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Conceptual Design of the Sustainability Balanced Scorecard - A Synthesis of the Literature

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Abstract

In this synthesis of the literature, I analyze prior academic research focused on the integration of sustainability dimensions into the Balanced Scorecard. The focus of this work is mostly on the conceptual approaches suggested for the design of a Sustainability Balanced Scorecard, and the aim is to establish some criteria regarding which approach to choose in practice and thus provide support for decision-making concerning performance management and control systems. Based on the synthesis of literature, it can be concluded that the Balanced Scorecard serves as a useful tool for sustainability management and is customizable for the specific purpose of a business unit. However, prior research seems to lack clarity on the criteria to be used for determining the appropriate approach. The controversial arguments in prior literature call for more detailed research, and especially insights from empirical research could be valuable in the future.

Keywords Balanced Scorecard, Sustainability Balanced Scorecard, Sustainability performance, Corporate sustainability

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1. Introduction

This literature review examines the possibilities of implementing corporate sustainability (CS) into business strategy by integrating it into the Balanced Scorecard (BSC) using different conceptual approaches. The business case of sustainability has been discussed upon a lot in recent years (e.g. Alshehhi et al., 2018; Ioannou and Serafeim, 2011; Orlitzky et al., 2003; Griffin and Mahon, 1997), and many acknowledged academic scholars and business leaders have been advocating for the corporate world to start increasingly contributing to sustainability (Margolis and Walsh, 2003). Even though the findings of researchers have been controversial to some extent, the relatively strong business case together with the external and internal stakeholder pressure towards greater transparency is pushing companies to opt for more established sustainability strategies. Hence, corporate executives are faced with the need to rethink their business strategy and align it with the expectations unfolding from the surrounding world - now more than ever related to sustainable issues. It is easy to imagine how this also provokes the need to find proper ways to integrate, measure, and manage CS strategies, and since the BSC is widely used to help executives translate company vision and strategy into action (Kaplan, 2010), it may also foster ways for organizations to implement sustainability-related dimensions as part of strategy (Epstein and Wisner, 2001). The BSC might be particularly suitable for this purpose because it allows the inclusion of not only financial but also non-financial, or "soft" performance metrics. Consequently, the BSC may offer a promising starting point for the integration of environmental and societal metrics into business strategy.

Methodology and motivation

This work is constructed in the form of a narrative synthesis of the literature. The purpose of the synthesis is to build an understanding of and critically evaluate different conceptual approaches that have been suggested for the integration of sustainability into the BSC and constructing a Sustainability Balanced Scorecard (SBSC). The critical synthesis of previous literature serves for the comparison of different conceptual approaches, and for determination of possible criteria that may impact the choice of approach when constructing a SBSC. Questions this paper aims to address are: *How can sustainability be integrated into the conventional BSC on a conceptual level? Based on which criteria should the approach to design a SBSC be chosen?* The findings in this synthesis of literature contribute to the research

field of managerial accounting by providing conceptual-level suggestions on ways to transfer complex environmental and societal issues into manageable performance metrics that can be further used to support management's decision-making.

The literature that has been used for the purpose of this work has been chosen based on its relevance from the perspective of the focal questions of interest, and further sorted based on the attention it has attracted in academic research. The literature extends all the way back to 1970, and forward until today. Most of the selected articles have been published in acknowledged, peer reviewed academic journals in the field of accounting, management, and business ethics. Keywords such as *"Balanced Scorecard", "Corporate Sustainability"* and *"Sustainability Balanced Scorecard"* have been used in search of quality sources. Search results have been further filtered based on the amount of citations they have accumulated, and the most cited articles have been used as important sources for this paper. This method has been systematically implemented throughout this work to ensure that the literature examined is relevant and of high quality. In addition, interesting findings and citations in fruitful articles have been considered as good indicators of other sources for the purpose of this work.

Structure

This literature review consists of five sections: (1) Introduction; (2) The Balanced Scorecard; (3) Corporate sustainability; (4) Sustainability Balanced Scorecard; and (5) Discussion. The section following this introductory part provides an overview of the BSC as an interactive management system for strategy execution. The section includes a brief overview of the background of the BSC and a description of the four perspectives of the BSC is included. In the third section, CS is defined and possible motives for integrating sustainability into business strategy are presented. In addition to analytical argumentation, the section also includes some empirical evidence on the business case of sustainability. In the fourth section, literature on the integration of sustainability into the BSC is analyzed, and further synthesized with the intention to compare different approaches to design a Sustainability Balanced Scorecard. The analysis in this work is mainly focused on the possibilities related to conceptual design. Finally, the last section consists of critical discussion including conclusions, limitations, and future research agenda.

2. Balanced Scorecard

2.1. Background

The need to establish more balanced systems for monitoring and measuring strategic performance was widely acknowledged in the United States before the official introduction of the Balanced Scorecard by Kaplan and Norton in 1992. At the time, a lot of criticism was directed towards the presumably short-sighted performance monitoring systems mostly based on companies' quarterly financial outcomes (Ikäheimo et al., 2019). Such systems might have been useful during the industrial era, but the world had already moved onto more complex, information-based business environments in which intangible assets and other soft factors were becoming more significant. Following this, such factors needed to be integrated into companies' performance measurement systems in order for them to be efficiently improved and managed (Kaplan, 2010). Consequently, Robert S. Kaplan and David P. Norton published their first article introducing the Balanced Scorecard in 1992. The concept was a result of a study with 12 company participants, whose findings were indicating that the root problem among executives was the lack of a balanced performance measurement system including both financial and operational measures. Indeed, this finding was the catalyst for the BSC (Kaplan and Norton, 1992). Even before the introduction of the BSC, there were scholars advocating for the integration of non-financial metrics into companies' monitoring systems, but despite of this, companies persistently continued to lean on their monetary outcomes, and budgeting, in order to maintain their focus on short-term performance (Kaplan, 2010). The BSC was the tool that eventually broke through and brought a more balanced managerial tool to wider use.

2.2. Conceptual definition

The Balanced Scorecard can be defined as a managerial tool designed to help executives translate vision and strategy into measurable and hence manageable actions (Kaplan, 2010). The BSC was originally described as a performance measurement tool only, but later it became clear that it could be determined as "an interactive management system for strategy execution" (Kaplan, 2010). As briefly discussed in the previous section, the need for establishing a more balanced performance measurement system accounting for not only financial outcomes but also for non-financial, "soft" factors such as intellectual capital or organizational learning, forms the basic assumption behind the BSC (Figge et al. 2002).

2.3. Structure

The BSC is structured in four distinct perspectives that are to be addressed when constructing a business-unit-specific balanced scorecard (see Figure 1); (1) financial perspective; (2) customer perspective; (3) process perspective; and (4) learning and growth perspective (Kaplan and Norton 1992). Developing a BSC for a specific business unit requires the identification of both lagging and leading performance indicators linked by cause-and-effect relationships in each of the scorecard perspectives (Figge et al. 2022). The lagging indicators are derived from the long-term strategic core issues of a company, and they represent the outcomes of the strategy driven by a causal linkage between them and their corresponding leading indicators. Thus, the leading indicators represent measures that drive the company forward and towards the achievement of the desired strategic outcomes (Figge et al. 2002). Because of the inherent reliance on causality between different indicators, the structure of the scorecard can be perceived as hierarchical, starting with the financial perspective at the highest level (see Figure 1). However, it is noteworthy that the presumption of causality between the indicators has also received some criticism in the literature. It has been argued that instead of a statistically shown causal relationship, the relationship between lagging and leading indicators might be merely logical (Nørreklit, 2000), and that the mechanism of the BSC might actually derive from a psychological belief in an existing cause-and-effect relationship between measures and end results (Sundin et al., 2010). This would suggest that the basic assumption behind the BSC might be flawed. However, this is not to state that the BSC should not be utilized - it is rather an observation to be aware of it when using the BSC for performance management. It might not even matter whether there is a factual causal linkage between the indicators for as long as the presumed belief holds (Sundin et al., 2010).

2.4. Four scorecard perspectives

Next, a brief description of the four BSC perspectives: (1) financial perspective; (2) customer perspective; (3) internal process perspective; and (4) learning and growth perspective is presented to provide a more comprehensive picture of the structure of the BSC. The description starts from the highest level of the hierarchical structure.

Financial perspective

The financial perspective determines how the company wants to be seen through the eyes of its shareholders (Kaplan and Norman, 1992). It is also the one perspective that has a two-fold role: it both indicates whether a given strategy has produced desired monetary outcomes, and functions as the outcome of lower-level indicators' cause and effect relationships (Figge et al. 2002). The financial perspective typically includes accounting measures on profitability, return on investment or revenue growth (Kaplan and Norman, 1992).

Customer perspective

The customer perspective defines how the company seeks to achieve competitive advantage and build excellent customer orientation in its chosen market segments (Figge et al. 2002). According to Kaplan and Norman (1992), customer concerns have the tendency to relate to one of the following categories: time, quality, performance and service, and cost. Thus, some usable scorecard indicators arising from the customer perspective could relate to lead time or the amount of incoming reclamations regarding product quality (Kaplan and Norman, 1992).

Internal process perspective

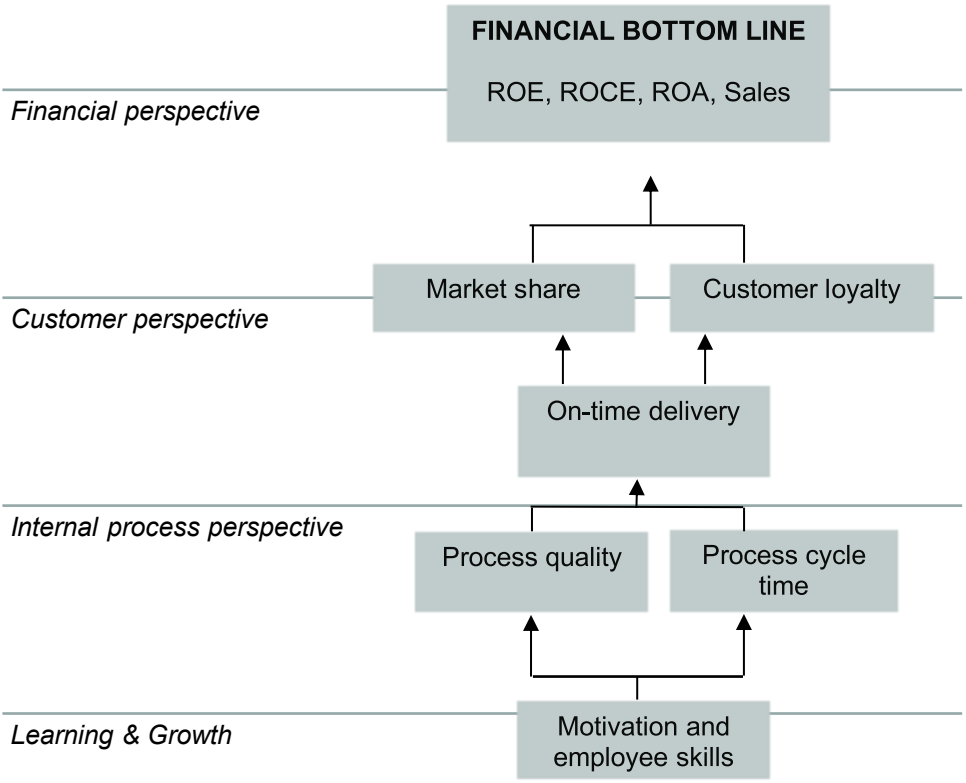
The internal process perspective indicates the areas regarding the company's internal processes that enable the fulfillment of the company's objectives regarding its customers in the targeted segments, as well as its shareholders (Figge et al. 2002). The chosen indicators that measure internal processes should be derived from the aspects that mostly impact customer satisfaction (Kaplan and Norman 1992).

Learning perspective

The learning and growth perspective forms the basis for all other perspectives because it represents the intangible infrastructure that is required to excel in the business unit's internal processes. Especially in today's highly competitive market conditions, it is required that the company maintain its ability to learn, innovate and make improvements in its operations (Kaplan and Norman 1992). Motivation, goal-orientation and employee skills are some of the core issues to be addressed in this perspective (Figge et al. 2002). It is easy to understand the

importance of the learning and growth perspective as it forms the foundation for improvements in all other perspectives.

Figure 1. The hierarchical structure of the Balanced Scorecard. (Kaplan and Norton, 2010)



2.5. Causal chain

As previously mentioned, developing a business-unit-specific BSC requires the identification of both lagging and leading performance indicators linked by cause-and-effect relationships in each of the scorecard perspectives (Figge et al. 2022). Thus, the causal chain moves throughout all the four perspectives, starting from learning and growth and arriving at the financial outcome (see Figure 1). The assumption of causality between different lagging and leading indicators has also resulted in the use of strategic maps which can be used to first assess the strategic objectives, and afterwards decide upon the metrics to be used for control (Kaplan,

2010). In addition, it is logical to assume that different performance indicators linked by causal chains are not separate from each other but are rather closely intertwined, and therefore even more relevant when measured together and accounting for their relationships.

3. Corporate sustainability

3.1. Conceptual definition

Corporate sustainability (CS) has gained a lot of attention in research over the recent years. Many acknowledged academic scholars and business leaders have joined the race for pushing the sustainability issues closer to the corporate world (Margolis and Walsh, 2003), and company executives can no longer overlook the effects their companies' operations might have on the surrounding world. Not only have the governmental bodies transferred most of the weight of sustainability issues on the shoulders of corporations, but also non-governmental organizations and company stakeholders expect to see increasing contributions to addressing sustainability issues while improving transparency and sustainability reporting (Van Marrewijk, 2003). In fact, sustainability reporting has become mandatory in many countries in recent years (Ioannou and Serafeim 2011), which speaks for the importance of environmental and societal issues in general, and on management's agenda.

In the broad sense, sustainable development has been defined as a *"process of change in which the exploitation of resources, the direction of investments, the orientation of technological development; and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations"* (WCED, 1987). Linking sustainability into business context, sustainability can be seen as an umbrella term which covers a variety of environmental and societal issues (Rohm and Montgomery, 2011). According to Rohm and Montgomery (2011), issues related to CS include, among others, the environmental pressure induced by population growth and gentrification in large developing countries such as China and India, resource scarcity and higher costs of materials and energy, and increasing demand for sustainable products. Also, the power of both media, and increasingly conscious consumers, account for higher transparency and accountability in corporations (Rohm and Montgomery, 2011). Consequently, the financial success of a business strategy is increasingly dependent on how well the company manages to establish strategic objectives that are well enough balanced

between the financial outcome, and environmental and societal issues. (Shank and Shockey, 2016).

3.2. Motives for CS

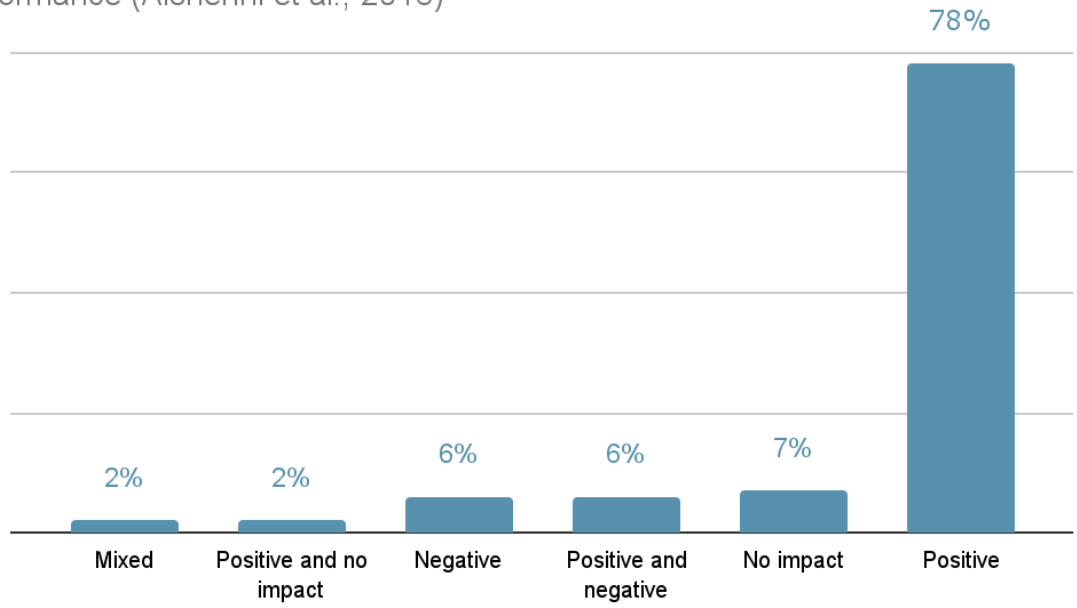
So, why should companies engage in environmentally and socially responsible actions and seek to integrate sustainability as part of their business strategies? What motives do companies have to find ways to design, implement and manage sustainability strategies? There have been theoretical arguments and empirical findings both for and against the contribution to sustainability issues in terms of value creation. Perhaps the most polarizing and widely quoted statements against corporate responsibility in general were written by Friedman in 1970, arguing that "only people have responsibilities", and that the responsibility of company executives is to conduct business aligned with shareholders' desires, and that the focus should be on increasing shareholder value through increased profits (Friedman, 1970). However, such black and white reasoning might not serve all shareholders, nor be reasonable from the perspective of other company stakeholders, or the planet, in contemporary market conditions. Hence, advocates for integrating sustainability into business strategy have become louder in recent years. In the following subsections, some of the most notable motives supporting CS presented in academic literature will be discussed and evaluated.

3.2.1. Correlation between sustainability and financial performance

What Friedman stated in 1970 about the company's responsibility to increase shareholder value through increased profits might not be the only thing to focus on, but it can still be considered a major component affecting the decision-making in companies. Thus, perhaps one of the most crucial questions to ask about sustainability in the business context is whether CS can help companies excel financially. The evidence throughout academic literature has for long been inconclusive on whether a positive relationship between CS and financial performance might exist, and some researchers have even found a negative relationship between corporate social performance and financial performance (Griffin and Mahon, 1997). However, in the midst of all the inconclusiveness resulting from contradictory evidence, there is also promising statistical evidence indicating a positive relationship between the notions.

Orlitzky et al. (2003) conducted a meta analysis of 52 studies focused on examining the link between corporate social performance and corporate social responsibility, and the findings suggested a positive correlation between corporate social and financial performance of a company. It is noteworthy that the findings in this meta-analysis indicate higher correlation between pure corporate social performance, such as that related to managerial behavior and minority hiring, and financial outcomes compared to that of corporate environmental performance (Orlitzky et al., 2003). Aligned with the findings of Orlitzky et al. (2003), a more recent literature analysis by Alshehhi et al. (2018) concluded that out of 132 publications in acknowledged academic journals, a total of 78 % reported a positive relationship between CS and financial outcomes (see Figure 2) measured most frequently by financial ratios on capital returns, such as ROA, ROE and ROI, and numbers related to market capitalization such as EPS and Tobin's Q (Alshehhi et al., 2018). In addition, sales were used in many publications.

Figure 2. Relationship between sustainability dimensions and financial performance (Alshehhi et al., 2018)



3.2.2. Reputational effects

Instead of addressing merely financial motives for the integration of sustainability into business strategy, reputational effects should not be overlooked either. Company executives must acknowledge the concerns of third parties - be they enthusiastic activist groups, market analysts or the media in general - to build and maintain a good reputation (Alshehhi et al., 2018). Environmental and social issues often represent both risks and opportunities for companies in terms of reputation (Hansen and Schaltegger, 2016), and if managed properly, companies might be able to not only avoid risks imposed on them, but also turn reputational effects into better financial performance (e.g., Jančiauskaitė et al., 2019). In contrast, companies that fail to manage these factors, will not be able to control either the positive or the negative impact they might have on the financial performance of the company (Hansen and Schaltegger, 2016). Regarding this, especially the role of social media today should be acknowledged. This is because in social media platforms, external stakeholders can freely share their thoughts and opinions with others (Kaplan and Haenlein, 2010), reach high numbers of people rapidly (Reilly and Hynan, 2014) and therefore execute power. Hence, this increases the need for appropriate tools to strategically manage environmental and societal issues in the business context. On the other hand, companies that consistently contribute to and communicate CS to their stakeholders, might benefit from increased trust and customer loyalty (Jančiauskaitė et al., 2019), and managing reputational effects could eventually result in better monetary performance.

3.2.3. Laws and regulations

In addition to financial and reputational effects, laws and regulations on sustainability reporting have been empirically shown to push companies toward more sustainable ways of doing business in general (Ioannou and Serafeim, 2011). Following the implementation of mandatory sustainability reporting, executives have been shown to become more responsible in their actions, and investments in human capital have increased while governance-related issues such as bribery and corruption have been shown to decrease (Ioannou and Serafeim, 2011). This could further suggest that mandatory reporting might serve as a motive for more efficient sustainability management.

4. Sustainability Balanced Scorecard

4.1. Suitability of the BSC for sustainability performance measurement

Since the balanced scorecard is widely used to help executives translate company vision and strategy into implementable objectives (Kaplan, 2010), it may also be used for organizations to implement sustainability-related dimensions into their business strategy (Epstein and Wisner, 2001). According to Rohm and Montgomery (2011), organizations typically assign major strategic themes according to which lagging and leading scorecard indicators are chosen. Along with some of the traditional themes such as operational excellence or innovation, sustainability could serve as a guiding theme as well. The role of sustainability in each of the four BSC dimensions could be described as follows, starting from the lowest level of the hierarchy (Rohm and Montgomery, 2011): (1) from the learning and growth perspective, sustainability could mean establishing a culture that is based on sustainable values and that guides employees' choices towards sustainable ones in their daily work; (2) from the internal process perspective, sustainability could be enhanced through efficient and environmentally friendly material use; (3) from the customer (or stakeholder) perspective, sustainability could offer a way to fulfill the expectations of environmentally and socially conscious customers and stakeholders; and (4) from the financial perspective, sustainability could simply be a way to survive and keep investors happy through healthy returns on investment.

The BSC has been suggested to be particularly suitable for implementing sustainability into corporate strategy for at least two three reasons (Figge et. al, 2002). Firstly, it has been emphasized that managing corporate sustainability should start by identifying possibilities for simultaneous contributions to all three dimensions of sustainability; *social, environmental and economic* goals for strong contributions to sustainability (Figge et. al, 2002), and the structure of the BSC is suitable for this purpose while other approaches for sustainability management hardly address all three dimensions of sustainability (Hansen and Schaltegger, 2016). Secondly, the structure of the BSC results in a single integrated management system accounting for all of the three dimensions of sustainability instead of requiring multiple systems for each different dimension (Hansen and Schaltegger, 2016). This characteristic of the BSC could help establish a relatively simple tool for sustainability performance measurement even when used to manage highly complex and multidimensional issues related to CS.

4.2. Theoretical perspectives

Hansen and Schaltegger (2016) have identified three different theoretical approaches through which the reasons for establishing a SBSC can be perceived; instrumental theories, social and political theories, and normative theories. Instrumental theories examining the SBSC emphasize the financial implications of sustainability, and therefore consider the SBSC to serve as a means to execute rational strategic management. On the other hand, social and political theories focus on conflicts and power distribution among third-party interest groups, and in this the SBSC serves as a means to assist companies in adapting to external expectations among stakeholders and society, and maintain image. The normative theories differ from the aforementioned theories in their nature in that they do not derive from empirical evidence, but rather lean on purely analytical argumentation. The normative theories suggest a philosophical argument regarding CS - corporations are morally obliged to contribute to sustainability. (Hansen and Schaltegger, 2016.) In this paper, the emphasis is on the instrumental perspective as it can be considered to have the strongest linkage to financial measures, and therefore to be highly relevant in the research field of managerial accounting.

4.3. Level of hierarchy

As emphasized in the second section of this paper, the conventional BSC builds on the presumption of causality between hierarchically constructed lagging and leading indicators (Kaplan and Norton, 2010). However, evolution in the research literature concerning the BSC has eventually resulted in modifications that might not hold the strictly hierarchical structure as given. Instead, three types of hierarchical structures have been identified in literature (Hansen and Schaltegger, 2016); strictly hierarchical, semi-hierarchical and non-hierarchical. The differences between the structures will be elaborated in the following subsections.

4.3.1. Strictly hierarchical perspective

According to Hansen and Schaltegger (2016), a strictly hierarchical approach in designing a SBSC often relates to the instrumental theories focused on competitive advantage and other business aspects of sustainability. The hierarchical top-down formation of the balanced scorecard has been argued to help ensure all business operations are linked to the financial

bottom line by causal chains, and contribute to the successful implementation of a strategy while allowing the company to make contributions to sustainability in all three dimensions (Figge et. al, 2002). This approach therefore emphasizes the presumed causal connection between a chosen sustainability indicator, and its implications on the financial performance. However, not all companies base their strategic objectives merely on profits and maximizing shareholder value. Instead, multiple equally important objectives related to different stakeholders might exist simultaneously (Sundin et al., 2009), and this might require the balancing of objectives and accounting for various trade-offs. From this observation, a less hierarchical approach to construct a SBSC might be justified.

4.3.2. Semi-hierarchical approach

The semi-hierarchical approach for constructing a SBSC if often related to the political and social, and normative theories of SBSC implementation, and the emphasis is directed towards different stakeholders and third parties (Hansen and Schaltegger, 2016). The approach accounts for the need of balancing different objectives by two different ways (Hansen and Schaltegger, 2016): firstly, by allowing for less strict and even the exclusion of hierarchy in the design of a SBSC; and secondly, by extending from the financial bottom line to triple bottom line (van Marrewijk, 2004) including environmental, societal, and economic objectives. The triple bottom line perspective integrated to the BSC allows for the sustainability dimensions to be treated as separate variables rather than as mere contributors to the financial outcome (Hansen and Schaltegger, 2016). Van Marrewijk (2004) emphasizes the power in combining the efforts of both internal and external stakeholders in order to find new opportunities and improve overall performance while accounting for the triple bottom line. Thus, a semi-hierarchical approach to a SBSC allows for more flexibility in its architecture and might offer ways to better address third-party concerns or the moral obligations of companies.

4.3.3. Non-hierarchical approach

The non-hierarchical approach relates mostly to the normative theory, and it can be argued that it resembles more of a stakeholder scorecard than a "strategy balanced scorecard" in its conventional sense because of its network-like design (Hansen and Schaltegger, 2016). However, this argument has been previously questioned (e.g. Sundin et al., 2009), and for instance Hubbard (2009) has proposed a formation of a specific Sustainable Organization

Performance Index (OPSI) which could be created in order to have an index to represent overall sustainability performance in a customizable way. Thus, despite the complexity of the non-hierarchical network approach, it might also be possible to create a single measure for performance in calculated areas, and implement sustainability widely into business strategy.

4.4. Designing a SBSC

In general, research on the BSC and the SBSC can be divided into four distinct stages: design, implementation, use, and evolution (Searcy, 2012), and this paper will be limited to the examination of the design, or "architecture" of the SBSC. In academic literature, three general ways to design and thus integrate sustainability into the conventional BSC have been suggested (Figge et al., 2002; Butler et al., 2011; Epstein and Wisner, 2001): Firstly, the sustainability dimensions could be integrated into the four conventional perspectives of the BSC. Secondly, an additional fifth perspective could be added to complement the conventional BSC perspectives. Thirdly, an addition to the two aforementioned alternatives, i.e. a derived sustainability scorecard could be established (Figge et al., 2002; Butler et. al, 2011; Epstein and Wisner, 2001). The choice on which of the approaches to use is dependent on the strategic objectives and challenges facing the company (Epstein and Wisner, 2001). The integration into the conventional BSC and the creation of a new, fifth perspective can be considered as mutually non-exclusive (Figge et al., 2002), and Hansen and Schaltegger (2016) suggest an even more detailed categorization by dividing the two general architectures into different combinations based on how widely the sustainability dimensions were to be integrated into the four perspectives: partial or broad integration into the established perspectives; creation of a separate sustainability perspective (add-on); or complete integration complemented with an add-on. In the following subsections, all three general ways to design a SBSC will be discussed in more detail, further differentiating between the level of integration involved.

4.4.1 Integration into the four BSC perspectives

Figge et al. (2002) suggest that the integration of strategically relevant sustainability aspects into the conventional scorecard perspectives be relatively straightforward, and particularly relevant, for sustainability factors that are already included in the market system through market mechanisms. The reason for this is that the approach requires that the sustainability aspects are subsumed under the established four perspectives, and the BSC in its original form

is a market-driven tool that almost exclusively consists of measures that function based on market mechanisms (Figge et al., 2002). Such market-driven factors could be for instance environmental costs reflected in market prices (Figge et al., 2002). As mentioned in the previous subsection, the integration may be performed either partially or completely (Hansen and Schaltegger, 2016), depending on the extent to which environmental and social factors are to be accounted for. The differentiation between the level of integration will be addressed next.

a) Partial integration

Partial integration of sustainability dimensions indicates that sustainability aspects are only partially integrated into the four conventional perspectives (Hansen and Schaltegger, 2016). For instance, companies might define sustainability aspects as part of the internal process perspective, and consequently subsume sustainability indicators under this perspective only (Epstein and Wisner, 2001). In this case, sustainability indicators to be integrated usually relate to environmental protection, taxation or energy consumption, i.e. factors directly linked to internal processes (Hansen and Schaltegger, 2016). On the other hand, some companies might find intangible assets and innovation as strategically central, and allocate sustainability into the growth and learning perspective instead of the other alternatives. According to Epstein and Wisner (2001), the choice on where to allocate sustainability on the scorecard depends on the characteristics of the company, the challenges it faces as well as its strategic core issues. Thus, the unique characteristics of a company's operating environment are profound in determining the appropriate approach in terms of partial integration.

b) Complete integration

Complete integration refers to the broad integration of sustainability aspects into all of the four BSC perspectives (Hansen and Schaltegger, 2016), all of which could be extended by adding environmental and social measures chosen from a wide range of possible alternative measures (Epstein and Wisner, 2001): First, the learning and growth perspective could be extended by measures such as inclusion of green funds to support innovation, or workforce diversity measured by age, race and gender, among others; second, the internal process perspective could be complemented by measuring the recycle of materials in production and employee overtime hours on average; and third, the customer perspective could include measures on the number of green products, and events particularly arranged to support sustainable causes. The chosen

measures in the three previous perspectives would then ultimately be reflected in the financial perspective through corresponding lagging indicators. The performance drivers in lower-level perspectives could be reflected in the financial outcome through numerous ways, e.g savings in environmental costs, revenues from green and/or socially positioned products, increased sales from reputational effects, and reduction in hiring costs.

4.4.2. Add-on - a fifth perspective

According to Kaplan and Norton (1996), the BSC should be designed according to the strategic objectives of a business unit, of which some might require the introduction of additional perspectives specifically relevant to the business unit in question. Further, all stakeholders' interests can be incorporated into the scorecard if they are vital for the strategy of the specific business unit (Kaplan and Norton, 1996). Hence, this already suggests the possibility of extending the conventional BSC by adding other perspectives to it. Determining whether adding a fifth perspective is appropriate should derive from careful analysis on which factors are most relevant for the strategy of a specific business unit, and how critical sustainability performance is for the unit's strategic performance (Epstein and Wisner, 2001). Those companies that have identified sustainability dimensions as central to their strategy, might find adding a fifth perspective to the scorecard beneficial for several reasons. Firstly, the add-on approach allows the pursuit of several sustainability-related objectives, and therefore provides companies a way to devotedly contribute to corporate sustainability. The fifth perspective offers an opportunity to widely account for different stakeholders affected by the company (Hubbard, 2009). Secondly, strong contribution to sustainability might help create competitive advantage through factors related to brand, image and reputation. Also, the fifth perspective may also serve as a means to emphasize the relevance of sustainability for the company - including a fifth sustainability perspective could be considered a manifestation of high managerial concern allocated to sustainability issues (Epstein and Wisner, 2001; Hansen and Schaltegger, 2016).

4.4.3. Combination of integration and add-on

As previously mentioned, the integration into the conventional BSC and the creation of a new, fifth perspective can be considered mutually non-exclusive (Figge et al., 2002). This indicates an opportunity to combine these two approaches and utilize them to establish an extended

design, which can be seen as the most advanced way to integrate sustainability into corporate strategy (Hansen and Schaltegger, 2016). Figge et al. (2002) argue that the choice between integration into the four perspectives and developing a fifth perspective should be driven by whether the sustainability indicators in questions arise as social constructs, and affect through "non-market" mechanisms, or as market-driven factors reflected in exchange prices or other market mechanisms. However, Figge et al. (2002) also emphasize that because situations in which both strategically central non-market and market-driven factors might exist, a final decision on either approach might not be desirable. Hence, the two approaches might be combined according to the unique characteristics of the business unit for which the scorecard should be designed.

4.4.4. A derived sustainability scorecard

Instead of merely subsuming sustainability issues under the conventional scorecard labels or introducing a fifth perspective, there have also been authors suggesting the redesign of the scorecard dimensions and therefore establishing a completely independent sustainability scorecard (Figge et al., 2002; Epstein and Wisner, 2001; Butler et. al, 2011). A less deviating way to redesign the scorecard is to, for instance, relabel the customer perspective as customer and/or stakeholder perspective (e.g. Rohm and Montgomery, 2011). Taking the redesign further, some authors have also suggested complete replacement of some perspectives (Hsu et al., 2011). Even though the financial perspective is usually left unaltered especially in the strictly hierarchical approaches (Hansen and Schaltegger, 2016), Hsu et al. (2011) have presented an exemplary scorecard with the financial perspective completely replaced by *sustainability,* and the customer perspective replaced by *stakeholders.*

A derived SBSC might be a noteworthy alternative for companies that operate without an established BSC system, and want to continue similarly while looking for ways to integrate sustainability into their strategy. Thus, the derived SBSC might help companies accomplish this without the company having to bear unnecessary costs related to full-scale adoption of the BSC (Butler et al., 2011). Another reason for using this approach is the desire to integrate sustainability while allowing for established BSC systems to remain unaltered (Butler et al., 2011). In addition, replacing conventional scorecard perspectives and introducing a dedicated SBSC might offer companies a way to give more weight to insufficiently addressed sustainability initiatives (Hsu et al., 2011).

4.5. Comparison between the design approaches

According to Figge et al., 2002, integration into the four established perspectives should be the primary approach to account for environmental and social aspects in the scorecard especially if the strategically relevant factors are inherently included in the market system through market mechanisms. On the contrary, Hubbard (2009) has argued that the creation of a fifth perspective devoted to environmental and social aspects might be the best option because of problems that might arise if the integration was performed merely by integration into the four established perspectives. According to Hubbard (2009), the integration approach requires that the sustainability objectives integrated must either substitute some of the existing economic objectives in the scorecard, or the four perspectives must be complemented with new measures, and the complexity of sustainability issues could eventually lead to some economically sound objectives to be hindered, in order to fit the new objectives into the scorecard. Also, since the value of the BSC builds on its relative simplicity, some of the value might be destroyed by adding too many objectives. Thus, the scorecard might become more difficult to communicate, and it might become more expensive to manage (Hubbard, 2009).

Controversial to the advocation of Hubbard (2009) for the fifth perspective, the add-on design has also been argued to be to some extent reactive, and it may be prone to fail if not carefully linked to the other four perspectives (Hansen and Schaltegger, 2016). Some considerable risks discussed in literature include the risk of the fifth sustainability perspective to remain an isolated, parallel structure managed merely by the sustainability department, and the risk of the perspective to be removed from the scorecard as a result of sudden changes in managerial agenda (Hansen and Schaltegger, 2016). Thus, Figge et al. (2002) emphasize that the justification for adding a dedicated sustainability perspective should derive from explicit relevance of environmental and social dimensions for the corporate strategy, and that such add-on should only be established if the strategically relevant aspects may not easily be integrated into the other four perspectives of the scorecard. Not being able to integrate the relevant aspects into the four perspectives might follow the fact that environmental and social aspects mostly occur as social constructs, and might therefore not be fully embedded in the market mechanisms. (Figge et al., 2002) However, as previously discussed, Figge et al. (2002) also state that because situations in which strategically central non-market and market-driven factors might exist simultaneously, a final decision on either approach might not be desirable,

and both approaches might be combined according to the unique characteristics of the business unit for which the scorecard should be designed.

4.6. Developing a SBSC

After the conceptual discussion regarding the design of a SBSC, this section will briefly examine the process of developing, or extending the scorecard. The process of developing a SBSC can be described in three different stages (Figge et al., 2002): (1) The strategic business unit for which the scorecard is to be established should be defined; (2) the strategically relevant environmental and social aspects should be identified; and (3) the exact relevance of such aspects to the appointed business unit should be articulated.

4.6.1. Definition of a business unit

The process of developing a SBSC should start by defining the strategic business unit for which the scorecard is meant for. The choice of a business unit includes the presumption that the chosen business unit already has a strategy that can be implemented and managed through the scorecard (Figge et al., 2002). Thus, a precondition for the formation of a SBSC is that an agreement on the strategic core issues of the business unit exists among the management.

4.6.2. Identification of environmental and social exposure

The second step in the process would be to identify those sustainability aspects that are central to the strategy of the chosen business unit, and a profile of the environmental and social exposure of the unit should follow (Figge et al., 2002). For this purpose, Figge et al. (2001) suggest general frameworks that can be used, each for different types of exposure. Firstly, environmental aspects can be identified by listing environmental exposure factors, and their corresponding occurrence in the specific business unit. All the products and operations in the business unit should be examined accounting for the listed environmental factors. The purpose of this is to identify all the actions performed in the business unit that may trigger environmental exposure (Figge et al., 2001) and might hence need proper tools of management. Secondly, social aspects can be identified using a framework derived from stakeholder theory (Freeman, 1984) and which better accounts for the complexity and diversity of social exposure (Figge et al., 2002). According to the framework, the stakeholders can be divided into different

groups based on whether they are internal stakeholders, stakeholders affected through the value chain, stakeholders in the local community or stakeholders in society as a larger entity. Once the relevant stakeholders have been identified, the next step would be to assess the social claims and concerns arising from the stakeholders, which would then eventually lead to a profile on social exposure of the business unit (Figge et al., 2002).

4.6.3. Determination of strategic relevance of the exposure

The third step in the process involves the determination of the strategic relevance of each factor causing environmental or social exposure for the business unit. This is also the step which culminates the purpose of the BSC itself - to translate vision and strategy into lagging and leading indicators (Kaplan and Norman, 1996). The environmental and social factors identified in the previous step should now be intgrated into the scorecard by determining their strategic relevance for the business unit. According to Figge et al. (2002), the extent of strategic relevance can be determined through placing each environmental and social aspect under three different categories; strategic core issues, performance drivers and "hygienic factors." Those aspects that represent strategic core issues, should be appointed lagging indicators in each of the scorecard perspectives. In contrast, performance drivers should be presented as leading indicators that contribute to the accomplishment of set objectives related to the strategic core issues. On the one hand, hygienic environmental and social factors can be considered as supportive factors that should be addressed, but do not have direct impact on strategic core issues, nor constitute competitive advantage (Figge et al., 2002).

Thus, after determining the strategic relevance, appropriate ways to measure the strategically relevant sustainability aspects should be identified and linked to the top perspective - be it the financial bottom line or the triple bottom line, depending on the hierarchical approach of the design. For the purpose of identifying core issues and their performance drivers, Figge et. al., 2002; 2001a) suggest the use of a matrix differentiating between environmental factors and social factors, further divided between the exposure between internal and external stakeholders (see Table 1). Once the analysis of the strategically relevant aspects has been performed, it can then be determined whether the exposure is linked to market or non-market mechanisms, and hence whether an additional, fifth sustainability perspective could be justified (Figge et al., 2002).

Table 1. Matrix for determination of strategically relevant sustainability aspects (Figge et al., 2001a)

	Environmental exposure					**Social exposure**							
						Direct stakeholders				Indirect stakeholders			
	Emissions	Waste	Radiation	Material input	Land use	Internal	Along the value chain	Local community	Society	Internal	Along the value chain	Local community	Society
Strategic cores issues	#1												
	#2 ...												
Performance drivers	#1												
	#2 ...												

4.6.4. Metrics of sustainability

There are various criteria against which the identified performance drivers and their corresponding metrics could be observed. According to Butler et. Al (2011), the chosen metrics should above all be controllable by the business unit's employees, and measurable in numeric values. In sustainability context, multidimensional measures are usual because of the complexity involved in sustainability operations (Butler et al., 2011), and the chosen metrics should hence reflect all the components that might be involved in the performance of a specific measure. Another considerable point is that external factors that cannot be influenced by the personnel should be eliminated from the measures, if possible (Ikäheimo et al. 2019).

In literature, assessing the impact of sustainability on financial performance has induced the introduction of many new, market-based financial measures that complement the traditional accounting measures. Accounting measures such as ROI, ROA and ROCE, are still popular among researchers, but the addition of market-based measures might offer valuable insights on

forecasted financial performance instead of purely historical performance (Alshehhi et al., 2017).

5. Discussion

5.1. Conclusions

Based on this synthesis of literature, the BSC serves as a conceptually applicable managerial tool for the integration of sustainability into business strategy. The purpose of this work was to critically analyze and synthesize previous academic literature with the intent of providing insights on the following questions: *How can sustainability be integrated into the conventional BSC on a conceptual level? Based on which criteria should the approach to design a SBSC be chosen?* After a thorough, but not extensive, analysis of literature, three general ways to integrate sustainability into the BSC and establish a SBSC can be identified (Figge et al., 2002; Butler et al., 2011; Epstein and Wisner, 2001): (1) Integration into the four perspectives; (2) creating an add-on fifth perspective; and (3) developing a derived sustainability scorecard. Also, the first and the second approach can be treated as mutually non-exclusive, and a combination of both could be useful in some situations.

In general, it seems that the perceptions on which approach to choose for design is still under debate, and no generalized conclusions can be drawn. However, prior research highlights the strategic objectives and challenges facing the company as major determinants affecting the choice (Epstein and Wisner, 2001), and there have been suggestions on some directional criteria that could provide guidelines on the appropriate approach. For instance, Figge et al. (2002) advocate for the integration into the four perspectives unless the sustainability issues relevant for the business unit's strategy derive strictly from non-market mechanisms, in which case the fifth perspective might be properly justified. Figge et al. (2002) also acknowledge the possibility of non-market and market-driven factors' simultaneous existence, and hence a final decision on either approach might not be even desirable. In contrast, Hubbard (2009) argues that the integration into the four perspectives might result in the scorecard losing its value and becoming hard to communicate if too many metrics were added, and thus advocates strongly for the fifth perspective. However, Hansen and Schaltegger (2016) perceive the fifth perspective as risky because by its use, sustainability might not be properly integrated into the

general management and control of the company, and hence remain a parallel structure in the performance management system of the company.

To address the third alternative as well, Butler et al. (2011) argue that a derived sustainability scorecard might help companies to integrate sustainability into their strategy and without having to bear unnecessary costs related to the full-scale adoption of the BSC, were it otherwise non-desirable (Butler et al., 2011). Butler el al. (2011) also note that a derived sustainability scorecard offers a way to integrate sustainability without having to alter already established BSC systems. In addition, Hsu et al. (2011) point to the value of the derived scorecard in such circumstances that require emphasizing the importance of sustainability metrics in the company or a specific business unit. In this case, the derived sustainability scorecard might have informational value. In general, it seems that the alternative of a derived sustainability scorecard remains less debated in the light of the literature analyzed for this work.

5.2. Limitations

This work is not exhaustive because of significant methodological limitations. Firstly, not all relevant literature has been discussed because of the constrained width of the work, and linguistic barriers. The literature analyzed in this paper is almost exclusively written in English even though a large pile of relevant research has been conducted in other languages across Europe. These limitations in the literature might have automatically excluded some relevant arguments regarding the subject, and hence affected the conclusions drawn from the analyzed content. Secondly, this literature review merely seeks to develop an understanding on different possible ways to design and construct a sustainability balanced scorecard. Hence, the relatively narrow focus of this paper leaves other interesting areas on to the subject undiscussed. It might be reasonable to assume that the construction of a SBSC is not linear, but rather an iterative process, which would further indicate the need to include research on other areas under review. Therefore, literature concerning the *implementation, use, and evolution* of the SBSC might offer valuable substance even related to the design phase of the scorecard discussed in this review. Lastly, one of the limitations arises from the controversy related to the topic in the academic research field. The findings in literature regarding the motives for the integration of sustainability into strategy in general, and regarding the ways to integrate sustainability into the BSC, are inconclusive. As a result, the conclusions drawn are not unambiguous.

5.3. Suggestions for future research

This synthesis of literature contributes to the research field of managerial accounting by providing an overview on prior conceptual-level suggestions on ways to transfer complex environmental and societal issues into manageable performance metrics that can be further used to support management's decision-making. Given the controversy present in prior literature, more research on the implementation of different design approaches is called for. Since the increasing importance of CS also suggests that practical tools for sustainability management are needed, empirical evidence comparing different design approaches would be highly valuable in practice. Regarding empirical research, some of the focus areas could be for instance the influence of business-unit-specific strategic characteristics combined with the environmental and societal exposure on the choice of approach to design a SBSC. Also, more confined research regarding the role of industry-specific characteristics, and perhaps more detailed examination of certain environmental and societal issues could be useful. For example, research on the possibilities to more specifically manage programs related to diversity, equity, and inclusion through established SBSC systems could offer fruitful insights and practical implications to the field of strategic managerial accounting.

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