, **economic sustainability** needs to be present.”* (an informant in Tapaninaho & Heikkinen, 2022, p. 2736, emphasis added)

Indeed, even though many share the idea that ecological sustainability is critical in businesses, establishing such sustainability in the reality is much more complicated (cf., Beusch et al., 2022). Even though businesses might not consciously try to avoid environment friendly choices, when it is time to choose or act upon what matters, it seems that performing in terms of conventional business metrics (rather than those related to sustainability) seems to be more desirable (Pfister et al., 2024; Sairanen et al., 2024). When ecological sustainability seems to make little sense from the business-feasibility perspective—generating more additional costs than additional sales—the operational model will not financially sustain itself.

Given the identified complexities and tensions between the ecological sustainability and financial feasibility in the conflicting environmentally-conscious and business-conscious realities, rather fundamental conceptual work is required to actually makes sense of what different reality constructions might be. This paper is an attempt to shed light on those realities. The paper is conceptual in nature, and it uses existing empirical papers to actually identify and witness different realities. More particularly, the realities are identified from three articles with focus on a) *operations*, b) *management accounting* and c) *marketing*, in order to provide sufficient variation of different business perspectives. In these realities, there are several actors—with different managerial and other roles—making a difference. Therefore, unveiling those realities from different perspectives is a reasonable starting point for understanding the dynamics between the ecological sustainability and financial feasibility a little bit more, and perhaps ultimately to even propose a solution on how to balance the two. The articles selected for further analyses are presented in Table 1. The table includes also the domain of each article, as well as the rationale behind choosing the particular article to represent its domain and, especially, the underlying business reality.

**Table 1. The selected articles and the reasons for selecting them.**

Article	Viewpoint on reality	Reason for selecting the article
Wu, Z., & Pagell, M. (2011). Balancing priorities: Decision-making in sustainable supply chain management. <i>Journal of Operations Management</i> , 29(6), 577-590.	Operations	A hugely cited and thus impactful paper about balancing different priorities (values), and among those priorities, sustainability. High-quality outlet.
Beusch, P., Frisk, J. E., Rosén, M., & Dilla, W. (2022). Management control for sustainability: Towards integrated systems. <i>Management Accounting Research</i> , 54, 100777.	Management accounting	A relatively recent paper, with an interesting management control viewpoint to sustainability. High-quality outlet.
Sairanen, M., Aarikka-Stenroos, L., & Kaipainen, J. (2024). Customer-perceived value in the circular economy: A multidimensional framework. <i>Industrial Marketing Management</i> , 117, 321-343.	Marketing	A very recent paper about circular economy and understanding how value is created for the customer. High-quality outlet.

It is noteworthy that we do not place of heavy emphasis on the research domain itself, but our analysis in this paper focuses on the reality of the empirical contexts and the actors (typically as informants) in the studied papers. This enables us, thus, to observe the realities as directly as possible in these settings, even though we did not collect the research data ourselves but refer to the other researchers' datasets. All the selected articles are case studies, and the articles provide sufficient details, for the purpose of this paper: that is for our interpretations and pragmatic constructivist analyses of those realities in which we see an aim to integrate the financial and ecologic values.

The rest of the paper is structured as follows. Next, we provide a framework for analysing the realities in the businesses and supply chains. After that, the realities presented in the selected articles will be described and analysed, before our synthesis of the findings. The paper will end with concluding remarks that provide avenues for further studies.

## 2 The Four Dimensions of Reality

To introduce the concepts utilized in this paper, according to PC, actors' realities have four dimensions: identified *facts*, logical *possibilities*, guiding *values* and *communication* between actors to enact those possibilities that are seen valuable and thus worth pursuing (H. Nørreklit, 2017; H. Nørreklit et al., 2010; L. Nørreklit et al., 2006). Whether something is fact-based, means that it is based on truthful assumptions of the surrounding circumstances (H. Nørreklit et al., 2010). Possibilities are something that indicate a logical pathway from a current state, towards a state in the future (H. Nørreklit et al., 2010). Values can be basic values, such as life or happiness, or instrumental ones, such as a certain standard of living that might contribute to acquiring either or both of the former (H. Nørreklit et al., 2010; L. Nørreklit et al., 2024). Communication, in turn, is about interaction between actors to cooperate and make individual actors' possibilities turn into inter-subjective action (Nørreklit et al., 2010).

Whereas one might be able to perceive a fact, especially values are much more elusive, and so are possibilities as they require some kind of deduction (H. Nørreklit et al., 2010). For example, if one detects that it is *factually* raining by seeing the rain, hearing it or feeling it, one might deduct a *possibility* that an umbrella might help them avoid getting their clothes wet. Much less firmly can something be said about one's values, based on this small episode. Indeed, it is not necessarily easy to detect someone's actual values (Korhonen et al., 2020)—and therefore we must resort to interpretations of an actor's values based on their actions, and what is observable indirectly through showing emotions, for instance (H. Nørreklit et al., 2010). An example: if someone truly is doing a lot for the environment, and they also show fulfilment of their interests while doing so, one might interpret that nature values are important for them; instead, if someone does little to help the environment, but only gathers wealth disregarding emissions or use of fossil-based raw materials, one might interpret that nature values are of minor importance to this person (L. Nørreklit & Paulsen, 2023).

As values might easily contradict with each other, value conflict might occur (Campanale et al., 2021; Mauro et al., 2021). As the three short direct quotes in the introduction section showed, environmental and financial values might be in contradiction with each other. Indeed, there can still be fundamental difficulties in making sustainable solutions financially feasible: (1) profitability overruns sustainability as a goal, (2) economy is driven by increasing consumption, (3) nature itself has not been given sufficient value in neo-capitalism, and (4) accumulation of wealth is considered a value rather than life itself (L. Nørreklit et al., 2024). To help with these matters, the concept of 'real instrumental values' has been introduced. The 'real instrumental' values are such that are the conditions of the 'good life' and contribute to planetary wellbeing (L. Nørreklit et al., 2024). Even with the idea of 'green growth', there is the risk of falling to the caveat of short-termism (L. Nørreklit et al., 2024). Measurements that actually contribute to the 'good life' need to be identified; necessitating also a solid basis for actually realizing the measurements in a way that factual knowledge about reference states and progress can be identified; moreover, we need to identify the characteristics according to which a measurement object is indeed functionally feasible and simultaneously sustainable (L. Nørreklit et al., 2024). To understand different actor's values, we need an epistemic method (Jakobsen, 2024), to tap into these actor's value basis and help them contribute to planetary wellbeing as well. Therefore, it is interesting how different literatures portray actor's realities when it comes to solving, or at least navigating, the contradiction between financial and environmental values. We go into these literatures next.

### 2.1 Wu & Pagell (2011) – Reality from an Operations Management Viewpoint

Overall, the analysis of the paper by Wu & Pagell (2011) reveals that the reality in operations management is about managing business processes and supply chains functions in an efficient manner. The authors studied 8 case companies of different sizes and industrial backgrounds, with both the private and public ownerships, to investigate how the companies manage the trade-off between short-term profitability and long-term environmental sustainability while

making the supply chain decisions under conditions of uncertainty. In their paper, Wu & Pagell (2011) provide their interpretation of how a company can make its business operations more sustainable despite the limited information dissemination and uncertain economic impacts of sustainable initiatives along its supply chain.

Often, the decision to make existing operations sustainable, or adopting new sustainable operations, is influenced by the interests and capabilities of multiple stakeholders situated both upstream and downstream in supply chain. Considering each stakeholder in the supply chain has its own needs, priorities, reservations, and evolving decision parameters, controlling and optimising the flow of information and resources along a supply chain becomes challenging for a company intending to implement a sustainable operation. Further, considering the business relationships between the supply chain partners are predominantly of transactional nature, companies have a general tendency to withhold information, which may be explained by the desire to protect negotiating power and the fear that shared information may be intentionally or unintentionally exploited. Irrespective of the underlying reasons, the resultant information insufficiency can make decision making approximative and risky. In face of limited information, and in turn the bounded rationality, a company may fail to develop and undertake the most optimal sustainable action in terms of economic returns and the ecologic impacts it can make. Additionally, it becomes difficult for the company to judge whether and when the economic returns from this endeavour will outweigh the resources invested. Considering the predictability of decision-impacts and risks is viewed as crucial to effective operations management, the uncertainty caused by information insufficiency makes the implementation of sustainable actions rather undesirable from operations management perspective. How then should a functioning reality be devised for the operations management to accommodate ecologic sustainability in addition to its conventional, short-term economic focus? Below, we present our interpretation of such reality by applying PC lens to Wu & Pagell (2011) investigation.

Irrespective of whether or not a company is trying to be ecologically sustainable, Wu & Pagell (2011) maintain that the facts in operations management relate primarily to short-term economic performance (e.g., profit, cost efficiency). Related to this, the authors indicate that maintaining the short-term financial wellbeing is a fundamental, basic value in operations management that remains unchanged regardless of whether a company operates business-as-usual or pursues sustainability, as signified by following statement: “one has to be economically sustainable to be environmentally sustainable” (p.583) This implies that in general, actors in operations management only consider such ecologic actions as viable possibilities which can positively impact or at least have neutral effect on the short-term economic performance. This explains why most companies only pick the “low-hanging fruits” in terms of sustainability, i.e., undertake only those sustainable actions which are most risk-averse and require minimal operational changes and resource investment, such as the reduction of waste, energy consumption, and water usage. It is possible, however, that these weak sustainability endeavours will result also in relatively weak outputs in terms of ecologic contributions and whatever economic benefits they generate are likely to plateau rather quickly.

A company serious about sustainability may consider stronger sustainability actions as possibilities, that go beyond the low-hanging opportunities. Wu & Pagell (2011) present several facts that indicate the increasing need for companies to explore this possibility. For instance, they highlight that the global competition for resources has been increasing and the environmental regulations are becoming increasingly stringent. Additionally, broader stakeholders are becoming more concerned with the overall “liveability” of the communities and the environmental impacts of business operations. This has created an emergent situation where “legitimation” as a basic value of business is becoming relatively salient, which may be realised only by undertaking concrete, strong sustainability actions. Interestingly, this does not make other conventional values of the company, such as competitiveness, sustenance, customer satisfaction, and profitability, any less important. Instead, balancing the realisation of conventional business values and the legitimacy (through sustainable actions) becomes a strategic problem.

What sort of sustainable action is viewed and pursued as a viable possibility in operations management is informed by a company specific subjective fact, which Wu & Pagell (2011) refer to as “environmental posture”. A company’s environmental posture, shaped by its history, stakeholders, as well as the experiences and values of its investors and key managers, informs which elements [ecologic, social, and economic] of the triple-bottom-line has highest priority in its value system. First, the “environment first posture” entails that the company was conceived with the intention of being ecologically sustainable and thus its business serves as means to environmental contribution. For operations management in such companies, being ecologically sustainable is a basic value which is equally important, if not more, than ensuring short-term financial wellbeing. Second, the “opportunity first posture” implies that the company undertakes ecologic action as means to economic opportunity. Consequently, in such companies, maintaining short-term economic performance is the basic value and making ecologic contributions is the instrumental value for operations management. Next, for companies with “community first posture”, social values are integral part of their business operations, which implies that being socially sustainable is the basic value that is as essential for operations management as maintaining short-term financial wellbeing. Finally, the “equal footing posture” entails that the company considers addressing ecologic

and social issues as equally important part of doing business. Relatedly, for operations management, being ecologically, socially, and economically sustainable are equally important, basic values.

While the environmental posture of a company explains whether a company chooses ecologic or social action as possible sustainable endeavour to implement, Wu & Pagell (2011) emphasise that radical change is not a viable possibility from operations management viewpoint, for the simple reason that it can undermine short-term financial health of the company. As the authors mention, the idea is to “remain economically viable in the short term as they try to become more environmentally sustainable over the long term” (p.584). Irrespective of which dimension of triple-bottom-line is considered the basic value and accordingly what ecologic or social action is planned to be implemented, the operationalisation of sustainability becomes possible through incremental change and continuous improvement. As stated by the authors, “sequence of [incremental] decisions... overtime lead to the development of a unique [sustainable] supply chain” (p.580). This, however, entails that the company needs to effectively communicate to actors in operations management what is expected or even required of them when they make operational decisions. Wu & Pagell (2011) advance that simple rules or schemas could serve to communicate these expectations, leading to synchronised decision-making and minimised uncertainties.

The rules, often reflecting the environmental posture of the company, the actors’ interpretation of the evolving organisational values, and the institutional forces the company is facing, essentially include “operational principle” and “technical standards”. Operating principle, according to Wu & Pagell (2011), is a general statement of the company’s ecologic or social goal (e.g., conserve the embodied energy, phase out toxic chemicals, use local resources). For decision makers, while an operating principle provides general direction concerning what ecologic or social agenda should the company’s sustainable operations try addressing, it does not prescribe specific action. Therefore, to avoid individual interpretation and marginalisation of operating principle, technical standards are required, which is a set of “specific rules and criteria that define the scope of a company’s environmental tasks and prescribe decisions” (p. 581). Technical standards, such as supplier certification requirement, supplier code of conduct, material choice, and design specifications, create clear boundaries on what the actors can or cannot do. The authors emphasise that “by providing direction and boundaries, the principles and standards not only make decision-making tractable, they make it more efficient because fewer options need to be considered and less time is taken with justifying choices” (p.588).

Table 2 compiles highlights from the article by Wu & Pagell (2011). Concerning the *facts* and what can be known in the realities of the respondents, there remains a lot of uncertainty and need for information concerning environmental impacts and decisions. While such information can be generated, companies vary in their historical experience (and their realities that ensue), thus, altering how they make such decisions. The ability to make environmental decisions, thus, seems to depend on the amount of uncertainty and factuality instead of quality of the environmental information of the companies’ realities. The *values* of such environmental issues vary among actors, and the actions taken are driven by individual actors. However, while both environmental and economic sustainability are considered as necessities and one’s capability and willingness to be green while remaining profitable is a value-choice, if one needs to be prioritized, profits seem to come first. As a result, *possibilities* concerning environmental decisions and actions are based on issues such as the demand to react to green transition and even turning sustainability into a competitive advantage. Moreover, companies need to adjust to their unique contextual situation and the decisions they have made before. Concerning *communication*, since motivation to be green varies among actors and companies, there is demand for transparency and active communication to motivate and convince other actors and companies to actively push sustainability and identify actions with positive environmental impacts.

**Table 2. Our analysis of the article by Wu & Pagell (2011).**

<p><b>Summary of the reality construction</b></p> <ul style="list-style-type: none"> <li>• The necessity of becoming more sustainable is a problem to be solved.</li> <li>• Being in control of what is actually happening in operations.</li> <li>• Creating knowledge on how to make operations sustainable, but at the same time efficient, risk-averse, and long-term optimized.</li> <li>• Making decisions based on objective measures.</li> <li>• The reality construction is of those responsible of running an operation with certain performance goals, sustainability included.</li> </ul>	
Facts	<p><b>Uncertain decision environment hinders sustainability implementation:</b> "...managers [...] often lack sufficient information in making environmental decisions. Factors such as uncertainty about environmental outcomes and future regulations, the saliency of each environmental issue to multiple stakeholders, as well as a lack of visibility and influence in one's supply chain, all can contribute to the uncertain decision environment." p. 587</p>
	<p><b>Rules and schemas support decision making under uncertainty:</b> "...environmental decisions [concerning Technical Standards] are well-defined and can be measured objectively. [...] Operating Principles reduce information uncertainty by setting a broad environmental agenda and prescribing guidelines, while Technical Standards further remove uncertainty from specific decisions." p. 582</p>
	<p><b>Companies have idiosyncratic and dynamic sustainability orientation:</b> "...organizations address sustainability differently because of their history, stakeholders, and the experiences of owners and key managers." p. 585</p>
Values	<p><b>Balancing organisational priorities and stakeholder expectations:</b> "...for instance, owners and managers will focus on profitability, while members of the community are likely concerned with the overall livability of the community and environmental impacts from production" p. 577</p>
	<p><b>Maintaining short-term financial health:</b> "Individual decisions about environmental issues are then very pragmatic and all of the organizations keep sight of the fact that they must be both economically and environmentally sustainable. In the short term this often means placing profits first." p. 584</p>
	<p><b>Balancing between economic gains and sustainability is a value choice:</b> 'Several of [the studied organizations] made the point that "one has to be economically sustainable to be environmentally sustainable." For these organizations, there is always the tension to figure out "how much one wants to be green and how much one can afford to be green." Sustainability does not exist if a company is not profitable.' p. 583</p>
Possibilities	<p><b>Creating competitive advantage from sustainability:</b> "The organizations adopt environmental initiatives proactively to protect their brands and differentiate themselves in competitive markets. [...] these companies are able to establish distinct sustainable supply chain practices and routines that allow them to compete with the norm in their industry; meanwhile, such practices and routines contain difficult-to-imitate capabilities." p. 588</p>
	<p><b>Building upon or disengaging from past decisions:</b> "...earlier environmental actions lead to new challenges and opportunities, and trigger new choices and actions. Some decisions are directly influenced by earlier decisions, and subsequent decisions sometimes replicate the logic of earlier decisions even though there is no direct operational linkage among them." p. 585</p>
Communication	<p><b>Communication between supply chain partners:</b> "As companies set out to evaluate the environmental impact of their supply chains, they often do not have complete information on decision parameters or consequences." p. 578          "...leaders in green supply chain management are on different trajectories with different motivations. More importantly, they also explain how organizations prioritize elements of the triple-bottom-line and determine which stakeholders are most important when making decisions." p. 587</p>

## 2.2 Beusch et al. (2022) – Reality from a Management Accounting Viewpoint

Overall, the analysis of the article by Beusch et al. (2022) reveals that reality in management accounting is about ensuring that organisational performance along the economic and other dimensions is aligned with the strategic goals and priorities of that company. The authors conducted a longitudinal case study of a multi-national industrial organization to examine how a company can integrate its management control system (MCS) and sustainability control system (SCS) to develop and implement integrated sustainable strategy. In so doing, the article provides us an opportunity to make interpretations

concerning how the reality might look like from management accounting perspective, for a company to successfully integrate sustainability into their organisational strategy.

Beusch et al. (2022) indicate that objective facts in management accounting concern primarily to financial performance indicators, regardless of whether or not the company has taken sustainability into strategic consideration. For a company pursuing sustainability, the objective facts may include also the ecologic and social performance measures. The authors highlight that there is general tendency among companies to measure and evaluate these facts separately, and they caution that the facts relating to economic performance can easily overshadow other facts, leading eventually to sustainability marginalisation. Consequently, for a company serious about integrating sustainability into its corporate strategy, Beusch et al. (2022) emphasise the need to create new facts relating to novel performance measures that signify the economic and ecologic/social performance simultaneously, e.g., energy consumption per value-added.

Considering most salient facts in companies relate to economic performance, Beusch et al. (2022) observe that the key value guiding sustainable action in a company is the creation of business case. This entails that a company implementing sustainability considers those sustainable practices as viable possibilities which have the potential to create positive economic returns. To this end, a subjective fact – external sustainability demand drivers – plays a major role in informing which sustainable practice should the company implement or whether the implemented sustainability practice is strategically valid. In other words, those practices are considered viable possibilities for which there lies an existing or emergent market demand. However, it is worthwhile to note that the strategic-level and tactical-level managers' business-case frames differ in that the former tend to seek long-term business gains, whereas the latter are often interested in short-term financial returns. As exemplified in the authors' observation, "top management has adopted a longer-term, holistic perspective toward sustainability and other managers are more concerned about the linkage between sustainability and short-term profitability" (p.2). This difference means that sustainability initiatives seen viable by the strategic-level managers may not cater to the priorities of tactical-level managers and vice versa, leading to an organisational tension and eventual marginalisation of the sustainability initiatives. Beusch et al. (2022) propose that it is possible to avoid this by integrating MCS and SCS along three dimensions: organisational, cognitive, and technical.

The MCS-SCS integration along the organisational dimension ("*organisational integration*") entails that all functions and management levels within a company "assume a shared responsibility for sustainability, not just a designated group of specialists" (p.4). This organisational integration is a complex process for the simple reason that decision-makers across different organisational functions and roles have partly different set of facts, and a shared fact does not necessarily have the same level of salience for the different decision-makers to fulfil their role-specific responsibilities. When a company decides to implement a sustainability strategy, different decision makers may have differing views on whether and how the implementation of sustainability will impact the facts that are most salient to them. Decision-makers perceiving uncertainty and potential negative impacts are likely to resist and marginalise the sustainability initiatives, thus undermining organisational integration of MCS and SCS. To avoid this, companies need to expand their value systems by integrating the economic and sustainability concerns in their belief systems (e.g., value statements, statement of purpose, mission statement) as well as boundary systems (e.g., codes-of-conduct, operating directives). This expansion of value systems can effectively prescribe and proscribe sustainability related decision-making throughout the company, effectively communicating how different actors can and should assume the responsibility for sustainability. Beusch et al. (2022) highlight that the expansion itself, however, needs to be an incremental and interactive (dialogical) process in order not to alienate any decision-maker or create organisational conflicts.

Along the cognitive dimension, the MCS-SCS integration ("*cognitive integration*") entails a shared understanding and collaborative frame of sustainability among the decision-makers. Although the broader set of stakeholders may expect companies to have the paradoxical frame to sustainability (i.e., sustainable practices as end in themselves), its might be more practical for companies to adopt business case frame because decision-makers cognitively share the responsibility to address customers' and shareholders' financial interests. The challenge, however, is that strategic-level managers often adopt collaborative business case frame to view sustainability (focusing on relatively radical product innovations and organisational change based on stakeholder collaborations) whereas operational- or tactical-level managers tend to view sustainability from responsible business case frame (focusing on incremental improvements to products and processes). Consequently, the cognitive integration of MCS and SCS can happen only when managers at both levels redefine their cognitive boundaries to acknowledge each other's needs and limitations. To this end, iterative dialogues and debates, knowledge exchange, and openness to the criticality of both business case frames play critical roles.

Along the technical dimension, the MCS-SCS integration ("*technical integration*") entails the inclusion of both financial and sustainability metrics for performance measurements, operational decision-making, and strategic planning. This implies that companies need to have, both at the organisational and operational levels, the ecologic and social objectives in addition to traditional economic ones. Related to this, the scope of management accounting systems needs

to extend from collection, analysis, and communication of economic data to doing so periodically or ecologic and social data.

**Table 3. Our analysis of the article by Beusch et al. (2022).**

Facts	<p><b>Summary of the reality construction:</b></p> <ul style="list-style-type: none"> <li>• The necessity of becoming more sustainable is a management topic to be incorporated in the systems that guide people's actions.</li> <li>• Making sure (un)sustainability is incentivized(sanctioned).</li> <li>• Understanding that without a proper business case, pushing sustainable solutions might be challenging.</li> <li>• Connecting organization-wide sustainability perspectives to personal-level aspirations and activities.</li> <li>• The reality construction is of those responsible for choosing how to manage people towards more sustainable outcomes.</li> </ul>
	<p><b>Boundary systems can induce desired behaviour:</b> "...the organization takes a constraining approach to manage sustainability risks with respect to its suppliers. [...] Supplier Code spells out the company's expectations for compliance with its business ethics guidelines, its anti-discrimination and other labor policies, and its expectations for suppliers to reduce the environmental impact of their operations." p. 7</p> <p><b>Economic performance is easier to measure and is most pronounced:</b> "...finance-related measures such as return on capital and profit margin are clearly defined and well understood, while sustainability managers struggle to find "really good" KPIs, especially for the society concern." p. 7</p> <p><b>Integrated performance metrics are important to highlight sustainability:</b> "Thus, the degree of technical integration for [...] diagnostic control systems is greatest for energy measures, where sustainability managers and accounting personnel have achieved common calculability for energy use and product value-added metrics. [...] integrated CPM [company performance management] system facilitates the simultaneous review of business and environmental concern metrics, as well as EHS [environmental, health, and safety] metrics of employee concern. At the same time, technical integration of "soft" measures of employee concern and of society concern has not occurred to the same extent as for the other concerns." p. 7</p>
	<p><b>Aligning the business case frames of strategic- and tactical-level managers:</b> "...strategic-level managers [...] [view] business success as including both financial concerns and social and environmental benefits [...] Most tactical-level managers [...] [focus] on improving profitability by making incremental sustainability-related improvements to products and processes." p. 2</p> <p><b>Expanding belief systems to include socio-ecologic concerns:</b> "CEO and strategic-level management have a strong commitment to integrating sustainability into the company's strategy that is reflected in the company's beliefs system. [...] the beliefs system incorporates business, environment, employee, and society concerns into the overall concept of sustainability." p. 10</p>
Possibilities	<p><b>Sustainability idea generation through interactive, dialogical approach:</b> "We want to provide new perspectives, but then we cannot say exactly what everyone should do; that's wrong. The ideas must come from us, but it will best be achieved in workshops, discussions, dialogues, and an open climate that allows that things are questioned and discussed rather than to come up with policy documents that say: this is how it works." p. 8</p> <p><b>Business model innovation to facilitate achieving sustainability:</b> "...the current business model, where suppliers' profits depend on numbers of parts sold, represents a fundamental conflict of interest from a sustainability perspective. Longer component life results in lower environmental impacts but yields fewer sales for the supplier. To address this conflict, [the company in question] has developed a business model where the customer pays an all-inclusive fee for components, service, and condition monitoring. The fee-based contract may include an additional component linked to targets for machine performance, production output, or other KPIs [key performance indicators]." p. 8</p>
Communication	<p><b>Communication within an organization:</b> "...strategic-level management, however, was committed to the idea that all of the organization's employees should be responsible for sustainability. Strategic-level management used the "go and see" procedures, discussions, dialogues, and an open climate to inform tactical-level managers about their role in implementing [...] integrated sustainability strategy. This helped avoid perceived knowledge gaps and a feeling of "us and them." p. 10</p> <p>"Another challenge pertains to a knowledge gap among [...] personnel with respect to sustainability such that strategic-level management may not fully understand how sustainability influences decisions at the tactical and operating levels and vice versa." p. 8</p> <p><b>Aligning the communication within an organization with what is happening in the wider context:</b> "...interactive control systems provide a means of enabling dialogue, which facilitates shared understandings between managers with different cognitive frames toward sustainability. [...] strategic-level managers may adopt a vision that is based on a paradoxical frame of sustainability, yet still must address the reality of balancing their customers' and shareholders' interests with those of the broader set of stakeholders who might be affected by the company's operations." p. 12-13</p>



Concerning *facts*, the Table 3 on the article by Beusch et al. (2022) suggests that while profitability is rather easy to measure with established metrics, sustainability metrics are not that well understood. The difficulty of measuring various sustainability aspects varies, and customers often rely on constraining codes and agreements to reduce uncertainty. Regarding *values*, different level managers have different role and motivation for moving towards environmental sustainability. To achieve collective action, the sustainability beliefs of individuals can be combined to a company-level belief system. For future *possibilities*, the article highlighted that ideas should come up as a result of collaborative effort, instead of bottom-up or top-down. Also, existing forms of business might not promote the new environmental aspects, which is why new business models could incentivize customers of more sustainable solutions. This all requires active *communication* as sustainability aspects should be everyone's concern. More specifically, there is a need to balancing interests of various stakeholders and provide visibility to sustainability influencing decisions at various levels.

### 2.3 Sairanen et al. (2024) – Reality from a Marketing Viewpoint

In general, our analysis of the article by Sairanen et al. (2024) reveals that marketing reality is about creating and communicating customer value that is indeed appreciated by customers. The article presents, based on multi-case study of business-to-business supplier-customer dyads, how industrial customers perceive the value of sustainable offerings and whether the suppliers' value perceptions are aligned with those of customers. Consequently, the article provides us with a general understanding of how a functioning reality might look like from marketing viewpoint, for a company to sell its sustainable solutions effectively.

It can be fathomed from Sairanen et al.'s (2024) investigation that the objective fact in marketing relate chiefly to revenue. Success of marketing endeavours, whether they are for conventional or sustainable offerings, is measured in terms of the revenues that the offerings generate. Accordingly, the fundamental value guiding the decision-making in marketing is to maximise revenue from the products or services that the company sells. This entails that it is vital for the suppliers to understand what types of facts the customers consider important when making purchasing decisions and how the sustainable offerings impact those facts. Additionally, it is important for the suppliers to understand what kind of belief systems (core values and outlooks on sustainability) customers have and whether the implementation and output of the sustainable offerings reinforce the customers' belief systems.

From marketing viewpoint, nothing beats the importance of customer value because the saleability of any offering—including sustainable ones—depends primarily on customers being convinced that the offering holds potential to generate net positive customer value for them. According to Sairanen et al. (2024), sustainability-driven customer value is a multidimensional construct comprising of “seven main value dimensions – economic, functional, relationship, identity, ethical, strategic adaptation, and systemic value” (p. 327), and customers vary in how much each of these value dimensions influence purchasing decisions. This implies that for marketing actors intending to sell sustainable offerings, most viable course of action would be to create customer value propositions that are aligned with the value perceptions of customers.

To understand which of the seven customer value dimensions customers perceive to be important in sustainable offerings and the extent to which the offerings impact those value dimensions, suppliers must engage in collaborative interactions with the customers where both parties share relevant facts and values. Only through such interactions can the suppliers decipher customers' decision-making criteria and strategic motives for purchasing sustainable solutions. Consequently, the suppliers can develop mutual understanding of value with the customers and collaboratively develop the value propositions that customers find convincing.

Overall, in Table 4, following the paper by Sairanen et al.'s (2024), there is a sort of conflict between economic and environmental *facts* steering customer's decisions. The need for functional characteristics of offerings is often considered as non-negotiable fact, while the environmental characteristics are considered “additional selling-points” or part of branding. The emphasis on the two are driven by *values* of actors; circularity and sustainability introduction is dependent on the businesses and their actors' values and considered mostly as business and ecosystem possibilities than necessities. Regarding future *possibilities*, an important part of companies perceiving value in the sustainability characteristics of offerings is their anticipations concerning green transition and customers incentive to buy the more sustainable and expensive offerings in the future. There, customers expect suppliers to understand the wider systemic potential of their offerings to also comprehend the environmental effects. However, customers' perception of the *communication* skills of supplier's was considered somewhat misaligned with suppliers' own perceptions, and there might also be misalignment of communication within an organization and its levels. Therefore, understanding of the customer, information sharing, and proactive and fact-based communication was called for.

**Table 4. Our analysis of the article by Sairanen et al. (2024).**

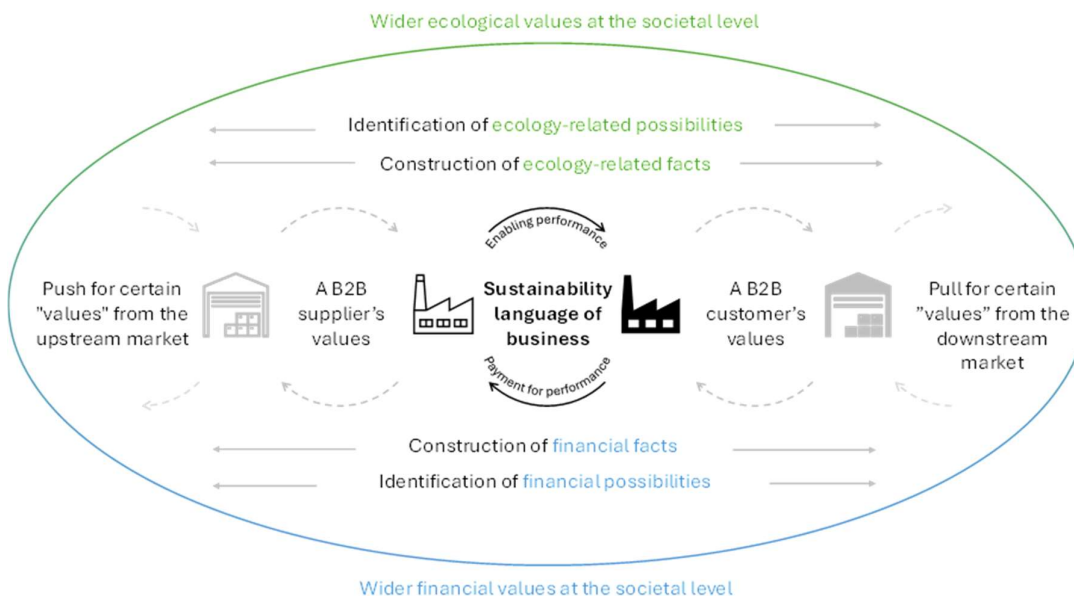
<p><b>Summary of reality construction:</b></p> <ul style="list-style-type: none"> <li>• The necessity of becoming more sustainable is a question of value communication especially.</li> <li>• Ensuring that the customer understands the factual value that stems from sustainable solutions.</li> <li>• Obtaining a value-chain perspective to sustainability.</li> <li>• Focusing on the customer's viewpoint and their sustainability.</li> <li>• The reality construction is of those responsible for ensuring that the customer is understanding (sales and marketing) and gaining (delivery) sustainability benefits and also the supplier is able to acquire a share of that value.</li> </ul>	
Facts	<p><b>Functionality is necessary:</b> “Regardless of the industry, [...] a circular product's performance in its core task (functional value) should never be inferior to that of conventional alternatives. [...] functional value remains largely non-substitutable, regardless of the other possible benefits of the circular offerings” p. 335</p>
	<p><b>Profitability is a selling point:</b> “...profitability is a major concern of companies during the transition to the CE [circular economy] [...] Work on value propositions based on our findings can generate numerous customer-oriented selling points, which can be used in sales presentations and web sites to strengthen sales and commercialization of circular offerings.” p. 336</p>
	<p><b>Branding is a sustainability driver:</b> “...customers often leverage circular offerings to brand themselves not only externally but also internally [...] The demand for external brand and image value is clearly boosted in the CE by the need for sustainability branding and [...] customers' perceptions of identity value depend, to some extent, on their perceptions of ethical value.” p. 334</p>
Values	<p><b>Ecosystem-wide change:</b> “...ambitious customer companies engage in circular business to be part of and manage ecosystem-level changes, seeking positive impacts beyond their immediate businesses. [...] suppliers often failed to consider this value dimension, which led to misalignment.” p. 334</p>
	<p><b>Integration of values into organizational life:</b> “In large industrial customer companies, sustainability values were often first introduced as a high-level vision, then integrated into internal core operations, and finally reflected in the value chain strategies and sourcing decisions.” p. 333</p>
Possibilities	<p><b>Commercializing sustainability:</b> “...customers hope to turn the added brand capital into increased revenues in the short to medium term. Customers believe that their decisions (e.g., to source renewable fuels or sustainable workwear) should pay back in time as they become a more sustainable and more attractive choice for their own customers.” p. 335</p>
	<p><b>Pricing of sustainability:</b> “Anticipated developments in the business environment played a significant role in the customers' value perceptions, affecting, for instance, their possibilities of allocating the possible added costs of the circular offering to the prices of their own offerings.” p. 333</p>
	<p><b>Gaining immediate vs. wider impacts:</b> “...no supplier referred to systemic value, although their customers frequently considered it. [...] suppliers focus excessively on their solutions' immediate effects on customers' businesses instead of the wider impact potential, which runs contrary to the need to convey a broad value spectrum to B2B customers.” p. 335</p>
Communication	<p><b>Between the supplier and the customer:</b> “The suppliers were overconfident of their abilities to communicate lifecycle cost effects of the circular offering or ignorant of customers' decision-making criteria” p. 332  “Customers consider it valuable if a supplier engages them in the optimization of novel circular offerings and openly provides information that customers perceive as useful.” p. 330  “To guarantee the recognition of high product performance, suppliers must not only ensure high quality but also engage in proactive and fact-based communication.” p. 335</p>
	<p><b>Within the customer's own organization:</b> “...customers should [...] improve and standardize their value-related discourses at all organizational levels, thus improving decision-making and motivating personnel by making company values more explicit. Managers should pay attention to improved communications of, for example, the value dimensions that a company seeks to attain and provide, as well as of their underlying goals and motivations.” p. 337</p>

### 3 Synthesis of Findings – Integration of actor’s reality for sustainability transition

Altogether, the analysed articles tell us that as a key constituent fact of all the addressed realities, functionality and/or profitability cannot be compromised and that uncertainty is higher for measuring environmental and social impacts than something that is indeed commensurate with monetary terms, such as the traditional measures of financial feasibility. We also interpret that as values, environmental progress is driven by individuals, but it cannot come at the expense of profitability. In case a change is desired, a more extensive view on system level is required, as new opportunities (i.e., logical possibilities to monetize and more holistic view of value and impacts) can be identified. Finally, communication is, in summary, central, but especially the management accounting and marketing realities seem to reflect the matter.

More generally speaking, our society is path-dependent on existing institutions which easily overshadow life-friendly action (L. Nørreklit & Paulsen, 2023). Even though studies suggest accounting-based measures (such as return on assets, return on equity, return on investment, return on capital employed, and cost savings, total cost of ownership, and life cycle costing) as methods for financial performance evaluation, how these can be adapted to specific sustainable/circular solutions and how the evaluations support improvement and upscaling of the solutions require further investigation (Kanzari et al., 2022). Indeed, with sustainability, the traditional business logic stumbles: businesses do not adequately know (Abukari et al., 2023) whether investments into environmental activities hamper short-term profitability due to higher operating costs (Remo-Diez et al., 2023). And even if local knowledge and understandings of environmental impacts were analysed (Jakobsen, 2024), there lies the issue of how economic and profitability language games dominate making it difficult for sustainability and environmental friendliness language games to gain a foothold in managerial decision-making. This kind of dynamic joint construction of reality would be an important area of pragmatic constructivist inquiry (Baldvinsdottir, 2021). There, management accounting actions by the supplier can either alter sustainability value propositions to fit economic language games or try to broaden the economic language games of customer decision-makers to better understand and consider sustainability value and environmental friendliness (see Figure 1), enacting the idea of catering for multiple, even conflicting values simultaneously but enabling functioning, valid practices (Campanale et al., 2021; Mauro et al., 2021; H. Nørreklit et al., 2016).

**Figure 1. Environmental sustainability and financial performance in the realities of the businesses.**



Knowing how environmental friendliness can be generated through feasible business would be of utmost importance to not have decision-makers jump to conclusions regarding what is good business and what is not. Not knowing how well environmentally friendly solutions perform in terms of making profit means that we as researchers have work to do. Therein, environmentally friendly businesses require ways to communicate the customer value of their solutions to their value-chain partners, begging the question: how does sustainable value emerge? While this is at the outset a simple question, answering it is far from being simple and requires in-depth inquiry into the dynamics of customer-value creation within value chains, decision-making, and performance management. How does the value emerge in use for different stakeholders at different points of time, when the new solution is at the customer throughout its lifecycle (Tapaninaho & Heikkinen, 2022; Tiitola et al., 2023)? Who pays the bill and who reaps the benefits? What is the role of actors' value communication in making the sustainability transition happen (Ranta et al., 2020)? How such questions can be answered in practice, however, is not informed by prior studies and thus there is a huge demand for new knowledge (Bähr & Fliaster, 2023; Chizaryfard, 2023; Riuttala et al., 2024; Schrage & Rasche, 2022; Xiao et al., 2019). Indeed, we need to do something, not just cynically decide that solving the conflict between economical, ecological and social sustainability is difficult (L. Nørreklit et al., 2024)! With the PC approach, we can learn and start knowing about the reality by doing something that we find valuable. This learning involves finding the pragmatic truth: e.g., about how and through which kinds of measurements can we actively influence environmentally-friendly behaviour.

## 4 Concluding remarks

This paper has provided a view on business realities, analysed from three different perspectives: *operations*, *management accounting*, and *marketing*. The focus was neither on comparing those three domains on their level of sustainability nor on pinpointing the shortcomings or mistakes in the business contexts under examination. Instead, the PC approach enabled us to address those realities in a rather neutral, holistic way, and thus some underlying values, commonly constructed facts, and commonly understood possibilities were identified and examined that enables businesses to manage the tension between economic and socio-ecologic sustainability. In the analysed realities—and we believe that in many others too—the identification of the constituents of the reality, such as underlying values, helps direct development efforts and meet relevant business objectives.

In all, the balance between financial performance and sustainability requires more and more attention. Quite essentially, finding such a balance requires long-term considerations on those aspects. In many environments, long-term profitability requires increased attention to sustainability. In turn, long-term sustainability might require costly investments in the short-term, and it is of strategic importance to manage and navigate this potential trade-off effectively. Utilizing the concept of “real instrumental values” (L. Nørreklit et al., 2024) might be hugely productive in this sense: if we are able to widen the scope of real instrumental values to concern many different stakeholders' realities, we might be able to identify viable measures (instrumental values) to contribute to planetary wellbeing (a basic value).

To this end, both the intra- and inter-organisational interactions (communication) are crucial to aligning the sustainability-oriented, emergent actor realities, because without such alignments, sustainability can become merely a possibility or, at most, a short-lived endeavour. Sustainable initiatives (possibilities) envisioned by actors should be based on not only their own facts and values but also those of other actors who are involved in or influenced by the undertaking of such initiatives. Additionally, it is equally important that different actors are willing to expand their facts and value systems, rather incrementally, from conventional business concerns to incorporate socio-ecologic concerns. For understanding these logics and dynamics, we encourage further studies on unveiling the underlying values and current realities and practices that essentially have an influence on the sustainability outcomes of different businesses and the society more widely as well.

Finally, by combining the three different viewpoints (operations, management accounting, and marketing), we were able to learn that different *language games* of sustainability-profitability do exist. An integrative approach to these literatures could be productive, and thus an interesting avenue for further research, to build upon different language games within different literatures. This way, we could learn from each other and see what we could construct as a more integrative viewpoint to combining business feasibility and socio-ecologic sustainability.

*“it [sustainable procurement] creates a value that is certainly not measurable but generates well-being in the firm” (p.6) “little by little, this starts to weigh in investors' balance and as a results the importance of SP [sustainable procurement] grows.” (p.8) (an informant in Boruchowitch & Fritz, 2022, p. 6, p. 8, emphasis added)*

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