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Sustainability and Corporate Governance: Theoretical Development and Perspectives

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Abstract

Sustainability in the management field has several benefits including improvements in food quality competitiveness, responsibility and trust. Additionally, has been related not only to improving the image of organizations but also to increasing their value. However, this concept is multifaceted and diverse, and sometimes an incongruity appears when business leaders just want to increase their sales. Consequently, corporate governance has emerged as a topic connected to the establishment of agreements and the implementation of improvements in three dimensions: environmental, social and economic. This essay intends to explore the benefits, challenges and opportunities of sustainability and corporate governance to demonstrate the desirability of incorporating these topics into organizational management. Additionally, different models of sustainable governance are described to identify their elements and the similarities among them. We conclude that collaboration is key in all models and that it is necessary to broaden theoretical development to enable the implementation of best practices of corporate governance and to ensure sustainability.

Keywords: sustainability, corporate governance, benefits, challenges, opportunities, models of sustainable governance

1. Introduction

In the global economic situation, which is going to be marked by inflation, increased prices of raw materials, and labor that weakens the financial system and fosters political instability (Liu & Zhuang, 2013), sustainability has demonstrated its potential to foster the balanced development of three dimensions: economic, social and environmental. Unfortunately, only the first dimension is receiving increased attention in the business world (Chardine-Baumann & Botta-Genoulaz, 2014).

In the present essay, sustainability and corporate governance issues are described in order to study and explain their relationship through a theoretical analysis of empirical articles. In addition, to facilitate understanding of the issue of sustainability in the implementation of corporate governance, recently developed models that could be established in businesses in the near future are presented. This effort aims to explain the backgrounds of these models and the theories on which they are based and to describe the results of their incorporation intoorganizational management in order to identify and explain the elements of sustainable governance mechanisms.

Sustainability has been studied in the management field, and several benefits have been identified, including improvements in food quality (Bekele, Bosona, Nordmark, Gebresenbet, & Ljungberg, 2012), competitiveness (Aigner & Lloret, 2013), and responsibility and trust (Haywood, Trotter, Faccer, & Brent, 2013). These results explain the recent boom in sustainability literature in the academic world, which has not resolved confusion in this area due to poor conceptualization of the sustainability concept (Gibbs & O'Neill, 2015). This concept is multifaceted and diverse, which increases the difficulty of understanding it (Renukappa, Egbu, Akintoye, & Goulding, 2012). In certain cases, an incongruity appears when business leadersuse sustainability only as a means to improve their corporate image and increase sales (Boukherroub, Ruiz, Guinet, & Fondrevelle, 2015; Galpin, Whittington, & Bell, 2015).

Corporate governance is emerging as a topic related to the implementation of sustainability because businesses

are beginning to consider sustainability as a means to increase market value (Warren-Myers, 2013) and improve the organization in general (Klettner, Clarke, & Boersma, 2014) in addition to reducing operating costs and increasing profits (Lacy & Hayward, 2011).Therefore, we describe the backgrounds of both issues.

1.1 Background of Sustainability

The evolution of the concept of sustainable development can be divided into three periods. The first period is the so-called "Pre-Stockholm" (1972) period, when religious beliefs and traditions in general played an important role. For example, in Judeo-Christian scripture, there is an allusion to the right of man to dominate the earth. Additionally, among the American indigenous people, there was a holistic view that emphasized the need to live in harmony with nature. The second period (1972-1987) commenced following the Stockholm Conference that was sponsored by the United Nations (UN) in 1972 and lasted until the World Commission on Environment and Development (WCED) in 1987, which marked the most important step in the configuration of the concept of sustainable development (Mebratu, 1998). The third period may be called the "Post-WCED" (1987) period and includes the UN Conference on Environment and Development in Rio de Janeiro, Brazil, in 1992, where the issue of ecological change was added to the agenda of world leaders (Dauvergne, 2012).

The Brundtland Commission (or WCED) report, *Our Common Future*, defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987 cited by Kajikawa, 2008, p. 215). The Rio conference held in Brazil in 1992 was regarded at the time as the greatest implementation of sustainable development at the global level. The implementation occurred through a series of international compromises that clearly identified time frames and material resources and was embodied in five documents: the Rio Declaration on the Environment; Agenda 21; the United Nations Framework Convention on Climate Change; the Convention on Biological Diversity; and the Declaration of Principles on the Management, Conservation and Sustainable Development of All Types of Forests (Pierri, 2005).

According to the International Energy Agency (IEA), less than 15% of global energy needs were met by renewable resources in 2011, twenty years after Rio. Worse, otherwise ethical companies have even lower percentages. Nations and companies that have incorporated the issue of sustainability into national strategies and business plans, respectively, are rare, and the likelihood of reaching a global turning point is small (Fernando, 2012). On the contrary, numerous corporations often seek to maximize their profits beyond what is considered socially acceptable, abusing their dominant position or developing anticompetitive tactics that reduce their value to society (Santos, 2012). This scenario makes clear the importance of an organizational strategy that is compatible with the environment because improved performance in this regard is linked to healthy finances, competitiveness and innovation (Cronin, Smith, Gleim, Ramirez, & Dawn, 2010).

On the other hand, universities are institutions for advanced individual learning and the advancement of knowledge, but it is questionable whether they are themselves learning organizations, because the low number of universities that contribute to a sustainable development of society (Albrecht, Burandt, & Schaltegger, 2007). Universities are required to introduce new elements in business administration programs in order to prepare future managers to act in a more conscious and flexible way, which is dialogically guided by competitiveness and sustainability, creating a relationship between individuals, organizations and society (Palma, Oliveira, & Viacava, 2011). For instance, a training about ethics as it relates to sustainability provides a structure for understanding the moral basis for decisions about which technique or strategy to employ by future professionals (Biedenweg, Monroe, & Oxarart, 2013). Finally, universities could learn from the experiences of corporate sustainability reporting efforts, to better align their systems with sustainability (Lozano, 2011).

Because sustainability is commonly associated with environmental issues (such as energy conservation, the reversal of climate change and the protection of biodiversity), it is important to emphasize that the concept of sustainability also includes the impact of corporations on economic and social issues (Ha-Brookshire, & Norum, 2011). In fact, the concept of sustainability coexists with social responsibility; organizations integrate these principles into their strategies voluntarily, creating values and fostering behavior that exceeds the laws and regulations of the host country (Velázquez, & Vargas, 2012).

1.2 Background of Corporate Governance

The development of corporate governance can be divided into three eras. The first is called managerial capitalism (1932-1976), which suggests professional management separate from the property owners, in accordance with agency theory. This model was criticized when owners realized that managers only improved their own financial well being, which highlighted the need for improved mechanisms to address these conflicts of governance. In 1976, Jensen & Meckling participated in the second era, known as capitalist shareholder value,

which seeks to align the interests of senior management with those of shareholders through stock-based compensation. Finally, there is the emergence of stakeholders that consider the organization not only an entity of profit but also an instrument that serves another purpose. In 1984, Freeman spoke of customers and suppliers (Mostovicz, Kakabadse, & Kakabadse, 2011). In this era, shareholders own shares whereas stakeholders do not. It is believed that in the future, these two parties will merge, creating a virtuous circle of new capitalism (Bonnafous-Boucher, 2005). A stakeholder is defined as "any group or individual who can affect or be affected by the achievement of the objectives of the organizations" (Freeman, 1984; cited by Spitzeck, 2009, p. 496).

Corporate governance has been defined as a system by which companies are directed and controlled. It concerns the organization of relations among management, shareholders and stakeholders in the context of corporate transparency. Optimally, corporate governance protects the rights of stakeholders (Cuneyt-Arslantas & Afacan-Findikli, 2013). In addition, this system has been described as "a framework for coordinating relations between shareholders, the board of directors, managers and other stakeholders" (OECD [Organization for Economic Co-operation and Development], 2004, cited by Guo, Smallman, & Radford, 2013, p. 257). Good corporate governance provide proper incentives for the board and management to pursue objectives that are in the interests of the company and its shareholders and facilitate effective monitoring (OECD, 2004; cited by Honoré, Munarib, & Pottelsberghe, 2015). Sustainable governance in particular is a practice commonlyused to anticipate and manage potential risks to legitimacy and corporate reputation (Blowfield & Dolan, 2010; cited by Li, Zhao, Shi, & Li, 2014).

Corporate governance has benefits in terms of attraction of capital and its retention, for corporations it could well mean enhanced market capitalization. An international survey in this matter showed that investors are prepared to pay more for corporations with more effective governance structures and practices with lower share premiums for Asian, Latin American and other emerging economies; a comparatively higher premium for those located in Europe where there are still pressures for better disclosure of information to shareholders; specially in the United Kingdom and United States capital markets where information disclosure to shareholders is enhanced either through strict securities laws or codes of best practices (McKinsey & Co., 2005; cited by Yeoh, 2007). The major international corporate governance guidelines established by OECD, encourage corporations to pursue transparency, fairness, ethics, responsibility, and honesty in all the dealings between investors and other stakeholders (Lai & Chen, 2014). The "OECD Principles of Corporate Governance" represented a minimum standard for a company's rules of incorporation in order to provide guidance to stock exchanges, investors, companies and other parties. These recommendations referred to shareholders' rights, equal treatment of shareholders, the role of stakeholders, disclosure and transparency as well as duties of the Supervisory Board. The "Principles" were passed in May 1999 and updated in 2004 (Rosen, 2007).

The development of literature on governance remains in its infancy. Recent studies have shown that the most significant challenge is cooperation becauseresponsibility for competitive strategy, heightened global attention to product quality, environmental issues, and the cost-benefit analysis of the business relationship has been assumed by the manager of actors in the supply chain through the supervision and coordination of suppliers and distributors (Vurro, Russo, & Perrini, 2009 cited by Li et al., 2014).

2. Results and Discussion

2.1 The Benefits of Corporate Sustainability and Governance

The benefits of harmonizing sustainability and governance includeincreased organizational value (Klettner et al., 2014), enhanced corporate social responsibility (CSR) (Sharma, 2014) and the dissemination of results in these areas (Janggu, Darus, Zain, Yussri, & Sawani, 2014). Finally, collaboration with both suppliers (Gimenez & Sierra, 2013) and other stakeholders (Li et al., 2014) is notable, which equates to compliance with sustainable governance (see Table 1).

Gimenez & Sierra (2013) noted that one of the main challenges faced by companies is the management of sustainability throughout the supply chain. To extend sustainability to providers, organizations have developed different governance mechanisms. The aim of Gimenez & Sierra (2013) was to analyze the effectiveness of two different mechanisms—namely, evaluation of suppliers and collaboration with suppliers—to improve environmental performance. In August 2009, 109 German managers were considered in the analysis through a questionnaire. The results showed that both mechanisms have a positive and synergistic effect on environmental performance and that evaluation acts as a facilitator of collaboration.

Janggu et al. (2014) examined the impact of corporate governance on the sustainability of 100 publicly listed companies in Malaysia in 2010 from the perspective of agency theory. The results indicate that the size and professionalism of the board and the appointment of its members have a significant impact on sustainability

disclosure. However, independence and ownership of the board are not factors in sustainability disclosure. Therefore, it is crucial to consider the performance and reporting of sustainability in the design and composition of the governing board.

A similar study was conducted by Klettner, Clarke, & Boersma (2014), who researched the implementation of corporate governance processes related to sustainability strategies in 50 Australian companies. The analysis used companies' annual reports to identify significant progress in the integration of sustainability into company operations. The evidence indicated that leadership structures are designed to involve both the governing board and the general manager in the development of sustainability strategies for the purpose of obtaining financial rewards. Therefore, sustainability is key to maintaining or increasing the value of the organization.

Sustainable governance is a relatively recent topic. Li et al. (2014) examined the impact of CSR behavior on the sustainable performance of focal companies and their collaboratorsin clothing supply chains. In addition, the reasons for adopting sustainable governance were analyzed, and the following seven competitive attributes of sustainability were described based on the theory of sustainable development: the characteristics of consumer demand, the capacity of government regulation, the outreach capacity of NGOs, the density of the supply chain, the complexity of transactions, the centrality of the focal company and supplier capabilities. The authors concluded that collaboration between internal company governance and company stakeholders is essential to the achievement of sustainable governance throughout the supply chain from the perspective of external governance. The authors also recommended evaluating the effectiveness of governance in real situations and studying the efficiency of supply chain operations using the principles of sustainable governance.

Sharma (2014) explored the associations among CSR, corporate governance and sustainability in India by applying correlation analysis. Data were obtained from the annual reports and sustainability reports of companies listed on the S&P CNX Nifty for the periods 2009-2010 and 2010-2011. Using the Spearman coefficient, the author found a very low negative and insignificant correlation between CSR and corporate governance; a low positive and insignificant correlation between sustainability and corporate governance; and a significant correlation between CSR and sustainability.

2.2 The Challenges of Sustainability and Corporate Governance

Several challenges in this area require attention, including the proper alignment of and collaboration with stakeholders (Lacy & Hayward, 2011); the need for a model that combines profit maximization and stakeholder interests (Gnan, Hinna, Monteduro, & Scarozza, 2013); and the lack of knowledge about the above mentioned topics (Formentini & Taticchi, 2015). In addition, the integration of sustainability into business processes is essential (Krechovska & Prochazkova, 2013), along with demonstrations of the effectiveness of sustainability committees in response to government pressure (Ortiz-de-Mandojana, Aguilera-Caracuel, & Morales-Raya, 2014) (See Table 1).

Employers' opinions on sustainability are important. Therefore, Lacy & Hayward (2011) collaborated with the Global Compact of the United Nations to interview more than 800 chief executive officers (CEOs), most of whom recognized the magnitude of the challenge they face in aligning the elements of sustainability with their main businesses. In this regard, there is consensus that companies can play an important role in building a more sustainable economy if doing so is consistent with business objectives.

Regarding the public sector, Gnan, Hinna, Monteduro, & Scarozza (2013) note that local public services have indicated the need to reconsider the role of local government. New public management is necessary to facilitate the implementation of public policies through engagement with stakeholders. To further these purposes, new tools have been introduced in recent years, including a control system and the management of human resources. To analyze specific management tools that may be used to improve the quality of corporate governance by increasing the involvement of stakeholders, a study was conducted based on a theoretical discussion and empirical research on 37 public service agencies.

Certain "new public management" tools, such as standards for quality (ISO [International Organization for Standardization] 9000) and sustainability (ISO 14000), involve an effort to promote new forms of organizational behavior in decision-making processes. It was found that corporate governance must consider stakeholders by combining the goals of shareholders (profit maximization) and stakeholders (involvement). Agencies have failed to improve their performance despite the implementation of OECD principles because they have not addressed deficiencies in their corporate governance systems (Gnan et al., 2013).

The challenges of sustainability and governance are described by Krechovska & Prochazkova (2013), who begin by emphasizing that corporate sustainability is the ability to positively influence economic, social and

environmental development through corporate governance practices and the position of the company in the market. The results indicate that although companies are aware that sustainability is an important factor in corporate performance over the long term, sustainability has not been integrated into individual business processes (particularly in small and medium enterprises). Instead, companies focus mainly on financial results.

Although voluntarism is essential to the consolidation of sustainability goals, we must consider a study of organizational context. Ortiz-de-Mandojana, Aguilera-Caracuel, & Morales-Raya (2014) indicate that corporate governance practices across the world have converged. Reasons for this convergence include similarities in codes of conduct, regulations, corporate globalization, and the activities of investors. To verify whether managerial effectiveness in improving environmental sustainability depends on the national institutional context, the authors sent a questionnaire to a sample of 210 companies from 14 countries in North America and Europe via the "Bloomberg" portal. The collected data indicate that the relationship between a high percentage of independent directors and environmental sustainability is weaker in contexts where environmental regulation is stricter. The same result was found for the relationship between the independence of the CEO and board members and environmental sustainability. Finally, no evidence was found that the effectiveness of an environmental committee in promoting environmental sustainability depends on national institutional pressures.

Although cooperation between the various actors in productive sectors is essential to achieving sustainability, Formentini & Taticchi (2015) observe that the role of governance in sustainable supply chain management receives more attention from academics and professionals. To fill this literary gap, they propose an empirical analysis of seven case studies using contingency theory, the prospect of strategic alignment and the theory of organizational resources. Their findings include the identification of three sustainability profiles (leaders, professionals and traditionalists) and a classification of governance mechanisms based on the level of collaboration and formalization. The authors also emphasize that the empirical results can provide guidance to professionals seeking to implement sustainability initiatives at the supply chain level and to academics seeking to develop theory in this area.

2.3 Opportunities for Sustainability and Corporate Governance

Opportunities exist for a greater understanding of both concepts (Aras & Crowther, 2008), the creation of new mechanisms that contribute to their legitimacy (Michelon & Parbonetti, 2012) and general improvements in sustainability (De Marchi, Di Maria, & Ponte, 2013). However, representatives of transnational corporations have failed to facilitate interaction with stakeholders (Geibler, 2013), which warrants consideration, particularly by identifying factors in thesuccessful certification of sustainability (see Table 1).

In Europe, Aras & Crowther (2008) explored the correlation between governance and sustainability by researching FTSE100 companies (the 100 largest companies listed on the London Stock Exchange based on market capitalization) and their corporate governance policies. However, it was not possible to demonstrate a relationship between the two variables. A greater understanding of the issues would enablethe identification of such a relationship. Therefore, more information should be disseminated about sustainability and corporate governance.

Michelon & Parbonetti (2012) discussed good governance and the disclosure of corporate sustainability data to stakeholders—which can be viewed as two complementary mechanisms of legitimacy—and examined the influence of the composition, leadership and structure of the board of directors on the sustainability disclosure of 57 US and European organizations listed on the Dow Jones Sustainability Index (DJSI). The results indicate that to explain the effect of board compositionon sustainability disclosure, one must go beyond the narrow and traditional distinction between directors that possess privileged information and independent directors. Therefore, one should investigate the characteristics of each director because there is a positive relationship between the proportion of so-called "community influential" board members and sustainability disclosure, particularly with respect to environmental and strategic information. Corporate governance emerges as a guide for this purpose, given the heterogeneity of the requirements of sustainability and corporate governance.

Regulation should be a priority in both sustainability and corporate governance. De Marchi, Di Maria, & Ponte (2013) noted that companies are under increasing pressure to consider environmental issues in their activities. Therefore, given the fragmentation of production across spatially dispersed organizations, the value chain approach is used to examine how leading corporations develop ecological qualitiesin their activities. Then, two comparative case studies of leading furniture businesses are conducted to demonstrate the implementation of governance mechanisms to improve the environmental performance of their partners along the value chain. Two corporate governance mechanisms were identified: standard-driven and mentoring-driven. The first mechanism is most appropriate for fostering environmental improvements related to production processes and eco-efficiency

because it allows companies to identify the environmental impacts that should be reduced, determine the methods for achieving this reduction, and pass this knowledge on to their suppliers. The second mechanism is used to reduce the environmental impact of the final product at the systems level. The authors suggest creating an agenda for further research in this area.

Geibler (2013) noted that certifications have increased in number and importance in the business sector to address unsustainable patterns of production and consumption worldwide. As pressure from non-governmental organizations (NGOs) and other groups becomes more prominent, certifications and standards that purport to solve the problem of value chains are developed. The author evaluates the legitimacy and effectiveness of the first international standard on palm oil and identifies several necessary conditions for the success of governance-based sustainability: transparency and balance between stakeholders; a positive balance in the cost-benefit analysis; specific sustainability goals; external verification; coverage of the entire value chain; establishment of learning policies; regulations that complement laws; and scientific monitoring to verify the effectiveness of certification.

The idea of governance as an instrument of sustainability is presented by Barkemeyer, Lutz, & Lee (2015), who note that the increasing participation of multinational companies in global governance has been both praised for its potential to increase the effectiveness of governance and criticized for its lack of democratic legitimacy. These authors research the effectiveness of one transnational governance system, namely, corporate sustainability reporting in accordance with the Global Reporting Initiative (GRI). The authors find that the GRI has been successful in terms of output effectiveness by promoting the dissemination of sustainability reporting, particularly among companies in Asia and South America. However, the outcome effectiveness of the GRI is limited because the reportingshows fairly uniform content across countries and sectors that does not reflect materiality considerations. In short, the GRI does not seem to have facilitated greater interaction between companies and their stakeholders, which limits its effectiveness.

Table 1. Benefits, challenges and opportunities of sustainability and governance

Benefits	**Author, year, place**	**Challenges**	**Author, year, place**	**Opportunities**	**Author, year, place**
Evaluation of and collaboration with suppliers have a positive effect on environmental performance	Gimenez & Sierra (2013). Spain and Germany	An alignment of the elements of sustainability and the business is necessary	Lacy & Hayward (2011). International	A company that understands both governance and sustainability is more likely to achieve these goals	Aras & Crowther (2008). England
There is a positive relationship between governance and sustainability disclosure	Janggu et al. (2014). Malaysia	Combining the classical maximization model with the stakeholder model	Gnan et al. (2013). Italy	Good governance and sustainability can be complementary mechanisms of legitimacy	Michelon & Parbonetti (2012). United States and Europe
Sustainability provides greater value to the company	Klettner et al. (2014). Australia	The integration of sustainability into individual business processes	Krechovska & Prochazkova (2013). Czech Republic	Two mechanisms to improve sustainability have been identified	De Marchi et al. (2013). Italy
Collaboration between internal governance and stakeholders constitutes sustainable governance	Li et al. (2014). China	There is no evidence that the effectiveness of a sustainability committee depends on national institutional pressures	Ortiz-de-Mandojana et al. (2014). North America and Europe	Governance by transnational corporations has not facilitated interaction with their stakeholders	Geibler (2013). Indonesia
There is a significant correlation between CSR and sustainability	Sharma (2014). India	There is a knowledge gap regarding the relationship between sustainability and governance	Formentini & Taticchi (2015). Italy	Identify conditions for the success of sustainability certification	Barkemeyer et al. (2015). International

Note. Prepared by authors based on the sources cited.

2.4 Models of Sustainable Governance

The upward trend in outsourcing has led to a loss of control of production and distribution processes, and in extreme cases, the pressure to reduce expenses has motivated producers to lie about good practices to avoid costs and the loss competitiveness. This leads not only to lower quality and innovation but also to the loss of both stakeholder confidence and the opportunity to create long-term value (Lim & Phillips, 2008; Maloni & Brown, 2006; citado por Vurro et al., 2009).

Empirical studies show that models of collaborative governance are key to improving social responsibility and sustainable development (Tencati & Zsolnai, 2008, cited by Vurro et al., 2009). Therefore, a comprehensive analysis of the various features and actions encompassed by such models is warranted.

According to Vurro et al. (2009), models of governance in sustainable supply chains can be categorized into four types of collaboration based on the density of the supply chain and the centrality of the focal company. The former aspect refers to the number of connections between nodes in the supply chain network. A greater number of connections leads to increased oversight of the focal company by its partners along the value chain (Neville & Menguc, 2006; cited by Vurro et al., 2009), which in turn encourages compliance with stakeholder expectations, knowledge transfers and the interconnection of standards and practices regarding sustainability (Roberts, 2003; cited by Vurro et al., 2009). The second element concerns the relative position of the actor among others in the chain, with greater centrality corresponding to a more important role (Rowley, 1997; cited by Vurro et al., 2009). As the centrality of a company within the chain increases, its access to and influence over the other members of the chain increase correspondingly (Freeman, 1979; cited by Vurro et al., 2009). Therefore, a more central company will have more knowledge about the other actors up and down the chain, increasing its influence and control over those actors. Centrality also allows companies to compete for the leading position in the chain, which can lead to greater cooperation and exchanges of knowledge (Bonacich, 1972; cited by Vurro et al., 2009) (See Table 2).

Table 2. Sustainable governance in the supply chain

Density of the supply chain	Centrality of the focal company		
		Low	High
	Low	Transactional	Dictatorial
	High	Acquiescent	Participatory

Source: Based on Vurro et al. (2009, p. 613).

The four models of supply chain governance range from transactional, wherein the focal company has little centrality in a low-density chain and therefore has little influence, to participatory, where in the focal company has a high degree of centrality in a chain that comprises a large number of actors. The four models thus depend on both the centrality of the focal company and the density of the supply chain (Vurro et al., 2009).

Governance within the supply chain focuses on the institutions, structures and mechanisms that guide, regulate and control the activities of stakeholders in the chain (Li et al., 2014). The second model is proposed by Li et al. (2014) and constitutes a scheme in which the mechanisms of governance have a significant influence on the performance of sustainability-level supply chains. According to this model, seven competitive attributes are proposed according to the theory of sustainable development, which under the sustainable governance approach can be translated into seven factors involved in decision making. These factors can then be used to assess the efficiency and legitimacy of governance mechanisms from internal and external perspectives based on economic institutional theory and organizational sociology (Li et al., 2014).

The internal perspective of governance is based on the organizational equilibrium theory introduced by Barnard in 1948, which views the organization as a system that consciously coordinates the strengths and activities of human beings and comprises three basic factors: the willingness to collaborate, common objectives and transfers of information. Organizational equilibrium requires balance not onlyamong the internal elements of the organization but also among environmental factors. The failure to achieve such balance can cause inefficiency (when incentives are greater than sacrifices) or organizational unsustainability (when sacrifices are greater than incentives) (Li et al., 2014).

The external perspective of governance focuses on customer satisfaction, and different products perform according to Maslow's (1943) hierarchy of needs, which considers physiological need (the customer requires only the general function of the product); safety need (a concern with the physical effects of the product); love

need (a concern about whether the product will improve the customer's social image); esteem need (consideration of the symbolism of the product); and self-actualization (the consumer has preferences among different brands) (Li et al., 2014).

Institutional economic theory states that the goal of decision makers is profit maximization (Meyer & Rowan, 1977; cited by Li et al., 2014). Therefore, the underlying mechanism is efficiency; governance is used to manage various risks. One such risk is reputational damage caused by pollution generated by company suppliers and the costs of such pollution. Factors that determine governance type are supply chain density, the complexity of transactions, the centrality of the focal company and supplier capabilities. Governance type translates into various activities that contribute to sustainability, such as technical support, exchange of information, and risk and benefit sharing, among others (Li et al., 2014).

The third model emphasizes that in sustainability governance, certain environmental and social issues may call for sustainability management practices that do not contribute to the achievement of corporate objectives (Formentini & Taticchi, 2015). The supply chain is characterized by two complementary strategies, "vendor management for risk and performance and management of the supply chain of sustainable products". The former strategy is characterized by the company's fear of reputational damage if sustainability problems increase. Therefore, social and environmental dimensions are usedin addition to economic factors to evaluate suppliers. The latter strategy is based on life cycle standards at the supply chain level for the environmental and social performance of products (Seuring & Müller, 2008; cited by Formentini & Taticchi, 2015). This strategy represents an opportunity to apply economic capital to improve the processes of both the company and the chainand to develop knowledge and an organizational culture of sustainability (Dyllick & Hockerts, 2002; cited by Formentini & Taticchi, 2015).

Sustainable mechanisms of supply chain governance are practices, initiatives and processes used by the focal company to manage relationships with (1) internal company functions and departments and (2) members of the supply chain and stakeholders as a means to successfully implement a focus on sustainability. There are mechanisms of internal and external control to distinguish between actions of the corporation and actions at the supply chain level. The literature identifies two relevant characteristics of governance mechanisms: collaboration and formalization.

Regarding collaboration, companies can implement sustainability strategies either in a non-collaborative style, through the application of market power, or in a collaborative style. Non-collaborative implementation is a common practice in supply chain management. In the context of sustainable supply chain management, there is evidence that the focus of governance represents a powerful tool to promote sustainability initiatives. This suggests a need to balance the traditional power-based focus with new forms of collaborative governance. The second factor is formalization, which refers to the extent to which decision making is regulated by norms and procedures. A common typology of governance mechanisms distinguishes between formal and informal systems of coordination. Formal mechanisms are adopted in dynamic and unstable circumstances, whereas informal mechanisms are appropriate in relationships characterized by trust (Formentini & Taticchi, 2015).

2.5 The Elements of Sustainable Governance Mechanisms

By consulting the models of sustainable governance, it is possible to identify elements in addition to equilibrium that can contribute to the achievement of objectives in environmental, social and economic dimensions. In the model presented by Formentini & Taticchi, (2015), the first mechanism is called non-collaboration. Contractual power is emphasized in this model, which involves the implementation of sales and commercialization contracts that specify business relations, product type and characteristics, and the timing and conditions of delivery. This mechanism seeks to ensure responsibility and compliance. Therefore, the company can establish specific parameters about price, quality, and other aspects to facilitate harmony and coherence among the parties. This mechanism may involve the imposition of certain parameters based on the power of the focal company. The second mechanism, collaboration, emphasizes socialization and includes informal meetings and experience sharing in a framework of cordiality. In this mechanism, information is shared to improve coordination among commercial partners, and mutual compromise and cordiality are encouraged (See Table 3).

The third mechanism is formality. In this case, incentive systems play a fundamental role in encouraging commercial partners to contribute to organizational goals and to fully comply with demands related to quality, quantity, and delivery time, among other parameters. Therefore, the configuration of operative processes enables collective functioning despite the existence of inconsistencies among the topics. Furthermore, because all relationships are affected by undesirable situations, conflicts are converted into opportunities to overcome obstacles through agreements. The fourth mechanism is informality. In this case, a direct relationship is

necessary to identify the ideal person to develop company relations with commercial partners, as well as the appropriate means of communication and, most importantly, the mode of implementation. It is in this context that the topic of trust emerges as a factor in decision making based on the parties' mutual interest in maintaining the relationship in the long term (See Table 3).

There are two mechanisms in the model presented by Li et al. (2014). The first is efficiency, which can be separated into two elements: the commercial relationship and solidarity. The commercial relationship involves the provision of technical support by the focal company to stakeholders. Compliance with organizational objectives is required, in addition to the exchange of clear, precise and truthful information to harmonize the internal and external contexts and enable the formation of a purposeful alliance that benefits both parties. The second element, solidarity, contemplates the convenience of sharing both risks and benefits, which can lead to the formation of a narrower relationship and is maintained outside the contemplative stance of uncertainty, with a priority on one's own interests (See Table 3).

The second mechanism, legitimacy, is based on institutional theory and organizational sociology. The purpose of this mechanism is to ensure that an organization's structural design satisfies the requirements of the institutional environment (Meyer & Rowan, 1977; cited by Li et al., 2014). This mechanism integrates the characteristics of consumer demand, governmental regulatory capacity and the outreach capacity of NGOs. Thus, regulations, legal control, information dissemination, and responsible consumption must be taken into account in sustainability decisions (See Table 3).

Table 3. Identification of the elements of sustainable governance

Author	Mechanism	Element
Formentini and Taticchi (2015)	Non-collaborative environment	Contractual power
		Parameters of government
		Imposition
	Collaborative environment	Socialization
		Information exchange
		Mutual compromise
	Formal mechanisms	Incentive system
		Operative procedures
		Conflict resolution
	Informal mechanisms	Direct relation
		Trust
Li et al. (2014)	Efficiency mechanism	Commercial relation
		Solidarity
	Legitimacy mechanism	Environment
		Regulation and dissemination capacity

Source: Prepared by authors based on the sources cited.

The three models (Formentini & Taticchi, 2015; Li et al., 2014; Vurro et al., 2009) basically agree on the subject of collaboration because all efforts to achieve economic, social and environmental goals are strongly dependent on communication between the focal company and its stakeholders, both in the internal environment (comprising shareholders, employees, clients, creditors and suppliers) and the external environment (including government authorities, regulatory agencies, NGOs and communities). Moreover, all models contemplate the achievement of agreements and the sharing of both risks and benefits to ensure a long-term cordial relationship.

2.6 Study Limitations

It is noteworthy that this study focuses on empirical studies on the relationship of sustainability and corporate governance in some regions of the world, especially Asia, North America and Europe. Therefore, there must be wary of the results presented and address the context in which they operate, this ranges from local legislation, culture, the role of government, participation of stakeholders, among others. This definitely represents a challenge for the creation of a model of sustainability and corporate governance, because the environment and the nature of organizations are diverse.

3. Conclusions

This article provides an overview of sustainability and its relationship to corporate governance. We find that

although these are recent subjects in the literature, they can contribute to addressing the problems that afflict the planet and its population by balancing thesocial, economic and environmental dimensions. Therefore, the benefits of sustainability and corporate governance are identified, including increased company value, increased sales and improved company image. However, challenges remain; for example, the theoretical insufficiency of both concepts makes the relation between them unclear. Finally, there are opportunities for new scientific studies, such as empirical studies of recently created governance models, which can serve as a basis for the development and consolidation of other models to achieve sustainability.

Universities have great potential in two ways, generating new knowledge and training in sustainability issues and corporate governance. Because privileging economic performance in a pragmatic and reductionist mood represents a threat to the welfare and human dignity, in addition to violating the conservation and enhancement of biodiversity, this represents the social and environmental dimensions. This requires a systems approach, accepting that organizations are complex entities that need to be addressed under multidisciplinary studies. Likewise, corporate governance differs in the various regions of the world, but if something has been noted, is that transparency in the activities of the company and the inclusion of stakeholders for decision-making are fundamental to creating better results in the three dimensions of sustainability. It is also essential government involvement in regulation and supervision; and universities, with the creation of knowledge and training of professionals committed to both issues, among other things.

Based on a review of the literature on the various models of corporate governance and considering the density of the market structure and the centrality of focal companies, the key to sustainable corporate governance is collaboration. Collaboration should be used not only to comply with various codes of conduct (for example, those issued by the OECD, as well as current local, national and international legislation) but also to support openness and a free market system. Organizations have the historic opportunity to develop new structures and corporate governance mechanisms that can serve as a strategic basis for the performance of activities that fully support the three dimensions mentioned above.

The study was documentary in nature and allowed an analysis of the aforementioned issues. Although the scope of results is limited, this study may represent the starting point for further work in this area, such as the development of a quantitative tool based on the models and its application to identify the relationship between sustainability and corporate governance. This research could, in turn, trigger the development of good public policy and private sector practices that strengthen laws and regulations (in the case of public policy) or certifications and standards (in the private sector) that promote the harmonious achievement of both organizational and sustainability goals. Ultimately, company image, sales and value matter little when the planet suffers from the irresponsibility of certain companies. Therefore, a new business vision that places equalemphasis on economic, social and environmental benefits is needed. Future generations will serve as a witness to this need.

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