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Review

Rethinking the Way of Doing Business: A Reframe of Management Structures for Developing Corporate Sustainability

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Abstract: Corporate Sustainability (CS) literature has gone through a period of intense development. The moment is favorable to gathering these contributions to consistently advance the state of the art in CS and, also, discuss them to apply in real contexts. The main objective of the paper is to systematize, through a systematic literature review using content analysis of the 30 most cited articles from 2007 to 2017, the guiding pillars of CS management. The systematic search for papers was carried out in Scopus and Web of Science and the initial screening of the papers was assisted by the coding software MAXQDA 2018, through which the authors structured and analyzed their main insights, contributions and conclusions. After getting acquainted with the sample, an in-depth reading of the texts was conducted and 60 CS elements were identified. The elements cited in the relevant literature were grouped into 6 pillars related to Corporate sustainability strategy; Corporate governance; Human resources management; Knowledge and innovation management; Measurement, disclosure and independent assurance; and Management systems and Integrated management systems. The discussion of CS management pillars presented in this study provides understanding to researchers and managers on the main aspects that make up the integration of this construct in the companies, especially from a management point of view.

Keywords: Corporate Sustainability; Sustainable Management; Business Sustainability; Literature Review; Content Analysis.

1. Introduction

Achieving long-term sustainability is a challenge that requires urgent changes in the way of doing business [1]. Companies are interdependent organizations embedded in a global systemic environment that calls for sustainable management of natural, social and financial resources [2,3]. They are charged for most of the negative impacts of economic growth and development because the "price" of extraction, use and disposal of natural resources for the production of products is quite significant and impacts not only the nature, but also the society [4,5].

The sustainable management gained increased attention in the global scenario in light of the unbridled consumerism experienced since the Industrial Revolution, when an economy unable to hold the society economic progress emerged [6,7]. At first, the corporate engagement with sustainable development was focused on understanding the meaning of sustainability and its possible implications for their business. Over time, a growing part of companies begun to raising awareness not only about its meaning, but also about the need to act effectively in this regard [8,9].

Indeed, companies have received increasing pressures to be greener from local laws, stakeholders, and final customers and this has led them to find alternatives to implement

sustainability in their operations [6,10]. Only in 2015, more than 8000 companies in 160 countries signaled interest in implementing sustainability [11].

Corporate Sustainability (CS) or Business Sustainability (BS) is the concept of sustainable development applied to the reality of companies [12].Whilst sustainable development provides a general view of sustainability, CS has a more suitable and applicable meaning for sustainability in the field of business, management and operations [7,13]. CS focuses equitably on environmental, social and economic performance, which is often operationalized through the Triple Bottom Line (TBL) [14]. The social, economic and environmental dimensions of the TBL are the core of the mainstream sustainability thinking [15,16].

The literature on CS emerged over 1990s [7,17] and, since then, various terms and definitions have been employed to address this subject, for instance, the definition of sustainable development of the Brundtland report and other CS-related terms such as the abovementioned TBL and BS; Business Case for Sustainability; Environmental, Social and Governance; Corporate Social Commitment; Corporate Environmental Commitment, etc. [13,18–20].

This diversity found in the literature on CS based the elaboration of various types of tools and frameworks for CS development. CS deals with the balanced development of the economic, environmental and social areas, but so far there are no systematic reviews that focus on the joint analysis of aspects that make up the integrated management of these areas. Therefore, considering that the state of the art in CS is going through a period of intense development since the mid-2000, the moment is favorable to gathering these contributions to consistently advance the state of the art in CS and, also, discuss them to applied in real contexts [21].

Based on this, the research question posed in this study is "how to reframe management structures in order to develop corporate sustainability?" The main objective of the paper is to systematize, through a systematic literature review using content analysis of the 30 most cited articles from 2007 to 2017, the guiding pillars of CS management.

It is expected by means of this study to systemize what are the management pillars of CS and discuss how to develop them in order to promote more sustainable businesses. In this study, the pillars are macro elements of management reinterpreted in order to support the integration of CS in companies. This systematic review of the literature is a contribution towards the dialogue and development of the CS field, especially for management purposes.

The paper begins by first providing an overview of the main aspects of CS management and some information that inspired the development of this study. This is followed by the discussion of the adopted methodology in Section 3. The results are presented and discussed in Section 4 and, finally, Section 5 provides a summary of findings, concluding remarks and future directions of research.

2. Theoretical background on Corporate Sustainability management

This section first presents a snapshot of the literature in CS management in which some of its important aspects are presented. It is followed by an overview of the current state of the art in CS that places the reader to the context that motivated the development of this study.

CS is a strategy of decision-making based on various levels of analysis of social, economic and environmental issues that act as drivers for aligning the company's business model with its business strategy [22]. CS aims to meet the needs of internal stakeholders (employees, shareholders and managers) and external stakeholders (customers, suppliers, society, government, etc.) without compromising the ability to serve them in the future [7,12]. For this situation to be achieved, companies need to focus equitably on environmental, social and economic performance [14].

The understanding of CS from the TBL was coined in 1990 and popularized in 1997 by the business consultant John Elkington. The proposal of the TBL is to consider with equivalence in value the environmental, social and economic aspects in the decision making [23]. By using the TBL, companies can be oriented towards sustainable management, thus including concern with profit, people and planet in their culture, strategies and operations [7,24].

From a holistic perspective, [19] examined factors that promote the adoption of sustainable business practices. The results indicated that the drivers for sustainability in corporations can be internal (related with issues inside the organization) and external (related with stakeholders). Leadership and the business case were found to be the most important internal drivers, and reputation, customer demands/expectations, and regulation/legislation, the external ones.

The benefits of adopting sustainability strategies are often related to pollution prevention, reduction of harmful emissions and waste minimization [25]; cost reduction resulting from progress on eco-efficiency issues and product innovation [26]; better relation with regulators and other stakeholders, through legal compliance and retention of customers that recognize environmental values [26,27]; and contribution to fulfill social needs [28]. The search for obtaining benefits from a more sustainable performance encompasses risk management and planning in a long-term perspective [28,29].

Despite of this, there are various barriers and challenges that need to be overcome in order to achieve success with CS practices in the long run [6,28]. For example, many companies have failed in planning for short-term horizons, thus blocking potential perspectives of long-term changes [6,28]. Further, CS implementation demands a corporate redesign in terms of organizational strategy, objectives and vision that at first may not be financially convenient [30]. The focus in initiatives restricted to the high-level management, not assuring the commitment of management in making necessary changes throughout their organizational systems is another critical barrier to implement [28]. [31] warn about the challenge of managing sustainability trade-offs, which may involve, for example, tensions between short-term corporate orientation versus long-term orientation; adoption of structural and technological changes versus maintenance of existing practices; institute personal versus organizational sustainability agenda, etc.

Adopting sustainability within a company goes beyond that a mere marketing work [28]. It requires the development of organizational commitment, capacity for identification and management of risks and review and dissemination of the results achieved to gain stakeholders' confidence [6]. Companies engaged with sustainability in general present organizational culture focused on sustainability; top management support; stakeholder's involvement; environmental training; monitoring of supplier sustainability issues; business evaluation of non-financial parameters, such as quality, internal and external reputation; and high degree of commitment to stakeholders and environment [32,33].

CS is implemented making use of skills and instruments that introduce and develop the sense of collaboration and innovation for sustainability at a level which transcends the limits of company's direct control [14,24]. It is expected that CS interventions enable the creation of sustainable value for all stakeholders through a collaborative approach that will make the entire supply chain sustainable [2,14].

Management system standards and/or guidelines such as ISO 14001, ISO 9001, SA 8000, ISO 26000 and OHSAS 18001 are tools for managing particular issues of sustainability [34]. Although a number of standards related to the management of the three dimensions of sustainable development exist compartmentalized [35], there is still a need for developing a specific standard for implementing sustainability that integrates the environmental, social and economic criteria [36]. The Global Reporting Initiative (GRI) has contributed in this sense and recently published a set of sustainability reporting standards; however, the focus is on reporting and not on how to manage CS [5,19].

The measurement of sustainability performance in business context is an important part of the process of developing sustainable practices [8]. Although companies have long made substantial efforts to measure elements of sustainability [28], this question is still not clear for many managers who have asked what they can do in order to improve sustainability performance [27].

Sustainability performance is assessed through indicators developed around sustainability structure [8,27]. [12] analyzed indicators of sustainability reports and found that the majority of the companies have used sustainability indicators suggested by the Global Reporting Initiative (GRI), one of the best knowns and most complete guidelines that comprises the economic, environmental, and social areas [5,19].

Also, many other initiatives, indices and standards have been developed worldwide to report sustainability with greater consistency and transparency [13]. Some initiatives include the above-

mentioned GRI, British Standard BS 8900:2006 Guidance for managing sustainable development, World Business Council for Sustainable Development (WBCSD), Sustainability Integrated Guidelines for Management (SIGMA Project) and United Nations Global Compact (UNGC) [5,6,13].

Examples of sustainability indices are KLD, EIRIS and Dow Jones Sustainability Index (DJSI) [5,13]. Finally, amongst the standards are ISO 9001 (economic dimension) [13,15], ISO1400 series (especially 14031) and EMAS (environmental dimension) [13,37,38] and ISO 26000, SA8000, OHSAS 18001 and AA1000 (social dimension) [7,13,38].

CS field is in constant development and that is why researchers need to navigate the "sustainability jungle" [2,21]. According to the authors, this field have been opened to accept discussions on its most varied aspects. As pointed out in the introduction section of this study, over the years several definitions and interpretations regarding CS emerged [21,29], some with joint emphasis on the environmental and social pillars and others focused on only one of them [21].

Despite the divergences, the vast majority of the approaches to advance CS research refers to the definition of sustainability provided in the Brundtland Report (1987) and/or encompass the balanced and holistic management of the economic, social and environmental pillars of TBL [39,40]. The WCED's sustainability definition can be helpful to base organizational strategies to tackle environmental and social sustainability criteria [41]. The TBL has attracted increasing numbers of users as it is a practical tool that uses simple and direct images and narratives to approach and develop the theoretical paradigm of sustainability in the corporate scenario [42].

However, the fact that many studies have been based on these approaches does not leave them immune from criticism. The Brundtland Commission definition and the TBL are useful but do not get companies very far since WCED's sustainability definition is perceived to be too vague and philosophical [21,43] and TBL implies difficulties in measuring non-financial impacts [42].

Literature reviews are the main path to organize and consolidate the scientific knowledge generated in a given period of time. Over the past four years (2015-2018), the annual number of literature reviews on CS has doubled over previous years (Scopus 2018), which corroborates that researchers have sought to advance by amalgamating and comparing existing findings rather than just proposing new paths without looking at what is already done. Table 1 shows the literature reviews in CS published between 2015-2018.

Table 1. Literature reviews in CS published between 2015-2018

Research topic	Author(s)/Year
Corporate Sustainability performance	[44–49]
Corporate Sustainability and strategic management	[34,50,51]
Sustainable business models	[49,52]
Corporate Sustainability reporting	[13,30,53,54]
Corporate Sustainability frameworks, tools and practices	[55–64]
Sustainable supply chain	[65]
Environmental Corporate Sustainability	[66,67]
Adopting Corporate Sustainability in specific countries/regions	[68,69]

Table 1 presents the literature reviews in CS grouped in seven key areas of research. These literature reviews are fundamentally important to advance the state of the art in CS; however, they have specific focus on certain areas of CS research. It can be seen, therefore, that until the moment of the development of this study, no literature reviews have been published as the proposed on this paper, which aims to systematize the guiding pillars for management of CS.

3. Research Method

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In this section the step-by-step of the development of the study is described following the research flow presented in Figure 1.

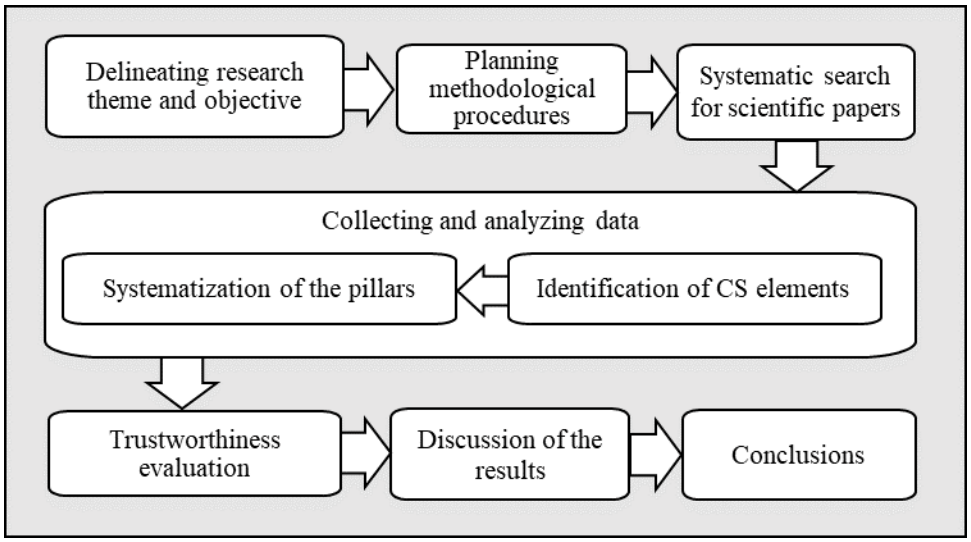

Figure 1. Methodological flow

Next, the development of each step of Figure 1 is explained to clarify to the reader details about the research method adopted in this study.

3.1 Delineating research theme and objective

The planning stage consisted in defining the research theme and objective, which are essential elements to initiate the development of the study. The theme definition occurred after conducting the literature review presented in section 2 of this paper. It included articles published in relevant English-speaking peer-reviewed scientific journals. The assessment of the current state of the art in CS allowed to identify the relevance of the research opportunity that this study approaches.

The theme and objective were then defined in order to fill the gap identified in the relevant scientific literature. The articles that supported the elaboration of the research question of this study are specifically those presented in Table 1 (section 2). They are recently published review articles in CS whose purpose differs from that of this study. This, therefore, characterized the novelty of the proposal developed. Justifications highlighting the scientific importance of this work can be found at the end of sections 1 and 2.

3.2 Planning methodological procedures

After defining the research theme and objective, we planned the methodological procedures to perform the study. It included defining the research method and the steps for its proper execution. Content analysis is a research method that aims to condense the volume of information collected, interpreting the results obtained and verifying their reliability [70,71]. It can be used to analyze documents published in peer-reviewed journals, being in this case a powerful tool for developing literature reviews [14,72,73]. The content analysis may be descriptive or exploratory, which use deductive and inductive reasoning respectively [70,71].

Based on this, we developed a theoretical study through an inductive content analysis of literature. The content analysis method was chosen because it allowed to reach the main objective of the study (systematizing CS management pillars) starting from a fragmented state of the art.

The inductive approach was the most appropriate for this work because the categories were created during the process of analyzing the data collected itself [70].

The planning stage to perform the content analysis followed the recommendations of [71], which suggests beyond the definition of the objective, the definition of the sample and the unit of analysis; the method of data collection; the method of data analysis and study implications. Therefore, the

objective of conducting the content analysis was introduced in this topic; the definition of the sample and the unit of analysis will be presented in topic 3.2; the method of data collection is described in topic 3.3; the method of data analysis is presented in topic 3.4; and finally, some study implications are drawn in topic 3.5.

3.3 Systematic search for scientific papers

In order to make feasible the execution of the study, the content analysis was performed with a sample of 30 most cited peer-reviewed scientific journal papers. This choice had the objective to select for the development of this study the articles that most disseminated knowledge in the literature on CS during the period analyzed, that is, that supported several other studies that significantly contributed to advance the state of the art in this field.

[71] points out that sample size may vary according to the objective to be achieved, despite this, it is common qualitative studies have from 1 to 30 units of analysis. In this study, each article was considered a unit of analysis (totaling 30 units of analysis). The systematic search for papers was carried out on March 14th 2018 in two major research platforms: Scopus (www.scopus.com) and Web of Science (WOS – www.webofknowledge.com).

The strings used in the research platforms were "Corporate sustainability" OR "Business sustainability" to be found only in the titles. Other filters used were the period of publication (from 2007 to 2017 – 10 year-period of significant development in the field), type of document (articles or reviews) and language (English). After applying these filters, we excluded duplicate articles, that is, present in both Scopus and WOS; and articles that according to authors' screening were outside the scope of the study. Lastly, the search results were ranked in descending order of citation. The final list of 30 papers selected for analysis is presented in Appendix A.

3.4 Collecting and analyzing data

With the list of 30 articles it was possible to initiate the data collection. [74] advises that data collection in inductive content analysis should be opened and performed in an unstructured way. [71] corroborates and further suggests the codification of the data. Based on these recommendations and in line with the chosen method, the list of codes was generated deductively, that is, the elements identified in the articles (in this case, practices for CS development) were coded in the course of the process through qualitative content analysis of the material.

Therefore, the first purpose of the content analysis was the systematization of CS elements presented in the 30 most cited articles. The initial screening of the texts was assisted by the coding software MAXQDA 2018, through which the authors structured and analyzed their main insights, contributions and conclusions. After getting acquainted with the articles of the sample, the authors conducted an in-depth reading of the texts and identified CS elements.

The notes resulting from this initial analysis went through several refinement rounds, in which the CS elements were gradually compared and assessed by the authors of the study in order to eliminate redundancies and assure reliable coding results. This dialogue between co-researchers to perform content analysis data was recommended, for instance, by [74]. Appendix A shows the final list of CS elements identified in the literature analyzed following the coding process previously described.

The second purpose of the content analysis was to group the related codes for the formation of the categories, called in this study of pillars. The accounting of the frequency of occurrence of the codes in each unity of the sample was the criterion adopted to support the systematization of the pillars, as recommended by [71,75,76]. Hence, the most frequent elements led to the systematization of the groups, while the others elements not so frequent were clustered to them [75]. The "most frequent" elements were classified on the basis of the context of the portfolio of articles analyzed [75]. Thus, it was observed that there was a group of elements that appeared in at least 30% of the articles, while the others were much less frequent. This minimum frequency of 30% was considered for classification of the most frequent elements. The frequency of occurrence of the coded elements in the articles can be found in Appendix B.

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In order to allow the open extraction of categories, that is, totally based on the data collected; it was avoided to categorize the data in previously defined themes. The advantage of this is the inclusion of insights throughout the interpretation of the results, as envisioned when performing inductive content analysis [14]. The categorization must generate internally homogeneous and externally heterogeneous categories [71]. Therefore, in this study no element was classified into two groups simultaneously, which means that no element could fit into more than one category, as recommended by Bengtsson (2016). The grouping of CS elements was conducted in view of the management areas that could support their development.

3.5 Trustworthiness evaluation

Trustworthiness in qualitative research is often difficult to demonstrate, however, the presented method was designed considering important aspects that contributed to the transparency and reproducibility of the study, such as the systematic selection of the articles and the description of the step-by-step of the main stages that preceded and comprised the performance of the content analysis [70,73,74].

Codes created inductively may vary as the analysis is conducted due to the existence of different interpretations of constructs [70,71]. For this reason, the coding of the elements was performed repeatedly and adapted throughout the process of content analysis, working on discrepancies of interpretations and, whenever possible, aligning encoders to make the results more reliable. This strategy has been used by several researchers to analyze qualitative data [70].

In addition, the researchers themselves are the most well acquainted with the study and, therefore, the most prepared to understand and analyze the results [74]. Hence, the experiences of the authors of this work on the theme and the research method employed were important to ensure the validity of the analysis.

4. Discussion

The results presented and discussed in this section have the objective of answering the research question poised in the introduction of the study: "How is it possible to contribute to the state of art in CS evolve from common bases?". In order to answer this, the authors of this work conducted a content analysis of the relevant literature found in Appendix A and summarized in pillars the wide range of knowledge for CS management produced and disseminated in the last ten years (2007-2017).

As presented in the research method, a set of 60 elements for CS development and maintenance, with a minimum of 10% frequency, was identified in the 30 most cited articles in CS from 2007 to 2017. The most frequent elements of the set are highlighted in Figure 2.

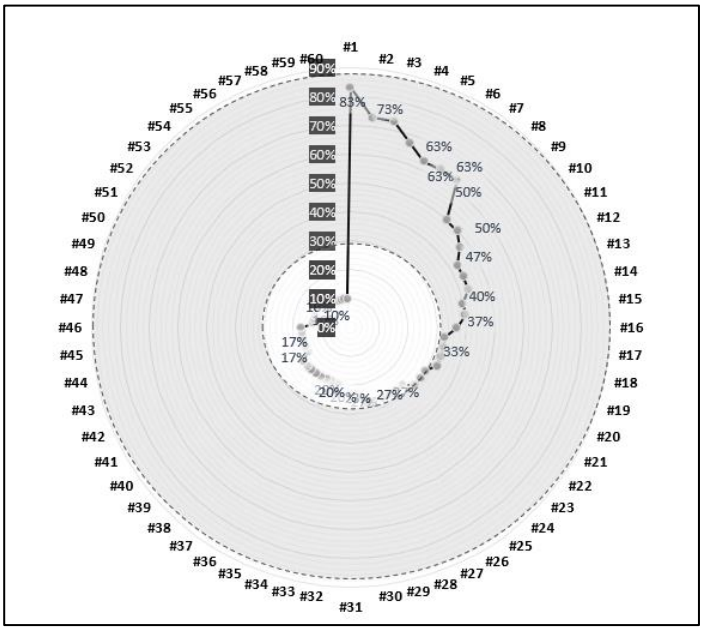

Figure 2. Frequencies of CS elements in the sample

Elements with at least 30% frequency are highlighted in Figure 2. These elements led the formation of the pillars, while the others were grouped together. Table 2 shows the 60 elements of Appendix A classified according to their frequencies and grouped in view of the management areas that support their development. Details about the method used in the grouping phase can be found in section 3.4 of this paper.

Table 2. CS elements and systematization of the management pillars

#	CS elements >= 30% freq.	#	10%<= CS elements <30% freq.	Pillars
7	Long-term orientation	38	Strategic partnerships to overcome market barriers and promote new products and services	Corporate sustainability strategy
9	Risk management	48	Planning market entry or development	
10	Business adjustment, improvement or redesign	53	Geographical and marketing segmentation	
18	Consideration of sustainability issues in purchase			
1	Cooperative relationship with stakeholders	27	Evaluation of company's reputation and brand value	Corporate governance
5	Top management support	40	Publication of a corporate sustainability policy	
15	Codes of conduct/corporate governance/ethics	56	Promotion and sponsorship of projects geared toward sustainable development	
16	Legal compliance with regulation	60	Ethical commitments regarding 2nd and 3rd world countries	
20	Transparency in management			
22	Philanthropic responsibilities			
4	HR programs	26	Minority and diversity programs	Human resources management
12	Sustainability-oriented organizational culture	36	Multidisciplinary innovation meetings	
		43	Development of employee eco-initiatives	
		47	Teamwork and employee empowerment	
		55	Recruitment of local employees	
		59	Incentives and reward systems	
6	Eco-efficiency-oriented measures	28	R&D with multidisciplinary innovation project teams	Knowledge and innovation management
13	Product design aimed to innovation on environmental performance	29	Co-development with business partners (e.g. suppliers, R&D institutions, universities)	
19	Promotion of flexibility, learn and, if necessary, change in processes	35	Environmentally and socially superior products and services	

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#	CS elements >= 30% freq.	#	10%<= CS elements <30% freq.	Pillars
		37	Innovation discussion panel with customers	
		39	Fluid information exchange	
		45	Products and services with lower energy or maintenance costs for customers	
		49	Use of waste for revenue and re-usable packages to delivery materials	
		50	Open dialogue across management levels and functions	
		51	Sustainability management system	
		58	Inspiration from networks, conferences	
3	Factory inspections and audits	25	Sustainability indices and guidelines	Measurement, disclosure and independent assurance
8	Corporate sustainability report	32	Standards of corporate governance, compliance, ethics	
23	Evaluation of sustainability business effect	57	Analysis of the impact of each stakeholder	
2	Corporate sustainability performance measurement system			
11	Integration and balance of social, environmental, and business activities and responsibilities	24	Energy and water saving projects	Management systems and integrated management systems
14	Health and safety initiatives	30	Integration of CS with management systems and/or integrated management systems	
21	Managerial best practices to promote sustainable supply chain management	31	Voluntary environmental restoration	
		33	Reduction of likelihood of environmental accidents	
		41	Reduction of operations in environmentally sensitive locations	
		42	Handling of toxic waste, effluents, used products from customers, plastic residues, paper and others	
		44	Occupational Health and Safety and Human Rights standards	
		52	Sustainability management system	

In Table 2, the first left column shows the most frequent elements that led the formation of the pillars. The second column presents the grouping of the other elements and, finally, the third column shows the principles derived from the elements in the previous two columns. In this study, the pillars are macro elements of management reinterpreted to enable the integration of CS in the companies.

The elements cited in the relevant literature of the last 10 years were grouped into 6 pillars, namely: Corporate sustainability strategy; Corporate governance; Human resources management;

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Knowledge and innovation management; Measurement, disclosure and independent assurance; and Management systems and integrated management systems (Figure 3).

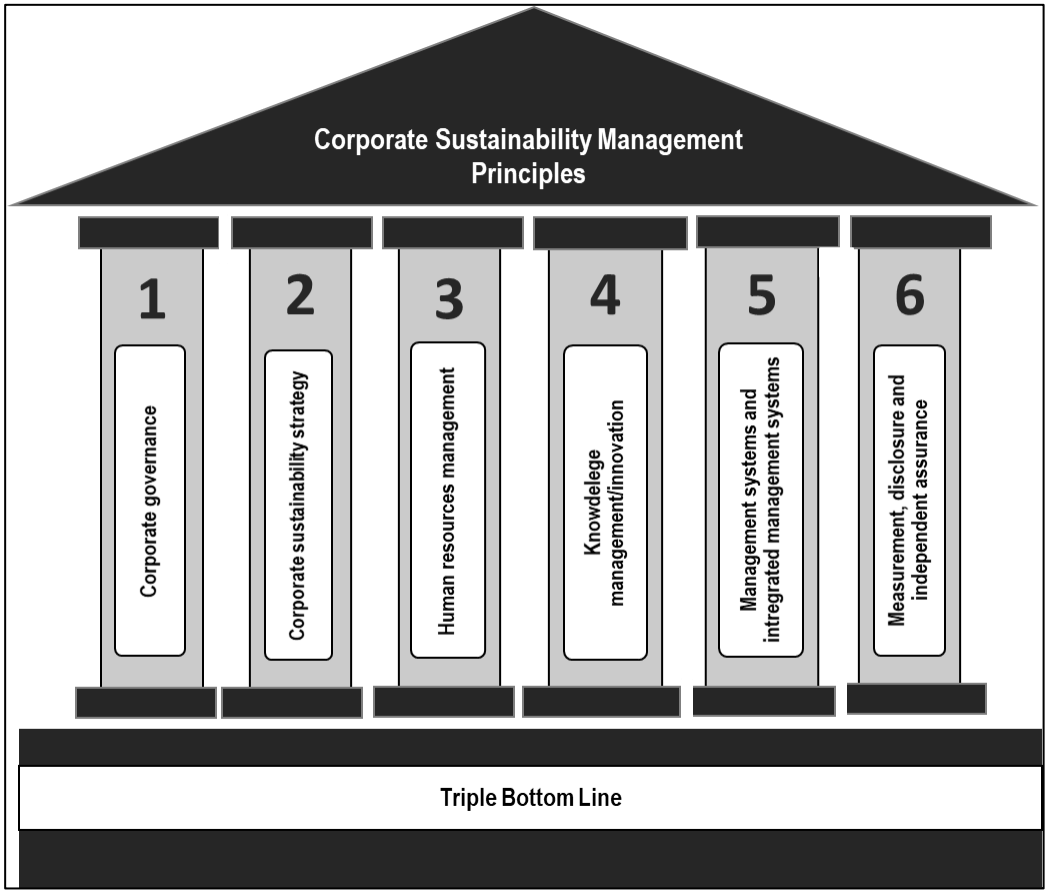

Figure 3. Proposed framework for CS management pillars

Observe in Figure 3 that all CS management pillars are transversal to the TBL elements. Therefore, it is considered that the elements of the economic, social and environmental pillars of TBL are embedded in all CS management pillars, which have already been used to develop sustainability both in academia and in companies. This is because the purpose of this work is to contribute with novelty to the advancement of CS theory, using for this, the knowledge consolidated by several authors over the years. Thus, the novelty of this proposal is to create a framework that brings together the best in the literature and that is already being used in companies with outstanding CS performance. The 6 CS management pillars must be developed systematically in order to integrate and balance environmental, social and economic management at all levels (strategic, tactical and operational) and environments (internal and external).

Following each of the pillars will be discussed in light of the scientific literature and the authors' experiences. The individual discussion of the pillars may direct researchers in the advancement of the state-of-the-art on specific CS themes and assist managers in developing a management structure that addresses the main elements of sustainability.

4.1 Sustainable Corporate Governance

The corporate governance structure plays an important role in the implementation of the sustainability strategy, especially in the face of the scandals and risks of fraud that the corporate world has faced [33,77]. Governance is the system according to which the company is directed, monitored and encouraged, aiming at the existence of a harmonious relationship between its stakeholders [78]. Reliable quality governance enables the creation of a decision-making environment in which transparency, accountability, responsibility; and fairness prevail in all organizational operations and relationships [77,79–81]. This in itself already contributes to corporate sustainability,

but the achievement of social and environmental balance will require the adoption of other CG mechanisms, such as the legal and political system and ownership and board structures [33].

The legal and political system of the company deals with issues of regulations, norms, values and organizational culture [78]. The values that guide governance may be present in codes of ethics and conduct, which, added to the governance manual assist the top management in the exercise of its activities [79,80]. Governance codes are corporate regulations that guide the board of directors and managers to make decisions that are aligned with organizational goals and strategies (Baumgartner 2014; Eccles et al. 2014). They are influenced by the determinant mechanisms of CG such as the aforementioned legal and political system and the ownership and board structures [78,82].

The ownership structure represents the concentration or dispersion of ownership among shareholders, which affects the degree of risk diversification, since the greater the concentration of ownership, the more active in the corporate decisions and the more risk averse will be the shareholder. On the other hand, the greater the dispersion of ownership, the greater the pressure from shareholders on managers for disclosure of information about the business [78].

As a result, the ownership structure may cause conflicts of interest between majority and minority shareholders, or between shareholders and the board [78]. For this reason, it is considered an important mechanism of CG and, although there is no consensus on its ideal configuration, the transparency in internal corporate control processes from the board structure is considered indispensable for the sustainability of the ownership structure [33]. In any case, it is emphasized that CEOs should maintain harmonious, power-sharing relationships with board members, seeking to avoid narcissistic behaviors that negatively impact the development of corporate sustainability [83].

The board structure can act as a complementary or substitution mechanism to the property structure [84]. Its main objective is to monitor the actions of top management and the way in which internal corporate control is carried out in order to promote corporate citizenship and combat opportunistic management and conflicts of interest, such as those previously mentioned [78]. For this, the board structure must be attended by managers and provide power and incentives to shareholders to participate in the management monitoring work. Other mechanisms can be defined according to the nature of the company, such as the size and independence of the board, compensation management systems, protection of minority shareholders, etc. [78,85]. It is important that the board evaluate the legal and political system of the company, paying attention to the preservation of ethics, especially in environments with great economic and cultural diversities [86,87].

Governance mechanisms should also promote good corporate citizenship, through which responsibilities and good practices are adopted with investors, customers, suppliers, society, the environment, regulatory agencies, etc., considering the multiple aspects of the relationship with these stakeholders [88]. This systemic concern with transparent management and the organization's impacts on their stakeholders has a very significant positive impact on sustainability [29,89]. However, the company that aims to develop sustainability in its business should always seek new ways to complement CG mechanisms with actions of socio-environmental balance.

In this sense, it is recommended, for example, the insertion of sustainability issues in a direct and permanent way in decision-making; the engagement of the board with social and environmental responsibility and philanthropic actions; the adherence of international management standards and regulations, carrying out internal and external audits; the disclosure of sustainability results; compensation of managers and executives linked to the achievement of socio-environmental objectives, etc. [33,79,90]. In this way, a governance based on the pillars of sustainability can act as a tool to improve company's reputation, brand value and credibility, reduce legislative risks and ensure the perennity of its businesses in the long term [32,87].

4.2 Corporate Sustainability Strategy

CS is a strategic issue in the current economic landscape, in which companies are pressured to offer sustainable competitive advantage [18]. With this, environmental and social issues must be considered side by side with economic issues and included in the company's strategic framework as an important and permanent part of its strategy [18]. The CS strategy in general is defined in

accordance with the motivations that led the top management to implement sustainability [80]. Therefore, the CS strategy may reveal how economic, social and environmental issues are approached and the motivations that led top management to opt for a given type of orientation.

[80] presented based on a review of the literature some reactive and proactive strategies models applied to CS. The introverted model, for example, translates into a reactive strategy aimed to mitigate environmental and social risks, focusing on compliance with applicable laws and regulations. The conservative model is more proactive and aims to achieve ecoefficiency through the development of cleaner production programs. The visionary model involves the development of a proactive and holistic sustainability strategy that encompasses all business activities and provides stakeholders unique, innovative and balanced competitive advantages from the environmental, economic and social points of view. Identifying and managing risks and opportunities, strengths and weaknesses related to environmental, social and economic aspects should be an essential part of the strategic planning of any organization that decides to be committed to sustainability, whether that commitment is strategically reactive or proactive. Risk management will assist in the early assessment of future scenarios and will support the formulation of the long-term CS strategy [80,92].

Long-term orientation is essential for the development of the CS strategy, especially the extroverted sustainable strategy, which seeks to influence the market by focusing on the development of lasting external relationships [80]. CS depends on timeless conscious choices that take into account the mitigation of the economic and socio-environmental impacts generated in the present and in the medium and long term [31]. It is therefore necessary to adapt, improve and, if necessary, redefine the business model in order to create an environment of mutual trust and cooperation with stakeholders for sustainable development [33,91]. Building long-term relationships with stakeholders can result in a number of business benefits, such as integrating sustainability across the supply chain; the possibility of market segmentation with access to new customers; expansion operations without incidence of resistance of neighbors, NGOs, or society; among others [32,33,41].

However, the integrated and long-term management of economic, environmental and social aspects can become a complex task due to the tensions involved in the development of CS. Among the tensions that may hamper sustainable strategic management are technical, financial, market constraints, among other structural constraints that prevent decision makers from implementing sustainability actions and programs; resistance to meeting demands for more sustainable products and services for fear of loss of legitimacy and risk of institutional disapproval; the difficulty of developing resilience to balance the sustainability pillars among similar companies that operate with homogenized solutions and little diversity to achieve efficiency; and the conflicts between short and long term orientations that reflect the paradigm between obtaining financial advantages in the present versus minimizing social and environmental impacts in the future [31].

Faced with so many seemingly contradictory paradoxes and interests, many companies unfortunately end up giving up on moving forward with sustainability. It is therefore important that these and other potential tensions are recognized and strategically managed in order to advance on the path of sustainability. In this sense, [31] explain that sustainability tensions may vary at different levels, according to the change process and the temporal and spatial context that surround them. Therefore, it is up to the company's top management to define a sustainability strategy that addresses the management of the tensions inherent in its business. All other pillars of CS management that will be discussed below approach important elements that will support the development and implementation of the CS strategy.

4.3 Sustainable management of Human Resources

Human values influence the relationship between employees, which in turn reflects on the organizational culture [32,79]. Conscious employees on the sustainability strategy, satisfied and with continuing contracts of stability and permanence have good production levels and contribute to sustainable development [93]. Human resources management (HRM) plays a key role in achieving this.

Human resources (HR) programs are important means of developing and training employees to work in an environment with an organizational culture open minded regarding sustainability [19,32,80]. Employees should be gradually integrated into the various sustainability management tools, motivated and made aware of environmental and social objectives and goals, long-term orientation and other strategic aspects of sustainable business development [79,80]. Also, HR should make recruitment efforts to attract sustainability-conscious employees to the company [94]. This is because an alignment of values (employee versus organization) is necessary for mutual motivation to develop corporate sustainability [95].

The recruitment, selection, remuneration, training and integration practices of the new employee with the organizational culture should be adjusted in order to promote the inclusion of women, black people, people with disabilities etc., since many social groups experience disadvantages with discrimination and prejudice [88,90].

HR management practices are determinant for the management of diversity and minorities, which is an aspect of social sustainability increasingly addressed by companies in the face of legal and regulatory pressures that aim to guarantee human rights and social justice in the environment of work [88,96]. HR in collaboration with top management should establish a positioning on diversity issues, inserting this subject into strategic planning and setting goals and indicators of diversity and inclusion to ensure, for example, equal employment opportunities, participation of women in the board of directors, inclusion of people with disabilities and generational balance [12,88,90]. Therefore, the implementation of sustainability requires a redirection of the HR function, which must be adjusted to meet the demands of the sustainability strategy defined by the top management [94,97].

It is recommended that human resources be managed in an environment of participation and creativity, with appreciation of teamwork and the development of incentive and rewards programs for employee empowerment. Employees could contribute with ideas and suggestions to improve the organization's social and environmental responsibility [31,32,95]. In addition to promoting the participation and internal involvement of employees, efforts should also be made to strengthen the communication channel with external stakeholders [80,98]. In this sense, meetings with partners and suppliers to exchange experiences and technological solutions; voluntary work of employees in the community and lectures and workshops on sustainability for customers and suppliers can be held.

Finally, human resources management must be alert to signs of stress, anxiety, worry, and depression that put the mental health of employees at risk. Such symptoms lead to problems that must be dealt with according to their root cause, that is, by preventing, managing or trying to alleviate the suffering of people in their workplace [99].

4.4 Sustainable Knowledge and Innovation management

Innovation management has the potential to leverage environmental performance improvements, which in turn can improve organizational efficiency as a whole [80]. Investing in technology to reduce the amount of emissions and waste, for example, makes it possible to reduce costs with raw materials and energy. Thus, it is suggested that environmental sustainability can complement economic sustainability through knowledge management and innovation and that investment in green innovation can lead to increased competitiveness in the market, especially in the sustainable business market [33,80].

Innovation management should focus on combining economic gains with the reduction of impacts on the environment and society in the short and long term, after all, not all innovation is sustainable [79,80]. The strategy of differentiating products and services should be based on beneficial innovations from the environmental and social points of view, involving for example the reduction of energy use in the production process, waste reduction of production inputs, reuse of waste, use of reusable packaging for delivery of materials, production of products with lower maintenance costs for customers, etc. For this reason, multidisciplinary R&D teams should be responsible for maintaining projects of green technology development and co-development with partners (universities, suppliers, customers, etc.) to improve environmental and social performance through redesign and improvement of products, processes and services [79,88].

The development of CS needs to act as a transforming and innovative force in all the functions of the organization [79,80]. However, the implementation of changes resulting from sustainability-oriented innovation management processes requires a flexible and open-minded organization [100]. In this sense, knowledge management (KM) practices can help in the institutionalization of innovative behaviors, products and processes [100,101]. KM practices involve the processes of creation, dissemination and use of knowledge from sources such as the organization itself, information technologies and collaborators [100,102].

The creation and application of knowledge can improve the communication flow between top management and employees and facilitate the dissemination of the sustainability-oriented organizational culture [103]. In addition, stakeholders have increasingly requesting information about the choices, investments and actions taken by companies that occupy a prominent position in sustainability in the market [88,89]. The pillar of knowledge management and innovation is essential to respond to this type of pressure because its development will support the availability of information and knowledge in accessible and usable formats to all stakeholder [104]. Specifically, knowledge management processes can support the development of the following pillar "measurement, disclosure and independent assurance", providing tools for managing and providing data and information on social, economic and environmental issues.

The knowledge management and innovation pillar should focus on the development of sustainability through the creation of a company with digital connectivity that constantly optimizes its operations in a 4.0 industry atmosphere [29].

4.5 Measurement, disclosure and independent assurance of Corporate Sustainability

Corporate Sustainability Performance (CSP) is an important element to the achievement of objectives for sustainable business development, such as those proposed by the Organization for Economic Co-operation and Development (OECD) guidelines for multinational enterprises, the Dow Jones Sustainability Index (DJSI), the United Nations Global Compact (UNCG) and the Global Reporting Initiative (GRI) guidelines, and the World Business Council for Sustainable Development (WBCSD) initiatives [88].

CSP aims to monitor and evaluate the incorporation and management of economic, social and environmental aspects in the company's activities, considering a prior analysis of the impact of these activities on the environment and society [88,105]. It is interesting that the company maintain a sustainability performance evaluation system (SPMS) to evaluate the advances or setbacks obtained with the implementation of sustainable practices, also called "sustainability business effect". The SPMS promotes the diagnosis and evaluation of the objectives, goals and sustainability indicators inherent to the sustainability strategy adopted by the company [88,106]. The implementation of a SPMS basically involves three phases, namely: 1) definition of corporate and sectorial indicators (KPIs); 2) implementation and use of KPIs and integration with processes and organizational structure and 3) SPMS improvement [106].

In defining the set of KPIs, it is important to relate the effectiveness of each KPI to the achievement of a particular objective in the TBL areas, or more specifically, with the areas of sustainability performance proposed, for example, by GRI: economic performance; market presence; indirect economic impacts; procurement practices; anti-corruption; anti-competitive behavior (economic pillar); materials; energy, water and effluents; biodiversity; emissions; effluents and waste; environmental compliance; supplier environmental assessment (environmental pillar); e employment; labor/management relations; occupational health and safety; training and education; diversity and equal opportunity; non-discrimination; freedom of association and collective bargaining; child labor; forced or compulsory labor; security practices; rights assessment; local communities; supplier social assessment; public policy; customer health and safety; marketing and labeling; customer privacy; and socioeconomic compliance (social pillar) [12,88].

It is also necessary to define optimal numbers of KPIs based on the organization context, to consider the use of composite indexes, and to develop criteria for addressing conflicting objectives

[88,106,107]. At this stage, managers responsible for the SPMS may take as a basis CS KPIs present in guidelines and standards related to sustainability, adapting them to the scope of application [88,108].

In the phase of implementation and use of the indicators it is necessary to consider and manage the existence of failures in the collection of data and information that feed the SPMS, to identify the most impacting indicators in the sustainability performance, and to explore the possibilities of using the financial and non-financial indicators in the accountability and disclosure of sustainability information [88,106]. The SPMS results should then be used as inputs in the decision-making process and for the continuous improvement of the SPMS itself. The continuous improvement should involve the re-evaluation and possible re-adaptation or replacement of the indicators [12,86].

Accountability for economic, social and environmental progress is an increasingly common practice in promoting value creation and communication with stakeholders [89,109]. This is developed through the publication of integrated reports, which present sets of financial and sustainability information integrated in a single document with the objective of making public the position of the company with respect to sustainability [12,109]. The sustainability report is a channel for communicating with stakeholders through which the company details its strategies, operations and business in the short, medium and long term [79,109]. Through it, the dialogue with stakeholders is developed enabling, for instance, that problems and opportunities for improvement be pointed out by any public that access the company's sustainability report.

Sustainability report should be a "snapshot" of the company's activities, however, its credibility has been questioned due to the widespread use of biased languages and the omission of data and negative aspects towards obtaining a positive image in the market [109–111]. Disclosure of information about CS is voluntary in many countries and, therefore, many companies do not follow formal rules or regulations on the form and content of disclosure [111].

For this reason, independent assurance of sustainability reports is recommended to assess the quality, comparability and credibility of information made available to the public [84]. This verification goes beyond traditional accounting and quality audits, also involving external verifications based on international norms and guidelines such as GRI standards, AA1000 standard on accountability for sustainability, ISAE 3000 international standard on assurance engagements, SA8000 standard on social accountability and ISO 26000 standard on social responsibility [7,38,112]. It should be noted that although external verification is recommended, it is not a mandatory requirement of GRI and companies wishing to carry it out can self-report this information in their sustainability report.

4.6 Sustainable Management Systems and Integrated Management Systems

Management systems provide important data and information for evaluating the CSP, since in them are concentrated the management of much of the economic, social and environmental issues that the organization has responsibility for [113]. According to ISO, a management system is a set of guidelines used to manage the interrelated parts of the business in order to enable the proposed objectives to be achieved (ISO 2019). Management systems can be certified and, in this case, they are models based on expert opinions that express by means of guiding and/or mandatory requirements what organizations can do to implement and maintain a cycle of continuous improvement of operations (ISO 2019). There are several studies that highlight the contribution of certified management systems to the sustainable development of organizations, mainly relating the economic performance with ISO 9001 [114–116]; environmental performance with ISO 14001 and EMAS [88,114,115,117] and social performance with ISO 26000, SA 8000 e OHSAS 18001 [88,114,115], the latter replaced in 2018 by ISO 45001.

ISO 9001 is a certifiable standard that establishes the requirements of a quality management system and is naturally related to the economic dimension of sustainability [118]. However, ISO 9001 also addresses requirements related to the social dimension, such as responsibility and customer orientation; stakeholder needs analysis; labor practices; training and education; and fair practices of responsible supply chain management and operation [118,119]. Additionally, the 2015 version of ISO 9001 contains requirements related to the development of knowledge management which, in turn,

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contributes to the development of CS, as discussed in detail in pillar 4 of this paper. ISO 14001 has the potential to contribute directly to environmental sustainability because it provides a framework of technical and administrative requirements to develop and maintain a certifiable environmental management system balanced with socioeconomic needs [120]. Some studies also suggest that ISO 14001 positively impacts the economic dimension due to the reduction of costs obtained with improvements in process efficiency and access to new customers due to the projection of a better image in the market [121]. ISO 45001 establishes the requirements of an occupational health and safety management system and contributes to the development of social responsibility. Despite this, in order to contribute more significantly to social sustainability, it is recommended to complement the management system with requirements of ISO 26000 (corporate responsibility), SA 8000 (social accountability) e AA1000 (sustainability assurance) [118].

In 2008, Jorgensen already argued that the implementation of management systems and their subsequent integration could strengthen the interrelationship between the different areas of the business, creating a transversal connection for the integration of sustainable best practices [114]. In that occasion, the author also highlighted the importance of extending the focus of management systems to include the management of external relationships along the supply chain, thus contributing to sustainable business development. However, for many years integrated management strategy was only considered for the ISO 9001 and ISO 14001 standards, sometimes including OHSAS 18001. From 2013 onwards, ISO 26000, SA 8000 and AA1000 have also been incorporated more frequently into IMSs with the objective of addressing CSR in business [108]. As suggested by [122], it is observed that more comprehensive IMSs have been gradually developed, mainly following the publication of new management system standards by international standardization bodies such as IEC (International Electrotechnical Commission), ISO (International Organization for Standardization) and ITU (International Telecommunication Union).

According to ISO, the main motivation for the revision and publication of standards and guidelines comes from the need to provide patterns that are aligned with the real needs and expectations of stakeholders, who are becoming increasingly aware and interested in the positioning of companies with regard to the management of its impacts on society and the environment (ISO 2019). This fact explains the increasing number of standards and guidelines dedicated to addressing sustainability issues in different areas and sectors. However, it must be acknowledged that many criticisms are made around the adoption of international standards because sometimes they are implemented due to external pressures and have as sole objective to obtain the certification, with no prospects of achieving real improvements for the sustainability of the business [123,124].

In light of this, [123] argues that the lack of an international certification for IMSs causes integration to be motivated by internal reasons, which positively impacts the performance of the IMS and its integration with the strategy. Therefore, it is suggested that, based on IMS, companies can manage a wide variety of objectives related to key areas of CS, thus contributing to the effectiveness of the CS strategy. In this sense, one aspect to be considered is the definition of the scope of the IMS, identified by [123] as a possible contingent factor in CS performance that needs to be empirically investigated. This assessment of the scope of the IMS is especially relevant because as previously highlighted, an increasingly broader range of integrable management systems are currently available. In this way, depending on the focus that the management systems present, the IMS could be more or less effective in meeting stakeholders' needs. Table 3 presents some management systems (certifiable and not certifiable) related to the TBL of CS.

Table 3. Management standards, Guidelines and Regulations approaching TBL aspects

TBL Focus area(s)	Management standard/Guideline/Regulation
Economic	- ISO 9001 Quality management system - ISO 44001 Collaborative business relationship management systems

TBL Focus area(s)	Management standard/Guideline/Regulation
	- ISO 37001 Anti-bribery management system - ISO 22301 Business continuity management system
Environmental	- ISO 14001 and EMAS – Environmental management system - ISO/DIS 24526 Water efficiency management systems - ISO 50001 Energy management system - ISO 14064 Carbon management system
Social	- ISO 45001 Occupational health and safety management system - ISO 18788 Management system for private security operations - SA 8000 Social Accountability
Economic, environmental and social	- ISO 19600 Compliance management system and AA1000AS Assurance standard - ISO 28001 Security management system for the supply chain - ISO/IEC 27001 Information security management system and ISO/IEC 2000-1 Service management system - ISO 30401 Human resource management – Knowledge management systems - ISO 31000 Risk management system - ISO 26000 Guidance on social responsibility - British BSI PAS 99; Danish DS 8001; Spanish UNE 66177; Australia/New Zealand AS/NZS4581 Integrated management system

The management systems shown in Table 3 cover important issues for the development of CS, which were addressed in the pillars of presented in this study. Unfortunately, the relationship of most of these systems to CS has not been sufficiently explored in the literature of IMS [125,126]. Thus, in line with Gianni et al.(2017) and Witjes et al. (2017) the authors of this work suggest that further studies are conducted in order to understand the use of IMS as a CS developer, especially considering combinations of management systems not studied or studied but not intensively (e.g. ISO/IEC 27001, ISO 22301, ISO 31000, ISO 37001, ISO 50001, AA1000AS) and their possible contributions to a better integration and performance of CS.

5. Conclusions

As suggested in the title of the article, it is necessary to rethink the ways of doing business and, for this, the development of corporate sustainability in management structures has proved to be an essentially important aspect. In order to address this, this paper aimed to systematize the guiding pillars of Corporate Sustainability (CS) management. This objective was achieved through the conduction of a literature content analysis of the 30 most cited articles on CS from 2007 to 2017. As a result, six pillars for CS management were systematized: Sustainable Corporate Governance; Corporate Sustainability Strategy; Sustainable management of Human Resources; Sustainable Knowledge and Innovation management; Measurement, disclosure and independent assurance; and Sustainable Management Systems and Integrated Management Systems.

The discussion of the CS management pillars provided understanding to researchers and managers on the main aspects that make up the integration of this construct in a company from a management point of view. CS is a very comprehensive concept and approaching it under different prisms is important to understand in depth the wide spectrum of elements that make it up. However,

regardless of the type of focus to be considered (whether environmental, social or both), it is recommended to contemplate the set of pillars of sustainability management presented in this paper, since they are transversal to the areas of the TBL and can support the integration of sustainability in the organizational structure.

This study is a starting point towards structuring a management basis for supporting and promoting sustainable business development at all levels and areas of a company. The theoretical contributions are to provide researchers contact with some of the most important publications of the CS field; to promote the theoretical-scientific defragmentation of the literature on CS, by bringing the main findings together to advance state-of-the-art in this field; and to subsidize the development of further CS frameworks, instruments and analyses.

This study contributes with novelty to the advancement of CS theory, using for this, the knowledge consolidated by several authors over the years. Thus, the novelty of this proposal is to create a framework that brings together the best in the literature and that is already being used in companies with outstanding CS performance.

As applied contribution, managers can consider the development of the presented pillars in companies, based on the development of the elements of CS identified. With this, they will have a management basis to support and promote the integration of sustainability in business processes.

Due to the delimitation of the number of articles that were analyzed, it is recommended that future studies continue the study of the fundamental bases of sustainable management and investigate more deeply how to develop each CS management pillar in the day-to-day life of companies from different industries, sizes and countries.

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Appendix A

A1. Most cited articles in cs from 2007 to 2017

Nº	Title	Author(s)/Year	Journal/ISSN	Times cited (Scopus March 2018)
1	Corporate Social Responsibility and Corporate Sustainability Separate Pasts, Common Futures	Montiel (2008)	Organization & Environment/ 1086-0266	166
2	Corporate Sustainability and Innovation in SMEs: Evidence of Themes and Activities in Practice	Bos-Brouwers (2010)	Business Strategy and the Environment/ 1099-0836	157
3	Corporate sustainability and organizational culture	Linnenluecke and Griffiths (2010)	Journal of World Business/ 1090-9516	156
4	Business Cases for Sustainability: The Role of Business Model Innovation for Corporate Sustainability	Schaltegger, Lüdecke-Freund and Hansen (2012)	International Journal of Innovation and Sustainable Development/ 1740-8830	152
5	Corporate Sustainability Strategies: Sustainability Profiles and Maturity Levels	Baumgartner and Ebner (2010)	Sustainable Development/ 1099-1719	146
6	W(h)ither Ecology? The Triple Bottom Line, the Global Reporting Initiative, and Corporate Sustainability Reporting	Milne and Gray (2013)	Journal of Business Ethics/ 0167-4544	128
7	An analysis of indicators disclosed in corporate sustainability reports	Roca and Searcy (2012)	Journal of Cleaner Production/ 0959-6526	126
8	Planetary Boundaries: Ecological Foundations for Corporate Sustainability	Whiteman, Walker and Perego (2013)	Journal of Management Studies/ 1467-6486	117
9	The Impact of Corporate Sustainability on Organizational Processes and Performance	Eccles, Ioannou and Serafeim (2014)	Management Science/ 0025-1909	103

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10	Corporate Sustainability Reporting: A Study in Disingenuity?	Aras and Crowther (2009)	Journal of Business Ethics/ 0167-4544	102
11	Is Corporate Sustainability a Value Increasing Strategy for Business?	Lo and Sheu (2007)	Corporate Governance An International Review/ 0964-8410	96
12	Governance and sustainability: An investigation into the relationship between corporate governance and corporate sustainability	Aras and Crowther (2008)	Management Decision/ 0025-1747	93
13	Corporate Sustainability Performance Measurement Systems: A Review and Research Agenda	Searcy (2012)	Journal of Business Ethics/ 0167-4544	91
14	Corporate Sustainability Performance and Idiosyncratic Risk: A Global Perspective	Lee (2009)	The Financial Review/ 1540-6288	89
15	The determinants of corporate sustainability performance	Artiach et a. (2010)	Accounting and Finance/ 1467-629X	88
16	The role of corporate sustainability performance for economic performance: A firm-level analysis of moderation effects	Wagner (2010)	Ecological Economics/ 0921-8009	79
17	Cognitive frames in corporate sustainability: managerial sensemaking with paradoxical and business case frames	Hahn et al. (2014)	Academy of Management Review/0363-7425	77
18	Measuring corporate sustainability management: A data envelopment analysis approach	Lee and Saen (2012)	International Journal of Production Economics/ 0925-5273	71
19	Subcultures and Sustainability Practices: the Impact on Understanding Corporate Sustainability	Linnenluecke, Russell and Griffiths (2009)	Business Strategy and the Environment	70
20	A holistic perspective on corporate sustainability drivers	Lozano (2015)	Corporate Social Responsibility and Environmental Management	66

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21	Defining and Measuring Corporate Sustainability: Are We There Yet?	Montiel and Delgado-Ceballos (2014)	Organization & Environment/ 1099-0836	60
22	Tensions in Corporate Sustainability: Towards an Integrative Framework	Hahn et al. (2015)	Journal of Business Ethics/ 0167-4544	57
23	Beyond the Bounded Instrumentality in Current Corporate Sustainability Research: Toward an Inclusive Notion of Profitability	Hahn and Figge (2011)	Journal of Business Ethics/ 0167-4544	57
24	Conceptualising future change in corporate sustainability reporting	Adams and Whelan (2009)	Auditing & Accountability Journal/ 0951-3574	57
25	What does GRI-Reporting tell us about Corporate Sustainability?	Isaksson and Steimle (2009)	The TQM Journal/ 1754-2731	56
26	The Relationship Between Sustainable Supply Chain Management, Stakeholder Pressure and Corporate Sustainability Performance	Wolf (2014)	Journal of Business Ethics/ 0167-4544	55
27	Corporate sustainability: an integrative definition and framework to evaluate corporate practice and guide academic research	Amini and Bienstock (2014)	Journal of Cleaner Production	54
28	Instrumental and Integrative Logics in Business Sustainability	Gao and Bansal (2013)	Journal of Business Ethics/ 0167-4544	50
29	Corporate sustainability performance and firm performance research: Literature review and future research agenda	Goyal, Rahman ad Kazmi (2013)	Management Decision/ 0025-1747	49
30	Managing Corporate Sustainability and CSR: A Conceptual Framework Combining Values, Strategies and Instruments Contributing to Sustainable Development	Baumgartner (2014)	Corporate Social Responsibility and Environmental Management/ 1535-3966	48

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Appendix B

A2. Elements of Corporate Sustainability and their frequency of occurrence

#	CS elements	MOST CITED ARTICLES #1 - #10										MOST CITED ARTICLES #11 - #20										MOST CITED ARTICLES #21 - #30										Total %
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	#27	#28	#29	#30	
1	Cooperative relationship with stakeholders	x	x	x	x	x		x		x	x	x	x	x	x		x		x	x	x	x	x	x	x	x	x	x		x	x	83%
2	Corporate sustainability performance measurement system	x		x	x			x		x	x	x	x	x	x	x	x	x	x	x	x		x		x	x	x		x	x		73%
3	Factory inspections and audits	x	x	x				x		x	x	x	x		x		x		x	x	x	x	x	x	x	x	x	x		x	x	73%
4	HR programs	x	x		x	x	x	x		x	x			x			x		x	x	x	x			x	x	x	x		x	x	67%
5	Top management support	x	x	x		x					x							x	x	x		x	x	x		x	x	x	x	x	x	63%
6	Eco-efficiency-oriented measures	x	x		x	x		x	x			x						x	x	x	x	x	x		x	x	x	x		x	x	63%
7	Long-term orientation			x	x	x				x	x	x	x	x				x		x	x	x	x			x	x	x	x	x	x	63%
8	Corporate sustainability report	x			x	x		x		x	x	x	x	x				x	x		x		x	x	x		x					50%
9	Risk management	x	x		x					x	x	x		x	x	x				x		x		x		x		x		x	x	50%
10	Business adjustment, improvement or redesign	x		x	x					x				x			x		x	x		x	x			x		x	x		x	47%

#	CS elements	MOST CITED ARTICLES #1 - #10										MOST CITED ARTICLES #11 - #20										MOST CITED ARTICLES #21 - #30										Total %
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	#27	#28	#29	#30	
11	Integration and balance of social, environmental, and business activities and responsibilities	x	x	x	x	x				x	x						**x**						x				x	x	x		x	43%
12	Sustainability-oriented organizational culture			x	x					x		x							x	x		x	x				x	x	x	x	x	43%
13	Product design aimed to innovation on environmental performance	x	x		x	x		x								x		x			x					x	x	x		x	x	43%
14	Health and safety initiatives	x	x			x		x		x	x	x							x		x				x	x		x				40%
15	Codes of conduct/corporate governance/ethics		x			x					x	x		x									x	x	x	x		x		x	x	40%
16	Legal compliance with regulation				x			x		x										x	x	x			x	x	x	x		x		37%
17	Become an organizational changing agent	x	x	x	x			x				x													x	x		x			x	33%
18	Consideration of sustainability issues in purchase	x			x	x		x															x			x	x	x			x	33%

#	CS elements	MOST CITED ARTICLES #1 - #10										MOST CITED ARTICLES #11 - #20										MOST CITED ARTICLES #21 - #30										Total %
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	#27	#28	#29	#30	
19	Promotion of flexibility, learn and, if necessary, change in processes		x	x	x															x		x					x	x		x	x	33%
20	Transparency in management		x			x				x	x	x		x										x		x		x		x		33%
21	Managerial best practices to promote sustainable supply chain management		x			x				x							x						x			x	x			x	x	30%
22	Philanthropic responsibilities	x	x					x			x	x					x		x						x	x						30%
23	Evaluation of sustainability business effect				x						x	x			x	x				x							x	x		x			30%
24	Energy and water saving projects	x						x	x			x													x			x	x		x	x	27%
25	Sustainability indices and guidelines	x	x	x	x						x			x				x									x						27%
26	Minority and diversity programs	x	x					x			x								x		x				x			x					27%
27	Evaluation of company's reputation and brand value				x						x	x								x	x					x				x	x		27%

#	CS elements	MOST CITED ARTICLES #1 - #10										MOST CITED ARTICLES #11 - #20										MOST CITED ARTICLES #21 - #30										Total %
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	#27	#28	#29	#30	
28	R&D with multidisciplinary innovation project teams		x	x	x	x		x		x	x						x		x		x						x	x		x		27%
29	Co-development with business partners (e.g. suppliers, R&D institutions, universities)		x		x	x														x		x				x	x			x	27%
30	Integration of CS with management systems and/or integrated management systems			x									x	x						x							x			x	x	23%
31	Voluntary environmental restoration	x				x		x	x								x		x	x												23%
32	Standards of corporate governance, compliance, ethics													x				x						x	x	x				x	x	23%
33	Reduction of likelihood of environmental accidents	x	x			x						x													x			x				20%
34	Employee well-being initiatives		x							x		x													x	x		x				20%

#	CS elements	MOST CITED ARTICLES #1 - #10										MOST CITED ARTICLES #11 - #20										MOST CITED ARTICLES #21 - #30										Total %
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	#27	#28	#29	#30	
35	Environmentally and socially superior products and services				x										x			x								x	x				x	20%
36	Multidisciplinary innovation meetings		x		x																	x					x	x			x	20%
37	Innovation discussion panel with customers		x		x																	x					x			x	x	20%
38	Strategic partnerships to overcome market barriers and promote new products and services				x					x														x	x	x		x				20%
39	Fluid information exchange		x																			x				x	x			x	x	20%
40	Publicate a corporate sustainability policy	x		x															x							x	x			x		20%
41	Reduction of operations in environmentally sensitive locations	x				x						x											x					x				17%
42	Handling of toxic waste, effluents, used products from customers, plastic	x	x									x															x	x		x	x	17%

#	CS elements	MOST CITED ARTICLES #1 - #10										MOST CITED ARTICLES #11 - #20										MOST CITED ARTICLES #21 - #30										Total %
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	#27	#28	#29	#30	
	residues, paper and others																															
43	Development of employee eco-initiatives	x																	x			x						x		x		17%
44	Occupational Health and Safety and Human Rights standards										x			x							x					x		x				17%
45	Products and services with lower energy or maintenance costs for customers	x																			x				x		x			x		17%
46	Stakeholders' ideals and needs					x		x		x	x	x		x										x		x						17%
47	Teamwork and employee empowerment			x													x					x						x				13%
48	Planning market entry or development				x	x																								x	x	13%
49	Use of waste for revenue and re-usable packages to delivery materials				x																x									x	x	13%
50	Process improvements		x			x														x							x					13%

#	CS elements	MOST CITED ARTICLES #1 - #10										MOST CITED ARTICLES #11 - #20										MOST CITED ARTICLES #21 - #30										Total %
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	#27	#28	#29	#30	
51	Open dialogue across management levels and functions		x																			x					x			x		13%
52	Sustainability management system							x									x										x					10%
53	Geographical and marketing segmentation																								x					x	x	10%
54	Integration of ecosystem stewardship into natural resource management practices	x							x								x															10%
55	Recruitment of local employees							x											x												x	10%
56	Promotion and sponsorship of projects geared toward sustainable development	x	x					x																								10%
57	Analysis of the impact of each stakeholder											x			x											x					x	10%
58	Inspiration from networks, conferences		x		x					x												x										10%
59	Incentives and reward systems		x			x				x																						10%

#	CS elements	MOST CITED ARTICLES #1 - #10										MOST CITED ARTICLES #11 - #20										MOST CITED ARTICLES #21 - #30										Total %
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	#27	#28	#29	#30	
60	Ethical commitments regarding 2nd and 3rd world countries		x																					x	x							10%

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