A STUDY ON CORPORATE SUSTAINABILITY PERFORMANCE EVALUATION AND MANAGEMENT: THE SUSTAINABILITY BALANCED SCORECARD

Ijaz Ali *, Saif Sami **, Nabil Ahmed Mareai Senan ***, Asif Baig ****, Imran Ahmad Khan *****

* College of Business and Management, Fahad Bin Sultan University, Tabuk, Saudi Arabia
** College of Business Administration, Al-Yamamah University, Riyadh, Saudi Arabia
*** Department of Accounting, College of Business Administration, Prince Sattam Bin Abdulaziz University, Al Kharj, Saudi Arabia; Accounting Department, Administrative Science College, Albaydha University, Yemen
**** Jubail University College, Jubail Industrial City, Jubail, Saudi Arabia
***** *Corresponding author*, Creative Heads Consultants, Aligarh, India
Contact details: Creative Heads Consultants, Aligarh, India

OPEN ACCESS

How to cite this paper: Ali, I., Sami, S., Senan, N. A. M., Baig, A., & Khan, I. A. (2022). A study on corporate sustainability performance evaluation and management: The sustainability balanced scorecard. *Corporate Governance and Organizational Behavior Review, 6*(2), 150–162. https://doi.org/10.22495/cgobrv6i2p15

ISSN Online: 2521-1889
ISSN Print: 2521-1870

Received: 22.02.2022
Accepted: 19.04.2022

JEL Classification: M10, M14, M19, O35
DOI: 10.22495/cgobrv6i2p15

Abstract

In recent years, more and more companies have noted the significance of addressing serious social and environmental issues, and various sustainability strategies have been implemented to ensure sustainable competitive advantage. An urgent issue is how to integrate sustainability strategy-related goals and key performance indicators (KPIs) into performance evaluation and compensation systems, and how to integrate employees' awareness of environmental protection and social contribution into their daily work. This study examines management tools that can link sustainability strategies with sustainability performance evaluation and compensation systems. Specifically, the balanced scorecard (BSC) is positioned as a management tool for measuring, evaluating, and managing sustainability performance, with a particular focus on the sustainability balanced scorecard (SBSC), which incorporates economic, environmental, and social factors. The purpose of this study is to clarify the role of sustainability performance assessment and management in sustainability management based on previous studies and cases of advanced companies that have introduced SBSC, such as the Generali Group, and to systematically evaluate the functions and usefulness of SBSC as a sustainability performance assessment and management tool. The findings indicate that the SBSC is an effective management tool for improving sustainability performance and implementing sustainability strategies.

Keywords: SBSC, Environmental Strategy, CSR Strategy, Sustainability Strategy, Sustainability Performance, Economic Factors

Authors' individual contribution: Conceptualization — I.A. and N.A.M.S.; Methodology — M.U.; Formal Analysis — S.S.; Investigation — A.B. and R.G.; Writing — Original Draft — I.A.K. and A.B.; Writing — Review & Editing — I.A.K. and A.B.; Supervision — A.K.; Project Administration — A.I.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

Sustainability is becoming a trending topic among academics, regulators, and corporations as a result of social changes, environmental degradation, and public interest. Scientific study on sustainability can assist organizations in developing strategies that meet the demands of their existing stakeholders while also safeguarding, sustaining, and improving social assets and natural resources for the future. Companies can use the sustainability balanced scorecard to manage their performance in terms of environmental concerns. The sustainability balanced scorecard (SBSC) is a continuous sustainability management philosophy that aims to guide an organization's ultimate strategy by combining economic and environmental goals. The scorecard results obtained are used by the company to assess its progress toward attaining its vision, performing its mission, and executing its strategic policies. The sustainability balanced scorecard can also be used to communicate and integrate strategies by planning, targeting, and aligning strategic initiatives, as well as increasing strategic learning feedback.

The remainder of the paper proceeds as follows. Section 2 provides a discussion on the literature review. Section 3 provides a discussion on the research methodology aspect. Section 4 is a conclusion.

2. LITERATURE REVIEW

2.1. Definition of sustainability performance

In general, performance is considered to be a means to achieve the vision and strategic goals of a company, while it is the result of some activity or business outcome of a company. In the traditional management accounting perspective, the economic results of a company's management activities (e.g., sales, profit growth, etc.) are recognized as indicators of the company's financial or economic performance. However, today, the United Nations' Sustainable Development Goals (SDGs) and the Paris Agreement's long-term goals and frameworks for combating climate change are becoming increasingly popular internationally (United Nations [UN], 2020, 2021). The importance of sustainability strategy development and management has increased as companies are now required to take an active role in social responsibility and environmental protection (Stead & Stead, 2014; Suárez-Gargallo & Zaragoza-Sáez, 2021). Therefore, in order to implement sustainability strategies, companies today need to rationally evaluate and manage not only their financial (or economic) performance but also their environmental and social performance, which reflects their commitment to environmental and social measures (Maas, Schaltegger, & Crutzen, 2016; Epstein & Buhovac, 2014; Schaltegger & Wagner, 2006a; Jassem, Zakaria, & Azmi, 2020).

ISO 14031 (ISO, 2013), the international standard for measuring environmental performance established by the International Organization for Standardization (ISO) in 1999, defines environmental performance as "the measurable results of an environmental management system for the management of the environmental aspects of an organization's activities in accordance with its environmental policies, objectives and targets" (ISO, 2013, p. 2). In other words, environmental performance is an indicator of the extent to which an organization has reduced its environmental impact as a result of its environmentally conscious business activities. For example, resource conservation, material recycling, energy conservation, renewable energy, and reduction of environmental pollutants. On the other hand, ISO 26000, an international standard related to corporate social performance, provides guidelines for rational measurement and evaluation of corporate efforts for sustainable development for the purpose of social responsibility in seven core issues: environment, consumer issues, labor practices, organizational control, community involvement and development, fair business practices, and human rights (ISO, 2010). For example, social performance is an indicator that shows the reduction in the number of occupational accidents, employment of people with disabilities, equal employment opportunity for men and women, protection of human rights, and support for NPOs and NGOs. In addition, economic performance, environmental performance, and social performance are not independent concepts in a company but are considered to influence each other in order to maintain the company's competitive advantage (Schaltegger & Wagner, 2006a). In 2013, the Global Reporting Initiative (GRI), which formulates international reporting guidelines on sustainability, published the fourth edition of its Sustainability Reporting Guidelines, which requires companies to disclose their sustainability performance that integrates economic, environmental, and social aspects. The S&P Dow Jones Indices, Inc. in the U.S. developed the Dow Jones sustainability index (DJSI), which analyzes corporate sustainability from three aspects: economic, environmental, and social, and provides useful information to ESG (environmental, social, and governance) investors and investment institutions (DJSI, 2017).

In light of the above, it is possible to define corporate sustainability performance as an indicator that integrates economic, environmental, and social performance (Schaltegger & Wagner, 2006c). By integrating sustainability performance into corporate management, companies can establish a win-win relationship that simultaneously considers economic, environmental, and social aspects (Epstein, Buhovac, & Yuthas, 2015; Barbosa, Castañeda-Ayarza, & Lombardo Ferreira, 2020). In order to achieve this, modern companies need to evaluate and manage their performance from the perspective of the TBL (triple bottom line) of "economy, environment, and society" (Elkington, 1998), in order to realize their sustainability strategies.

2.2. Functions of performance evaluation and management in sustainability management

Schaltegger and Wagner (2006b) define sustainability performance assessment and management as the evaluation and management of the interaction between economy, environment, and society.

In addition, the performance evaluation and management system for sustainability management is a series of processes of collecting, analyzing, and communicating information about sustainability management performance to support better management decisions (Maas et al., 2016; Burritt & Schaltegger, 2010). The integration of these environmental and social performance indicators into corporate performance evaluation and management systems has become a feature of sustainability performance evaluation and management (Epstein & Buhovac, 2014). The two main functions of sustainability performance assessment and management in corporate sustainability management are as follows.

One function is to link the strategic goals of sustainability management with business results and to promote the continuation and sustainable growth of sustainability management in companies. When implementing a sustainability strategy, managers use a sustainability performance evaluation and management system to establish strategic goals and targets and evaluate the implementation program by comparing actual and target values. In other words, an appropriate sustainability performance appraisal and management system provide management with a basis for evaluating the relevance of their sustainability strategy and corresponding actions. Specifically, a sustainability performance appraisal and management system have the following three roles in implementing a sustainability strategy 1) to examine the preconditions for strategy formulation and to form a company-wide consensus on the formulated strategy, 2) to disseminate the sustainability strategy and its implementation throughout the company and to facilitate communication between departments and individuals, and 3) to evaluate the direction of activities to ensure the success of the strategy and the achievement of strategic goals (Epstein & Buhovac, 2014).

The other function is for companies to properly evaluate and manage their sustainability performance and to disclose transparent and fair information about it in order to meet the needs and expectations of various stakeholders inside and outside the company. In recent years, the concept of sustainability management, such as corporate social responsibility (CSR) and creating shared value (CSV), has become more widespread, and at the same time, the environment surrounding companies, especially the values of stakeholders, has changed, making it even more important to respond to stakeholders outside the company. From the perspective of Clarkson's (1995) corporate stakeholder approach, in order to succeed in sustainability management, companies need to build and maintain good long-term relationships not only with internal stakeholders such as shareholders and employees but also with external stakeholders, such as local residents, suppliers, governments and NPOs. On the other hand, it is difficult for various stakeholders to rationally analyze and evaluate a company's sustainability efforts when the company does not have an effective and transparent approach to evaluating, managing, and reporting its performance (Perrini & Tencati, 2006; Abdelrazek, 2019).

Therefore, it is essential for companies to manage a series of sustainability performance evaluation and management processes (i.e., the plan-do-check-act (PDCA) cycle), including setting appropriate targets and target values corresponding to the sustainability strategy, rational allocation of management resources, creation and implementation of action plans, measurement and evaluation of sustainability performance, reporting to internal and external stakeholders, linkage with compensation systems, and adjustment of targets and performance improvement through various types of feedback. The management of a series of sustainability performance evaluations and management processes (i.e., the PDCA cycle) is essential for the implementation of a company's sustainability strategy. Furthermore, financial and non-financial information regarding sustainability performance is required to support a company's sustainability performance evaluation and management system.

2.3. Sustainability performance evaluation tool

2.3.1. BSC and sustainability strategy

We have discussed the two functions of sustainability performance assessment and management in developing and implementing a sustainability strategy, but there are not necessarily many management tools that fulfill these functions. In this study, the balanced scorecard (BSC) and SBSC are positioned and examined as the most powerful tools concerned from previous studies (Junior, de Oliveira, & Helleno, 2018; Mio, Marco, & Pauluzzo, 2016; Journeault, 2016; Hansen & Schaltegger, 2016; Butler, Henderson, & Raiborn, 2011; Sundin, Granlund, & Brown, 2010; Schaltegger & Wagner, 2006b; Sveen, Gresaker, Hæhre, Madsen, & Stenheim, 2020). Management tools, such as ISO 14001, ISO 26000, and the CSR scorecard, have been applied to promote sustainability strategies but compared to these tools, the BSC has the following characteristics.

First of all, while many management tools do not always sufficiently consider the causal relationships between strategy and performance indicators and between each performance indicator (Mio et al., 2016), the BSC identifies the most important financial performance indicators and environmental and social performance indicators related to sustainability strategy, clarify the causal relationships between them, and effectively and efficiently evaluate, monitor, and manage the sustainability performance of the entire company. Second, the BSC has the potential to support a series of processes, from the development and implementation of sustainability strategies to performance evaluation and improvement to the facilitation of external reporting and internal communication.

Kaplan and Norton's (1992) BSC was developed as a performance evaluation system to appropriately measure and evaluate the financial and non-financial performance of a company, and since then, it has developed as a strategic management system in the company-wide PDCA cycle (Kaplan & Norton, 1996) and as an organizational change framework for transforming into a strategy-oriented organization

(Kaplan & Norton, 2000). Many previous studies have evaluated BSC as a strategic tool that can facilitate the multidimensional and comprehensive evaluation and management of corporate management performance and results (Franco-Santos, Lucianetti, & Bourne, 2012; Anthony & Govindarajan, 2007; Kaplan & Norton, 2004). The ability to provide both financial and non-financial indicators for corporate performance management from the perspectives of finance, customer, internal process, and learning and growth is the most important feature of BSC. However, traditional BSCs are biased toward financial indicators (profit, sales) or related non-financial indicators (market share, customer satisfaction, etc.), and are not sufficiently adapted to performance evaluation and management systems that incorporate TBL (Hansen & Schaltegger, 2016; Figge, Hahn, Schaltegger, & Wagner, 2003). Therefore, it became necessary to develop a BSC that can support sustainability management, and the SBSC was proposed to support corporate sustainability performance evaluation and management and to realize sustainability strategies.

2.3.2. BSC and SBSC

The sustainability balanced scorecard is based on BSC and is defined as a sustainability performance management and strategic management tool to ensure the simultaneous success of the three aspects of a company: economic, environmental, and social (Figge et al., 2003). Initially, the SBSC was developed by incorporating environmental and social performance into the traditional BSC for companies to effectively and efficiently manage environmental and social issues, as well as achieve economic success (Figge, Hahn, Schaltegger, & Wagner, 2002). Since then, the SBSC has evolved into a tool for effective management of a series of processes, including the formulation of goals and key performance indicators (KPIs) corresponding to the sustainability strategy, the implementation of environmentally and socially conscious activities, performance evaluation, reporting, and improvement, and finally, the improvement of the sustainability performance of the entire company. In other words, the SBSC currently functions as a tool that can submit useful information for promoting the PDCA cycle, which covers the formulation of sustainability strategies, implementation of activities, evaluation and improvement, and communication within and outside the company.

Based on a review of 69 previous studies on SBSC, Hansen and Schaltegger (2016) showed two reasons why SBSC can be used to develop and manage sustainability strategies. The first is that SBSC enables the simultaneous integration of strategic goals into the economic, environmental, and social dimensions of sustainability management. The second reason is that SBSC can help companies reduce costs and improve efficiency by replacing independent environmental, social, and financial parallel systems with an integrated strategic management system.

As mentioned earlier, the SBSC, first developed by Figge et al. (2002), incorporates environmental and social performance indicators into a company's performance appraisal system to measure, evaluate, and monitor a company's overall sustainability performance. Junior et al. (2018) proposed one new corporate sustainability assessment model based on the combination of BSC and TBL and tested its applicability to Brazilian food and beverage companies. The purpose of the model is to provide useful information for management decision-making regarding the selection and setting of sustainability performance indicators, the measurement and evaluation of performance, and future improvements.

In addition, Mio et al. (2016) point out that the SBSC enables linking sustainability performance with compensation systems. Originally, employee compensation and bonuses were related only to the financial performance of the company, but in companies that have introduced SBSC (e.g., Generali Group), environmental and social performance is also a factor that determines the individual evaluation and compensation of employees, encouraging them to actively participate in environmental protection and social contribution.

In addition, SBSC can be used as an effective tool to promote communication between employees and managers in sustainability performance management (de Villiers, Rouse, & Kerr, 2016). The sustainability balanced scorecard can improve internal communication by clarifying the roles and common goals of each department and individual in sustainability management, and by sharing, coordinating, and cooperating.

Based on the above, the evolved SBSC has four roles: support for the development and implementation of sustainability strategic goals, support for sustainability performance measurement, evaluation and improvement, support for linking sustainability performance and compensation systems, and support for facilitating internal communication (Junior et al., 2018; Journeault, 2016; de Villiers et al., 2016; Hansen & Schaltegger, 2016; Kaplan & Norton, 2000). In other words, the SBSC, which has evolved from the conventional BSC, provides financial and non-financial information to the PDCA cycle, from the formulation of strategic goals for corporate sustainability management to the implementation of activities, evaluation, and improvement, thereby facilitating the management of a series of processes related to corporate sustainability performance evaluation and management, and ultimately realizing sustainability strategies.

In this section, the functions of sustainability performance assessment and management are discussed, and the necessity of developing BSC and SBSC as management tools for this purpose is presented. The next section examines the usefulness of SBSC in sustainability performance appraisal and management, which provides financial and non-financial information useful for performance management.

3. SUSTAINABILITY PERFORMANCE ASSESSMENT AND MANAGEMENT AND SBSC

As mentioned above, SBSC can be used to assess, manage, and improve the sustainability performance of an entire company by comprehensively and

systematically promoting corporate sustainability management from three aspects: economic, environmental, and social (Hansen & Schaltegger, 2018; Junior et al., 2018; Journeault, 2016). This section examines the four roles of the SBSC in sustainability performance assessment and management based on advanced examples of SBSC adoption, such as the Generali Group, by considering how the SBSC supports the formulation and implementation of sustainability strategy goals, supports the measurement, evaluation, and improvement of sustainability performance, supports the linkage between sustainability performance and compensation systems, and supports the facilitation of internal communication.

3.1. Support for the formulation and implementation of sustainability strategic goals

Through the strategy map and scorecard, BSC can be used to set strategic goals, targets, KPIs, and action plans (action items) that correspond to the company's vision and strategy. At the same time, it can be used to comprehensively evaluate corporate performance using quantitative performance evaluation scales from four perspectives: financial perspective, customer perspective, internal business process perspective, and learning and growth perspective (Kaplan & Norton, 2004). The SBSC, which was developed from the BSC, is a method for integrating strategies related to the economy, environment, and society throughout a company by linking environmental and social performance indicators, which evaluate the company's non-financial performance, such as environment and society, with financial performance, and for evaluating the medium- to the long-term performance of sustainability strategies in an integrated manner. In other words, sustainability-oriented companies and managers can use the strategy map and scorecard in the SBSC to clarify the strategic objectives that are most relevant to the long-term vision and strategy of sustainability management, identify the optimal targets and KPIs to achieve the strategic objectives, and develop and implement a sustainability action plan that takes the environment and society into consideration (e.g., environmentally friendly activities, social contribution activities, etc.).

In addition, since 2000, SBSC has been operationalized in various companies or organizations and projects around the world, such as food and beverage, retail, power plants, hotels, and airports, as a tool that can assist in the development and implementation of sustainability strategic goals. For example, around 2000, the Department of Trade and Industry in the United Kingdom led the Sustainability Integrated Guidelines for Management (SIGMA) project, which developed the SIGMA Sustainability Scorecard to support the sustainable development of companies and the integration of economic, environmental, and social aspects into corporate management.

The BSC can use strategy maps to diagram the path to achieve the vision and strategic goals. The strategy map is effective for strategy formulation and implementation because it can reveal the causal relationships between the key perspectives, strategic objectives, and strategic goals for a successful strategy, and show the overall picture of the strategy. The SIGMA Sustainability Scorecard strategy map consists of four perspectives: the sustainability perspective, the external stakeholder perspective, the internal perspective, and the knowledge and technology perspective. The "sustainability perspective" is a perspective that shows the relationship between "corporate values, vision and mission" and "economic, environmental and social performance" for a company to succeed in sustainable development. Then, the "external stakeholder perspective" is a perspective that indicates how a company can build excellent relationships with various stakeholders to achieve sustainable development. Furthermore, the "internal perspective" is a perspective that identifies how a company should manage its management activities and processes to contribute to the realization of sustainable development and improve the satisfaction of each stakeholder. Finally, the "knowledge and technology perspective" is a perspective that shows how companies must learn and innovate to improve their performance to contribute to the realization of sustainable development and create superior internal processes. The most important feature of the SIGMA Sustainability Scorecard strategy map is that it enables the selection of the most relevant strategic goals for the corporate sustainability strategy from these four perspectives, clarification of the causal relationships among the strategic goals, and visualization of the path to realizing the corporate sustainability strategy.

On the other hand, another important element of the SIGMA Sustainability Scorecard is the scorecard shown in Table 1, which indicates the indicators, targets, and actions to be taken for each strategic objective in the strategy map. In the scorecard, the performance indicators (driver indicators and performance indicators) and targets associated with the strategic objectives allow for a qualitative and quantitative assessment of the company's sustainability performance, and the action items developed inform management of what activities the company should undertake to achieve these targets and KPIs. For example, to ensure that the proportion of female managers in a company is an outcome indicator that corresponds to the strategic goal of meeting community satisfaction from the internal perspective, companies need to establish and implement equal opportunity policies for gender employment and promotion.

Table 1. SIGMA Sustainability Scorecard — Strategies, indicators, targets, and actions

Vision & Strategy	*Strategic objectives*	*Driver indicators*	*Results indicators*	*Target value 1995, 1997, 2000*	*Working item*
Sustainability perspectives	Increase in shareholder value	Sales	Growth rate of operating income	10%, 14%, 17%	
	Protection of the ecological environment	Energy efficiency programs	Energy consumption	- - -	
	Stakeholder accountability				
External stakeholder perspectives	Customer satisfaction	Customer loyalty	Annual growth rate of sales	- - -	Improve communication with customers through postcards, etc.
			Brand value index	68%, 75%, 85%	
	Supplier satisfaction	Supplier royalties	Compliance with deadlines	- - -	Redesign of customer comment cards
	Environmental satisfaction	Agreement on key issues	Total amount of water used	- - -	
	Government/regulatory satisfaction		Fine	- - -	Implementation of social accounting process
	Community satisfaction	Social accounting process and reporting	Percentage of female managers	- - -	Enactment and implementation of equal opportunity policies
Internal perspective	Fashion & Excellence		By sub-brand and product	- - -	Improving relationships with designers
			First market entry of an important product	3%, 5%, 10%	Rapid innovation in manufacturing technology
	Excellent procurement and delivery	Potential suppliers	Out of stock related quality	1.4%, 1.0%, 0.5%	Formulation of 5-year procurement plan
			Number of important products in stock	- - -	Organize a reporting system for stock-outs
			Increase in the number of suppliers	- - -	Inventory management of important products
	Good shopping experience	Customer feedback	Average sales	$65, $85, $110	Redesigning the comment process
					Continuous sampling
Knowledge and technology perspectives	Strengthen strategic awareness		Strategic awareness level index	30%, 60%, 80%	Staff survey
	Target alignment	Linkage with personal goals	Internal promotion rate	35%, 50%, 85%	
	Improvement of staff capabilities		Acquisition rate of strategic skills	- - -	Using the RSI technique
	Use of information technology	Usefulness of strategic information	Knowledge network utilization	- - -	Construction of human resources database

Source: Department of Trade and Industry (2003, p. 11).

The SIGMA project was completed in 2003 and has developed 13 "toolkits" including guidelines and SBSCs that have been implemented in many companies, such as Jaguar, Land Rover, and British Airways (https://www.sustainabilityexchange.ac.uk), which made a significant contribution to the promotion of corporate sustainability strategies at that time. The SIGMA project explained the usefulness of the SBSC in the formulation and implementation of sustainability strategy goals and performance evaluation and provided companies with a framework and a way to create an SBSC. First, since it is difficult for a sustainability strategy to be implemented through only one tool, a challenge exists as to how SBSC and other sustainability management tools can work together. In addition, the issue of how to link SBSC with corporate compensation and salary increase systems needs to be resolved to motivate employees to participate in and continue environmental and social activities. In addition, given the increasing social emphasis on corporate sustainability disclosure, how to appropriately report strategy-related financial and non-financial information in the SBSC to various internal and external stakeholders, i.e., how to link SBSC and sustainability reporting, will become an important issue.

In summary, the SBSC can provide useful information for setting strategic goals, targets, and KPIs in sustainability performance assessment and management, formulating and implementing action plans, and allocating and improving the efficiency of corporate management resources. However, the concept of the SBSC model is essential to promote sustainability strategies in response to the current changes in the external environment

surrounding companies, the transformation of internal management, and the diversifying expectations of stakeholders.

3.2. Support for measuring, evaluating, and improving sustainability performance

The most important role of the BSC is to continuously and comprehensively measure and evaluate the performance of corporate management, and to support goal adjustment, plan revision, and business improvement based on the evaluation results (Kaplan & Norton, 1992). In other words, the BSC focuses on the evaluation and management of business performance that integrates financial and non-financial indicators related to the improvement of corporate value from a medium- to long-term perspective, rather than simply acquiring business performance that emphasizes short-term financial indicators. However, as previously mentioned, traditional BSCs focused on corporate financial indicators, and SBSCs have emerged to address the implementation of sustainability strategies and sustainability performance evaluation and management (Figge et al., 2002).

Typical environmental and social sustainability management indicators used by SBSC include social contribution expenditure, eco-efficiency index (sales/environmental impact) (Möller & Schaltegger, 2005), and return on carbon (ROC). In addition, these sustainability management indicators can be mapped to externally oriented sustainability reporting indicators, such as GRI reporting guidelines, to make companies' efforts to address environmental and social issues explicit to external stakeholders (Nikolaou & Tsalis, 2013; Butler et al., 2011; Asiaei, Bontis, Barani, & Jusoh, 2021).

On the other hand, Junior et al. (2018) proposed a new sustainability performance evaluation model to clarify the relationship between sustainability indicators and BSC performance indicators, based on the correlation between the three aspects of TBL (economic, environmental, and social) and the four perspectives of BSC (financial, market, process, and learning and growth), as shown in Table 2. The sustainability performance evaluation model (SEM) in Table 2 lists the $TBL \times BSC$ matrix, which shows 12 correlations by combining the BSC perspective and the TBL aspect. Specifically, the learning and growth perspectives are "attractiveness", "recognition", and "corporate reputation"; the process perspectives are "productivity", "social compliance", and "environmental compliance"; the market perspectives are "QCDI (quality, cost, logistics, and innovation)", "social impact", and "environmental impact"; and the financial perspectives are "profitability", "social investment", and "environmental investment". From the financial perspective, "profitability", "social investment" and "environmental investment" are set. Table 3 shows the interpretation of the characteristics of each correlation and the corresponding indicators. For example, the evaluation indicator for the social aspect in the process perspective is the number of occupational accidents prevented, which reflects the company's concern for society and its employees and its emphasis on safe work.

In addition, Junior et al. (2018) used questionnaires and interviews to test whether the proposed model could be applied to a major company in the Brazilian food and beverage industry. The survey was conducted among managers at six factories of the company. The managers answered 12 correlation questions in the $TBL \times BSC$ matrix according to the implementation of sustainability management in their factories, and their answers were used to comprehensively evaluate the company's overall sustainability management performance. Some of the results of the evaluation are shown in Figure 1. According to Figure 1, the company scored a perfect score of 10 in both *MN* (Environment × Market) and *MS* (Society × Market), indicating that each stakeholder in the market recognizes the company's efforts to address environmental and social issues. On the other hand, the scores of *FN* (Environment × Finance) and *FS* (Society × Finance) are relatively low, indicating the necessity for companies to properly manage their social and environmental investments in the future.

The validation of the sustainability performance assessment model in Brazilian food and beverage companies has shown that the current SBSC, compared to earlier SBSCs, is not just a tool to measure performance achievement, but is effectively combined with other sustainability management tools to fully assess, monitor, and manage the sustainability performance of the entire company. The SBSC is designed to monitor and control the overall sustainability performance of a company. In other words, the SBSC can be used to identify areas for improvement in sustainability management. However, since the performance indicators in this model were selected based on a literature review and applied to food and beverage companies, the applicability of the model to companies in other industries, regions, or countries is an issue, according to Junior et al. (2018). Therefore, it is essential to develop a general-purpose sustainability performance indicator to promote sustainability management. On the other hand, examining the relevance and possibility of integrating performance indicators for internal management in SBSC and those required for external disclosure in GRI is another important issue for performance evaluation of sustainability management.

Table 2. Sustainability performance evaluation model (SEM)

Perspective / Side	*Learning and growth*	*Process*	*Market*	*Financial*
Economy	Charm	Productivity	Quality, cost, logistics and innovation (QCDI)	Profitability
Society	Recognition	Social compliance	Social impact	Social investment
Environment	Corporate reputation	Environmental compliance	Environmental impact	Environmental investment
Strategy and governance	Recruitment, training and retention of human resources →	Adherence to proper norms and laws →	Satisfying customer needs and expectations →	Achieve sustainable profitability

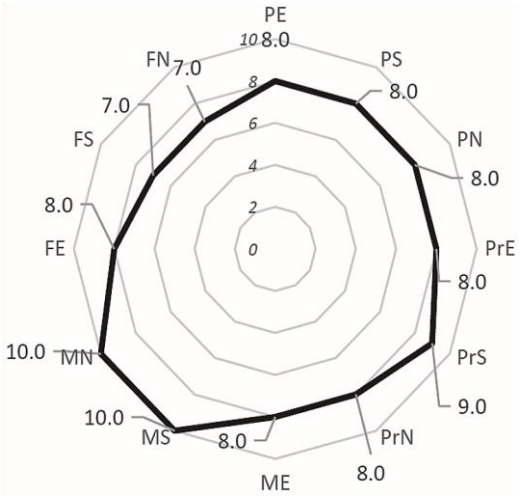
Source: Junior et al. (2018, p. 88).

Table 3. *TBL* × *BSC* matrix (Indexed)

No.	*Code**	*BSC*	*TBL*	*Correlation*	*Features*	*Indicators*
1	PE	Learning and growth	Economy	Charm	Companies that attract and retain top talent	Salaries, benefits, and allowances
2	PS		Society	Recognition	Internal environment, companies that ensure a high level of awareness and competence among employees	Turnover rate
3	PN		Environment	Corporate reputation	Great place to work	Ethics and transparency
4	PrE	Process	Economy	Productivity	Great place to work	Productivity (operating expenses)
5	PrS		Society	Social compliance	Minimize waste and ensure environmental and social considerations	Workplace accident prevention
6	PrN		Environment	Environmental compliance	High attention to employees and society, emphasis on safety work	Compliance with environmental laws and regulations
7	ME	Market	Economy	Quality, cost, logistics and innovation (QCDI)	Satisfying market needs for quality, cost, logistics and innovation	Market share
8	MS		Society	Social impact	Social impact caused and response	Social impact
9	MN		Environment	Environmental impact	Environmental impacts and responses	Environmental impact
10	FE	Financial	Economy	Profitability	Companies with high profitability	Profitability indicators
11	FS		Society	Social investment	Corporate investment in socially conscious behavior and the benefits it brings (stakeholder perspective)	Investment in social projects
12	FN		Environment	Environmental investment	Corporate investment in socially conscious behavior and the benefits it brings (stakeholder perspective)	Investment in environmental projects

Source: Prepared by the authors based on Table 1 and Table 2 in Junior et al. (2018, p. 89).
*Note: * P — learning and growth (people); M — market; Pr — process; F — financial; E — economic; S — social; N — environment.*

Figure 1. *TBL* × *BSC* scores (Brazilian food and beverage companies)



Source: Junior et al. (2018, p. 92).

3.3. Support for linking sustainability performance with compensation systems

According to Anthony and Govindarajan (2007), an incentive or reward system that motivates and sustains executives and employees is essential for every company to have its vision and strategy, and for that vision, values, and standards of behavior to permeate the company. In this paper, we will discuss the importance of incentive or reward systems. A company with an excellent compensation system will motivate and engage employees by providing appropriate salaries, benefits, and bonuses to departments and individuals based on the degree of achievement of goals. It also helps to recruit, retain, and develop talented people suitable for corporate management. On the other hand, for companies oriented toward sustainability management, how to link environmental and social performance with corporate compensation systems to make executives and employees understand the importance of sustainability strategies, improve environmental and social awareness, and develop practical skills for sustainability management is an urgent issue (Hong, Li, & Minor, 2016; Paillé, Chen, Boiral, & Jin, 2014; Berrone & Gomez-Mejia, 2009; Nigri, Del Baldo, & Agulini, 2020; Pereira Ribeiro et al., 2021). Therefore, it is important to have a rational evaluation of sustainability outcomes for executives and employees, and a rational performance-based compensation system linked to this evaluation. An objective and fair performance evaluation system is required for sustainability management to create long-term value. The BSC, or SBSC, which integrates environmental and social factors, is expected to be a tool that can support this process.

Kaplan and Norton (2000) pointed out the possibility that firms can link corporate strategy and daily business activities by coupling individual performance-based compensation systems with BSC. In other words, the coupling of rewards and BSC has two effects: it directs employees' attention to the performance measures that are most important for strategy implementation, and it rewards and motivates employees and organizations to achieve their goals. In recent years, BSC has been introduced as a compensation-linked performance evaluation system in various domestic and foreign companies, such as the Generali Group, Kirin Group, and Ricoh Group, and has contributed to corporate management (Mio et al., 2016). In this study, we particularly focus on the BSC of the Generali Group, where the performance of departments and individual employees is comprehensively evaluated, including ESG factors, and the indicators are linked to individual compensation and promotion (Mio et al., 2016), the results and performance of corporate sustainability management are measured and evaluated from multiple perspectives, and are linked to a performance evaluation and compensation system that integrates environmental and social indicators.

The Generali Group has been an Italian insurance company for more than 180 years and is a world leader in the insurance industry with approximately 71,300 employees and over €68.5 billion in gross premiums written (including approximately €11.3 billion in social value and €0.7 billion in environmental value) (Generali Group, 2020). As shown in Table 4, the personal performance appraisal and reward system for managers in the Generali Group consists of four parts: fund pool, personal performance, calibration, and payment (Generali Group, 2021).

Table 4. Annual variable compensation system for managers

1. Funding pool		*2. Individual performance*			*3. Calibration*	*4. Payout*
Funding pool definition	***Funding pool final assessment***	***BSC objectives definition***	***BSC objectives assessment***	***Overall BSC assessment***	***Performance calibration***	***Individual STI allocation***
Definition and final assessment of the total budget (the so-called "funding pool"), falling within a minimum and a maximum value related to the achievement level of group results (group net profit adjusted and group operating result).		Definition of the individual balanced scorecards, which fix 5–7 objectives at group, region, country, business/function and individual level. Assessment of the individual performance achieved by the participants with respect to the objectives fixed in the balanced scorecards with attribution of a performance "rate".			Overall review of the performance achieved in a calibration meeting, where the individual achieved results are recalibrated with respect to the other roles, the reference market context and the conformity to compliance/audit/code of conduct and governance processes.	Individual STI payout definition for each evaluation "rate", considering the total funding pool and the performance distribution, as a percentage of the individual baseline.

Source: Generali Group (2021, p. 14).

The pool of funds shows the total amount of short-term incentives that will be paid to each manager of the firm each year. This amount is determined by the group's achievement of adjusted net income and operating performance. For example, if both adjusted net income and operating performance are below 85%, the bonus will be 0, while if both are above 125%, the bonus will be 1.5 times the base amount. Table 5 shows the individual appraisal system for managers that incorporates the BSC. The Generali Group prepares their BSCs according to the country and regional conditions of the subsidiaries they manage, the type of business, and the level of their function.

Table 5. Individual BSC and compensation

Perspective	*Performance indicator*	*Weight*	*Assessment*
Economic and financial performance	Dividends from subsidiaries	75%	Financial
	Group net profit adjusted		
	Group operating result		
	Group return on research capital (RORC)		
Efficiency & Business transformation — Key strategic projects		25%	Non-financial based on specific KPIs evidence
People empowerment			

Source: Generali Group (2021, p. 17).

In individual performance, the individual BSC sets and monitors personal goals and KPIs for each manager from the three perspectives of economic and financial performance, efficiency and business transformation, and employee empowerment, and evaluates the performance achieved at the end of the year. Non-financial performance accounts for 25% of the total evaluation, and each manager is expected to simultaneously improve the company's financial and non-financial performance. In addition, the Generali Group, which emphasizes ESG investment, considers ESG factors as a key driver and incorporates them into the non-financial performance evaluation of the individual BSC of top managers. Linking sustainability KPIs with compensation and salary increases motivates them to fulfill their responsibilities to society and their respective stakeholders. In other words, it can improve employees' awareness of environmental protection and social contribution, integrate environmental and social activities into the daily operations of their departments, and ultimately promote effective management of the environmental and social activities of the entire Generali Group.

At the calibration meeting, individual performance is reevaluated based on market conditions, compliance, and code of conduct. Finally, in payment, each manager is paid a short-term incentive bonus for the current year based on the results of the individual performance evaluation.

Such a compensation system for the Generali Group can effectively use the BSC with embedded ESG elements to link managers' bonuses and salary increases with sustainability KPIs and evaluate individual performance objectively and fairly, but it needs to be further examined whether it applies to middle and downstream employees. It should also be considered whether this compensation system is specific to the insurance industry, or whether it can be disseminated to companies in other industries, such as manufacturing and catering. In addition, it is necessary to analyze issues such as whether employees are satisfied with the performance system that incorporates sustainability KPIs, how it affects employee satisfaction, and whether it improves corporate performance. Based on these analyses, it is expected to establish a company-wide compensation system based on SBSC that can simultaneously promote the improvement of employee satisfaction and sustainability performance.

3.4. Support for smooth internal communication

Management can use the BSC, which serves as an organizational change framework for transforming into a strategy-oriented organization, to clarify the roles and common goals of each department and organization in the company, to share, coordinate, and cooperate, to make all employees in the company understand the company's strategic goals, and to communicate the content of the strategy to managers and employees at each level (Kaplan & Norton, 2000). Therefore, they point out that the BSC provides organizations with a powerful tool for communication and direction. It focuses the capabilities and energies of all employees on the strategic goals of the organization. In other words, the BSC strategy map enlightens the understanding of strategy, raises strategic awareness, and facilitates internal communication throughout the enterprise. In addition, SBSC is expected to be used as an effective tool to build good communication between employees and managers in promoting sustainable management and managing sustainability performance (de Villiers et al., 2016).

De Villiers et al. (2016), through interviews with Company K, a large forestry company in New Zealand that introduced SBSC, pointed out that management is responsible for explaining the company's commitment to environmental and social issues to employees as important internal stakeholders related to the promotion of corporate sustainability. The SBSC has been implemented as a way to translate sustainability strategies into employee actions. Company K's SBSC, which includes indicators such as health, safety, and environmental accident rates, shows that environmental and social issues are central to management control and decision-making. In addition, Company K prepares monthly SBSC reports based on the information obtained from the monthly reports of environmental management systems (e.g., ISO 14001), health and safety, environment, and risk in each department, and uses them to explain to employees in the monthly board meeting reports and monthly team reports. On the other hand, Company K conducts monthly face-to-face presentations by managers to employees. The purpose is to help employees understand the company's business strategies and plans that balance economic, environmental, and social aspects, as well as the SBSC, and to promote internal communication. Through monthly meetings with their managers, employees can review and discuss their monthly scorecard to know their personal performance goals and their responsibilities.

Here, the SBSC serves as a company-wide "lingua franca" to effectively facilitate the communication and transfer of monetary and non-monetary information related to corporate strategy and economic, environmental, and social issues. In addition, the SBSC reporting format makes it possible to integrate health, environmental, and safety factors into the daily work of employees, while at the same time enabling managers to monitor and control the health status of employees and their motivation for environmental protection

and safe production. However, it should be noted that such monthly reporting and preparation of monthly reports may cause stress to employees and increase costs.

4. CONCLUSION

As a management tool for sustainability management, the SBSC provides financial and non-financial information that is useful for the following processes: setting strategic goals, targets, and KPIs in the PDCA cycle of sustainability performance management; developing and implementing sustainability action plans; measuring, evaluating, reporting, and improving sustainability performance; and linking sustainability performance to compensation systems. It is expected to play a role in providing financial information, facilitating communication among employees and departments within the company, and ultimately improving employee engagement to ultimately support the assessment and management of the sustainability performance of the entire company.

This study clarified the importance of sustainability performance assessment and management in corporate sustainability strategies, and focused on the functions and usefulness of the SBSC to address this issue. In other words, in corporate sustainability management that integrates economic, environmental, and social aspects, the SBSC provides financial and non-financial information for each process, from the formulation of goals, KPIs, and action plans related to sustainability strategy, to the measurement, evaluation, reporting, and improvement of sustainability performance, and the linkage with compensation systems. By providing financial and non-financial information, the SBSC functions as an effective management tool to support the improvement of sustainability performance and the implementation of sustainability strategies. In addition, we examined the applicability, effectiveness, and problems of SBSC to corporate sustainability performance assessment and management practices through case studies of companies that have adopted SBSC, including the SIGMA project, the Generali Group, and food and beverage companies and forestry companies. With the rapidly growing interest in sustainability symbolized by the SDGs, the Paris Agreement, and ESG investment, the use of SBSC in corporate management will continue to attract attention in the future.

Although this study examined the role of SBSC in sustainability performance assessment and management mainly through theoretical research based on a literature review, it is important to accurately understand the actual status of SBSC operation through quantitative analysis and surveys of companies with advanced SBSC. However, it is important to understand the actual situation through quantitative analysis and surveys of companies that have implemented SBSC. It is necessary to consider the impact of the introduction of SBSC on sustainability performance, employees' awareness of environmental conservation and social contribution, and the relationship between companies and their stakeholders. The SBSC model is expected to be further developed based on the background, theoretical research, and survey results. Scholars will continue to use a variety of theoretical frameworks to investigate various topics surrounding the SBSC.

Relationships between existing strategies and sustainability elements should be studied further in a separate study. Because implementing a sustainable BSC is difficult, a deeper understanding of present tactics allows for a better future strategy for the installation of the appropriate measuring system. Furthermore, links and benefits should be presented, and new approaches should be developed to maximize the value that may be achieved with a sustainable management system. To achieve this, management methodologies should be used to build an integration process after the relevant measuring systems have been defined for the companies. A game-theoretical approach can be used to demonstrate the benefits of long-term BSC. In a game-theoretical approach, selected strategies for each dimension can be used to see which methods produce the most profit.

REFERENCES

1. Abdelrazek, A. F. (2019). Sustainability balanced scorecard: A comperhensive tool to measure sustainabilty performance. *International Journal of Social Science & Economic Research, 4*(2), 948–962. Retrieved from https://ijsser.org/more2019.php?id=72
2. Anthony, R., & Govindarajan, V. (2007). *Management control systems* (12th ed). New York, NY: McGraw-Hill.
3. Asiaei, K., Bontis, N., Barani, O., & Jusoh, R. (2021). Corporate social responsibility and sustainability performance measurement systems: Implications for organizational performance. *Journal of Management Control, 32*(1), 85–126. https://doi.org/10.1007/s00187-021-00317-4
4. Atkinson, A. A., Kaplan, R. S., Matsumura, E. M., & Young, S. M. (2012). *Management accounting: Information for decision-making and strategy execution* (6th ed.). Edinburgh, the UK: Pearson Education Limited.
5. Barbosa, M., Castañeda-Ayarza, J. A., & Lombardo Ferreira, D. H. (2020). Sustainable strategic management (GES): Sustainability in small business. *Journal of Cleaner Production, 258,* 120880. https://doi.org/10.1016/j.jclepro.2020.120880
6. Berrone, P., & Gomez-Mejia, L. R. (2009). Environmental performance and executive compensation: An integrated agency institutional perspective. *Academy of Management Journal, 52*(1), 103–126. https://doi.org/10.5465/amj.2009.36461950
7. Burritt, R. L., & Schaltegger, S. (2010). Sustainability accounting and reporting: Fad or trend? *Accounting, Auditing and Accountability Journal, 23*(7), 829–846. https://doi.org/10.1108/09513571011080144
8. Butler, J. B., Henderson, S. C., & Raiborn, C. (2011). Sustainability and the balanced scorecard: Integrating green measures into business reporting. *Management Accounting Quarterly, 12*(2), 1–10.
9. Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of Management Review, 20*(1), 92–117. https://doi.org/10.5465/amr.1995.9503271994

10. de Villiers, C., Rouse, P., & Kerr, J. (2016). A new conceptual model of influences driving sustainability based on case evidence of the integration of corporate sustainability management control and reporting. *Journal of Cleaner Production, 136*(Part A), 78–85. https://doi.org/10.1016/j.jclepro.2016.01.107
11. Department of Trade and Industry. (2003). *The SIGMA guidelines — Toolkit*. Retrieved from https://www.sustainabilityexchange.ac.uk/files/sigmaguidetosd.pdf
12. DJSI. (2017). *Dow Jones sustainability indices*. Retrieved from https://www.spglobal.com/spdji/en/
13. Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st century business. *Environmental Quality Management, 8*(1), 31–51. https://doi.org/10.1002/tqem.3310080106
14. Epstein, M. J., & Buhovac, A. R. (2014). *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts* (2nd ed.). Austin, TX: Greenleaf Publishing.
15. Epstein, M. J., Buhovac, A. R., & Yuthas, K. (2015). Managing social, environmental and financial performance simultaneously. *Long Range Planning, 48*(1), 35–45. https://doi.org/10.1016/j.lrp.2012.11.001
16. Figge, F., Hahn, T., Schaltegger, S., & Wagner, M. (2002). The sustainability balanced scorecard — Linking sustainability management to business strategy. *Business Strategy and the Environment, 11*(5), 269–284. https://doi.org/10.1002/bse.339
17. Figge, F., Hahn, T., Schaltegger, S., & Wagner, M. (2003). The sustainability balanced scorecard as a framework to link environmental management accounting with strategic management. In B. Martin, P. M. Rikhardsson, & S. Schaltegger (Eds.), *Environmental management accounting-purpose and progress* (pp. 17–40). Kluwer Academic Publishers. https://doi.org/10.1007/978-94-010-0197-7_2
18. Franco-Santos, M. F., Lucianetti, L., & Bourne, M. (2012). Contemporary performance measurement systems: A review of their consequences and a framework for research. *Management Accounting Research, 23*(2), 79–119. https://doi.org/10.1016/j.mar.2012.04.001
19. Generali Group. (2020). *Annual integrated report 2020*. Retrieved from https://www.generali.com/investors/reports-and-presentations
20. Generali Group. (2021). *Remuneration report global reporting initiative (2013) the G4 sustainability reporting Guidelines-Implementation Manual.*
21. Hansen, E. G., & Schaltegger, S. (2016). The sustainability balanced scorecard: A systematic review of architectures. *Journal of Business Ethics, 133*(2), 193–221. https://doi.org/10.1007/s10551-014-2340-3
22. Hansen, E. G., & Schaltegger, S. (2016). The sustainability balanced scorecard: A systematic review of architectures. *Journal of Business Ethics, 133*(2), 193–221. https://doi.org/10.1007/s10551-014-2340-3
23. Hansen, E. G., & Schaltegger, S. (2018). Sustainability balanced scorecards and their architectures: Irrelevant or misunderstood? *Journal of Business Ethics, 150*(4), 937–952. https://doi.org/10.1007/s10551-017-3531-5
24. Hong, B., Li, Z. C., & Minor, D. (2016). Corporate governance and executive compensation for corporate social responsibility. *Journal of Business Ethics, 136*(1), 199–213. https://doi.org/10.1007/s10551-015-2962-0
25. International Organization for Standardization (ISO). (2010). *ISO 26000 project overview*. http://iso26000.info/wp-content/uploads/2016/02/iso_26000_project_overview.pdf
26. International Organization for Standardization (ISO). (2013). *ISO 14031: Environmental management — Environmental performance evaluation — Guidelines* (2nd ed.). Retrieved from https://www.iso.org/obp/ui/#iso:std:iso:14031:ed-2:v1:en
27. Jassem, S., Zakaria, Z., & Azmi, A. (2020). Sustainability balanced scorecard architecture and environmental investment decision-making. *Foundations of Management, 12,* 193–210. https://doi.org/10.2478/fman-2020-0015
28. Journeault, M. (2016). The integrated scorecard in support of corporate sustainability strategies. *Journal of Environmental Management, 182,* 214–229. https://doi.org/10.1016/j.jenvman.2016.07.074
29. Junior, A. N., de Oliveira, M. C., & Helleno, A. L. (2018). Sustainability evaluation model for manufacturing systems based on the correlation between triple bottom line dimensions and balanced scorecard perspectives. *Journal of Cleaner Production, 190,* 84–93. https://doi.org/10.1016/j.jclepro.2018.04.136
30. Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard: Measures that drive performance. *Harvard Business Review, 70*(1), 71–79. Retrieved from https://hbr.org/1992/01/the-balanced-scorecard-measures-that-drive-performance-2
31. Kaplan, R. S., & Norton, D. P. (1996). Using the balanced scorecard as a strategic management system. *Harvard Business Review,* 77–85.
32. Kaplan, R. S., & Norton, D. P. (2000). *The strategy-focused organization: How balanced scorecard companies thrive in the new business environment*. Boston, MA: Harvard Business School Press.
33. Kaplan, R. S., & Norton, D. P. (2004). *Strategy map: Converting intangible assets into tangible outcomes*. Boston, MA: Harvard Business School Press.
34. Maas, K., Schaltegger, S., & Crutzen, N. (2016). Integrating corporate sustainability assessment, management accounting, control, and reporting. *Journal of Cleaner Production, 136*(Part A), 237–248. https://doi.org/10.1016/j.jclepro.2016.05.008
35. Mio, C., Marco, F., & Pauluzzo, R. (2016). Internal application of IR principles: Generali's Internal Integrated Reporting. *Journal of Cleaner Production, 139,* 204–218. https://doi.org/10.1016/j.jclepro.2016.07.149
36. Möller, A., & Schaltegger, S. (2005). The sustainability balanced scorecard as a framework for eco-efficiency analysis. *Journal of Industrial Ecology, 9*(4), 73–83. https://doi.org/10.1162/108819805775247927
37. Nigri, G., Del Baldo, M., & Agulini, A. (2020). Integrated sustainable performance management systems: A case study on Italian benefit corporations. *Corporate Ownership & Control, 17*(2), 65–76. https://doi.org/10.22495/cocv17i2art6
38. Nikolaou, I. E., & Tsalis, T. A. (2013). Development of a sustainable balanced scorecard framework. *Ecological Indicators, 34,* 76–86. https://doi.org/10.1016/j.ecolind.2013.04.005
39. Paillé, P., Chen, Y., Boiral, O., & Jin, J. (2014). The impact of human resource management on environmental performance: An employee level study. *Journal of Business Ethics, 121*(3), 451–466. https://doi.org/10.1007/s10551-013-1732-0
40. Pereira Ribeiro, J. M., da Silva, S. A., da Silva Neiva, S., Soares, T., Montenegro, C., Deggau, A. B., ... de Andrade Guerra, J. B. S. O. (2021). A proposal of a balanced scorecard to the water, energy and food nexus approach: Brazilian food policies in the context of sustainable development goals. *Stochastic Environmental Research and Risk Assessment, 35,* 129–146. https://doi.org/10.1007/s00477-020-01769-1

41. Perrini, F., & Tencati, A. (2006). Sustainability and stakeholder management: The need for new corporate performance evaluation and reporting systems. *Business Strategy and the Environment, 15*(5), 296–308. https://doi.org/10.1002/bse.538
42. Schaltegger, S., & Wagner, M. (2006a). Managing and measuring the business case for sustainability, capturing the relationship between sustainability performance, business competitiveness and economic performance. In S. Schaltegger & M. Wagner (Eds.), *Managing the business case for sustainability: The integration of social, environmental and economic performance* (1st ed., pp. 1–27). Greenleaf Publishing. https://doi.org/10.4324/9781351280525-1
43. Schaltegger, S., & Wagner, M. (2006b). Managing sustainability performance measurement and reporting in an integrated manner. Sustainability accounting as the link between the sustainability balanced scorecard and sustainability reporting. In S. Schaltegger, M. Bennett, & R. L. Burritt (Eds.), *Sustainability accounting and reporting* (pp. 681–697). Springer. https://doi.org/10.1007/978-1-4020-4974-3_30
44. Schaltegger, S., & Wagner, M. (2006c). Integrative management of sustainability performance, measurement and reporting. *International Journal of Accounting, Auditing and Performance Evaluation, 3*(1), 1–19. https://doi.org/10.1504/IJAAPE.2006.010098
45. Stead, J. G., & Stead, W. E. (2014). *Sustainability strategic management* (2nd ed.). Routledge. https://doi.org/10.4324/9781315700533
46. Suárez-Gargallo, C., & Zaragoza-Sáez, P. (2021). How the balanced scorecard is implemented in the Spanish footwear industry. *Sustainability, 13*(10), 5641. https://doi.org/10.3390/su13105641
47. Sundin, H., Granlund, M., & Brown, D. A. (2010). Balancing multiple competing objectives with a balanced scorecard. *European Accounting Review, 19*(2), 203–246. https://doi.org/10.1080/09638180903118736
48. Sveen, A., Gresaker, O. K., Hæhre, R., Madsen, D. Ø., & Stenheim, T. (2020). Attitudes and actions towards sustainability: A survey of Norwegian SMEs. *Corporate Ownership and Control, 17*(4), 117–128. https://doi.org/10.22495/cocv17i4art10
49. United Nations (UN). (2020). *SDG compass: The guide for business action on the SDGs*. Retrieved from https://www.academia.edu/24662516/The_guide_for_business_action_on_the_SDGs?from_sitemaps=true&version=2
50. United Nations (UN). (2021). *Report of the Conference of the Parties on Its 21st Session, held in Paris from 30 November to 13 December 2020*. Retrieved from https://digitallibrary.un.org/record/831052?ln=en