

The impact of cultural factors on shareholder governance and environmental sustainability: an international context

Culture,
governance
and
sustainable

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Abstract

Purpose – This paper aims to examine the effect of the shareholder governance on environmental sustainability by the moderating effect of some cultural factors.

Design/methodology/approach – The authors have studied the extent of sustainability by continent. On the other hand, the authors have conducted three empirical models that deal with the effect of shareholder governance on environmental sustainability and also with the moderating effect of cultural factors.

Findings – Using a sample of 140 countries during the year 2018, the authors find a notable and positive effect of the shareholder governance on environmental sustainability. Regarding the role of cultural factors, the authors found that the factor gender parity is more important than other factors.

Practical implications – The findings have policy implications for governments aiming to combat environmental sustainability and shareholder governance.

Originality/value – This research has approached cultural factors in a different context, which is an eastern country, which are completely different from those of western countries. On the other hand, the subject of sustainability is not sufficiently threatened in this country (Saudi Arabia).

Keywords Sustainability, Environmental, Cultural factors, Shareholder governance, International context

Paper type Research paper

1. Introduction

Environmental sustainability (ES) emerges as an approach and process that involves all representatives of society, from decision-makers to the public, and which basically implicates negotiation between different social actors as the basis of a social project (Satyro *et al.*, 2017). Sustainability is, therefore, part of governance, another often vague concept that calls for defining its use here. In its different acceptances, governance can offer perspectives of analysis or prescribe models of action (Bergsten *et al.*, 2019; Pahl-Wostl, 2019). Shareholder governance (SG) in the first field corresponds to the exercise of political, economic and administrative authority in the management of the affairs of a country at all levels (global, regional and local); understands the complex mechanisms, processes and institutions through which citizens, individually or in association, and corporations manage their interests; exercise their rights and obligations; and negotiate their disagreements (Bovaird, 2005; Co-operation and Development, 2004; Shleifer and Vishny, 1997). Its responsibility lies not only with the state but with also to the private sector and civil society (PNUD, 1997).

As for good governance, it is a normative concept that operates as a model of public management and is first of all summed up in the reductive concepts of effective management and efficient public services as a guarantee of success for economic development. The UN Agency for Cities, UN-Habitat, launched an urban governance campaign in 2000 in various countries to build the capacity of local governments and to change attitudes, behaviors, values and working methods. It defined seven criteria for good urban governance:



sustainability, decentralization, equity, efficiency, transparency and accountability, civic engagement and citizenship, security. A major issue in the context of international aid, governance appears both as a controversial concept because it is a source of interference and conditionality and as a key concept for poverty reduction and support for sustainability (Lieberherr-Gardiol, 2007).

In this research, we adopt a new approach related to this field, few studies that use an international approach to examine the relationship between SG and ES.

In the theoretical framework, we based our postulations on several theories such as the stakeholder theory and contingency for studying the relationship between SG and ES, and the institutional theory in examining the role of cultural factors in the relation between SG and ES.

This paper attempts to investigate whether there is a link between SG and ES in first step and moderating this relation via some cultural factors in second step. Precisely, we investigate two research questions:

- (1) Does SG affect positively the ES?
- (2) Do cultural factors reinforce the relation between SG and ES?

The rest of the paper is subdivided into four sections: [Section 2](#) encompasses the background in which we describe the concepts of ES, SG and cultural factors. In [Section 3](#), we present the relation between the variables and the hypotheses development. Then, we review all the steps of research design in [Section 4](#). Finally, we conclude in [Section 5](#).

2. Background

2.1 *The scope of the sustainability in an international context*

For the past five decades, humanity has been confronted with the issue of self-destruction and has becoming increasingly aware of the need to address it (Vezzoli and Manzini, 2008). Several examples can prove this fear of the agents, the worries toward the nuclear weapons, the emissions of the toxic products, etc. Thus, we are faced to a problem of reconciliation between the continuity of enterprises and the acquisition of a job and access to a safe environment and a peaceful life.

Many speeches, acts of communication, reflections fuel the very current issues of sustainable development and corporate social responsibility (CSR) in developed countries. The ideological biases of non-governmental organizations, the productions of scientific research, the communication of consulting firms, the declared commitment of the public authorities make sustainability a key issue for the company (Cowan and Guzman, 2018).

The self-assessment tools (social balance sheet, Global Reporting Initiative test) facilitate the company's identification of its progress in terms of sustainability and CSR. These standards not only inform but sensitize leaders on the benefits for the company of an approach for sustainable development. In other words, it is an upstream governance, likely to influence the decisions of the leaders by the cognitive way. By this means, it is likely that the manager will eventually internalize the underlying ethical principles, if indeed; these principles actually guide these repositories (Fuente *et al.*, 2017).

In their study about the design of ES, Vezzoli and Manzini (2008) talk about this concept like this:

The term environmental sustainability refers to systemic conditions where neither on a planetary nor on a regional level do human activities disturb the natural cycles more than planetary resilience allows, and at the same time do not impoverish the natural capital that has to be shared with future generations.

Our paper tries to analyze the sustainability in the international context. Contrary to companies' level, governments are the pioneer of legislations and standards related to CSR and sustainability. Also, from governmental policies stem the consciousness of organizations and different actors about CSR and ES.

On the standardization side, many initiatives were done to promote CSR and sustainability. Thereby, international institutions have recently implemented a new standard on social responsibility; it is the famous standard ISO 26000.

At the continental level, the European Union (EU) pushed a pressure further on the companies, it is because it corresponds to a culture of solidarity and by a perception of the excesses of the globalization on a planet where environmental, social and good governance stakes constantly contradict the universal search for a more just economic order (Kirchherr *et al.*, 2018). The increasing use of extra-territoriality to their advantage by the USA and their refusal to give strength to the United Nations, at a time when the World Trade Organization collapsed and where climatic discipline is required, brings the question of corporate behavior in the competitive field. It is also with China, characterized by great opacity on the issue (Sarkodie and Strezov, 2018).

The concern for sustainability is not only for the developed countries but also developing countries attach great importance to sustainability and social responsibility (Chege *et al.*, 2019; Goffi *et al.*, 2019). Brunel (2007) points out that biodiversity activism in developing countries has had a damaging effect on economic activities that are essential for people.

If we focus sustainability on the environmental aspect, we find that the protection of the environment is an international issue that is increasingly important (Ben Mahjoub, 2019). After COP21 [1], governments are expected to be increasingly involved in this issue. Every year for the past 15 years, Yale University has published its Environmental Protection Index (EPI), where it analyzes nearly 180 countries and their environmental protection strategies. The EPI is constructed by calculating and aggregating more than 20 indicators reflecting environmental data at the national level. These indicators are grouped into nine categories of issues, each of them corresponding to two main objectives: the vitality of the ecosystem and environmental ("E-CSR," 2019).

2.2 Role of shareholder governance

The theories of governance at the outset highlighted the mechanisms of control and clearance of management and for the benefit of shareholders. In recent years, these theories have considered a wider governance for the benefit of the partners of the company (governance partnership). In addition, these theories have considered new forms of governance based on the sciences of cognition (Charreaux and Wirtz, 2006). The partner no longer necessarily performs a control function but enriches, through new information and knowledge, the leader's mental schema, thus guiding his/her decision-making. Gabriel and Cadiou (2005) also identify a third form of governance, normative governance, based on a "conventionalist" approach to CSR.

According to Bon (2009), two main modes of governance characterize the management tools qualified as reference systems:

- (1) Procedural control for one-dimensional repositories; we call one-dimensional instruments as the instruments targeting a single dimension of sustainable development or CSR (environment or economy or social or business ethics . . .).
- (2) Essentially cognitive governance for multidimensional repositories; we call multidimensional instruments as the instruments combining at least two dimensions of sustainability.

With the prominence of shareholding and the emergence of a financial intermediation industry, the company's new social responsibility was to generate enough profits to pay public savings at a suitable level, according to the famous statement by Milton Friedman. In the previous technocratic logic, the management could have been entrusted with this new societal mission, with the burden of determining the conditions for achieving this objective, including, as was done in Germany, in partnership with the unions of employees (Fuente *et al.*, 2017; Sauvé, 1996; Vezzoli and Manzini, 2008). But, the power of financial intermediation led to a new role for shareholders (Gomez, 2009). Social and economic control over the performance of companies, that is to say, fundamentally, their ability to generate sufficient income for shareholders-savers, makes it possible to demand from shareholders' sufficient power to influence the management of the company. It was then the emergence of a so-called SG (Charreaux and Desbrières, 1998). Leaders were perceived as less legitimate than owners to designate, as a last resort, the most successful strategies, i.e. those that maximize profit (Gomez, 2009).

2.3 The importance of cultural factors

Culture is defined as a set of rules and codes that suggest an informal corpus of traditions, norms and values specific to each organized human society. Human behavior is influenced by a large number of sociocultural factors, specifically by more or less structured groups such as family, home groups, reference groups or culture. Each individual is part of one or more of these groups, which can sometimes cause certain behavioral contradictions (Kyriacou, 2016; Song *et al.*, 2018).

Today, as in older times, human life depends on the resources of ecosystems and the human capacity to manage risks, mitigate impacts and be resilient to unpredictable events. Human consumption and production patterns need to be considered in the light of the overall goal of ES (Beylot *et al.*, 2019). New technologies and the development of scientific knowledge have increasingly recognized the non-linear, dynamic and complex nature of environmental systems, as well as the mutual dependence of social, cultural, economic and environmental systems (Bendell and Huvaj, 2018). Addressing global challenges such as climate change or biodiversity loss will require more concerted global initiatives, as well as smaller-scale interventions in the form of mitigation and recovery measures, with a focus on more robust approaches to climate change (Tost *et al.*, 2018).

The understanding and perception of the environment and society determine the modalities of human life and influence cultural expressions, which are largely rooted in specific times and places. Species, ecosystems and landscapes and seascapes are in constant interaction with human communities, as well as with their subsistence and management practices and their social structures. Landscapes and their various elements have always strongly influenced local cultural practices, values and beliefs. Conversely, the decisions and daily actions of human beings increasingly affect the ability of ecosystems to support their lives and well-being (Goffi *et al.*, 2019; Kakabadse and Morsing, 2006; Rosenberg, 2016; Tost *et al.*, 2018; Vezzoli and Manzini, 2008).

3. Literature review and hypotheses development

3.1 Effect of shareholder governance on environmental sustainability

Today, the company must provide a guarantee on its overall and sustainable performance. To do this, it has the opportunity to operate many management tools that give meaning and overall consistency to its commitment. These steps aim to both improve the performance of organizations but also to improve risk management and thus, overall, to contribute to the firm sustainability (Shad *et al.*, 2019; Xiao *et al.*, 2018).

Corporate governance and CSR have become main themes in recent literature, but there is some misperception about the link between the two terms (Aras and Crowther, 2008); in Figure 1, we present the historical linkage between SG and sustainability. Managers have the right and even the duty (this refers to a deontological conception of ethics) to take into account the interests of all those connected with the organization (Esteban *et al.*, 2017). Organizations or governments should voluntarily, without waiting for the existence of a legal constraint, assume such responsibilities. In such a partnership vision, taking into account the long-term social and environmental aspects must benefit all the stakeholders; it is at this level that the theory of the stakeholders concretizes (Ben Mahjoub, 2019; Shad *et al.*, 2019).

In same context, organizations or countries are influenced by their socio-economic environment. Such a finding was the starting point for a great deal of research, some of which had the ambition to create a true science of organizations, establishing complex laws linking a given state of the environment with the structures of organizations (Mullins, 2007). Several environmental factors presented as exercising an approach known as the contingency school to which Henry Mintzberg, the pioneer of the contingency theory, belonged can be distinguished.

The theory of contingency insists on the basic assumption that organizations, whose internal structures respond best to the demands of the environment, will achieve better adaptation and thus greater efficiency. Indeed, depending on the needs of the entity and its environment, there is a suitable organizational structure. We will be able to determine the appropriate structure (Crane *et al.*, 2008; Husted, 2000).

To attain right contribution that can lead to sustainability, organizations and countries in general require some criteria called by Ukaga *et al.* (2010) as “servant leaders” and “active citizens” who can produce and preserve safe environment.

In the report of Nelson *et al.* (2001), linking governance and triple bottom line, the authors proposed six principles of governance in relation with the sustainability: leadership, engagement, alignment, diversity, evaluation and responsibility. According to the same study, the board of directors can ensure transparency and promote the best values of the company.

In other context, Kang and Moon (2011) examine institutional complementarity between corporate governance and CSR; they argue that different actors rely on unfair tools to impose its choices and convictions related to sustainability.

In an international context, and after the various efforts made by all the involved parties, whether at the level of environmental legislation or at the level of raising awareness of the role of managers, best practices of SG are expected to affect positively the ES. So, it is possible to state the following hypothesis:

H1. SG is positively associated with ES.

3.2 Moderating role of cultural factors

The links between culture and sustainability are not the most obvious, and the pathway between these two notions, which are highly dependent on each other, is a path that can be

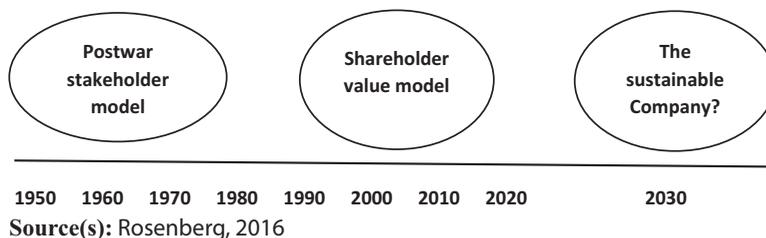


Figure 1.
History of models of
corporate governance
in Europe

considered indirect. In spite of everything, the links are gradually woven through elements that, like cultural diversity, continue to strengthen step by step the relationship culture and sustainability (Baumgartner, 2014; Leonidou *et al.*, 2018; Linnenluecke and Griffiths, 2010; Song *et al.*, 2018).

To associate the reflection on the international negotiations with the one on the negotiation games requires an understanding of these two currents of the literature. Several models of international business analysis have been developed over time; they all show the impact of cultural variables on the dynamics of international trade negotiations (Hofstede *et al.*, 2010; Liu *et al.*, 2020).

Our aim in this article is to reflect this cultural effect on the behavior of the practice of ES at the international level. In this respect, the institutional theory offers researchers deep insights into the processes and motivations of organization 'responses to environmental pressures (Mitsch and Gosselink, 2000). In addition, it helps to identify the importance of the links between institutional pressures, business responses to the environment and legitimacy. Interest in individual behaviors, that of organizations or governments, also indicates that there is an opportunity to use the institutional theory to understand how entity-level processes explain results at the macro level (Esteban *et al.*, 2017; Kilic *et al.*, 2019). This micro to macro passage has been widely recognized by neo-institutionalist theorists. Micro analysis in the institutional theory, however, is not new, but it has remained largely focused on the institutionalization and convergence of behaviors (De Graaf and Stoelhorst, 2013).

In the same context, and according to Hofstede (1999), the way in which the inhabitants of a given country think, feel and act on vital issues for their survival is structured and varies along several dimensions: individualism-collectivism, masculinity, distance from power and reduction of uncertainty. These dimensions describe the fundamental problems that any society must confront, and the variations between countries on these dimensions reveal how societies differ in the way they respond to these problems (Mitsch and Gosselink, 2000). Hofstede (1999) provides data from 75 countries and regions on the cultural dimensions of individualism-collectivism, masculinity-femininity, distance to power and reduction of uncertainty. Scores presented are based on questionnaires administered in the 1970s to IBM employees scattered across many countries and should reflect the importance given to a series values in the workplace.

Hofstede has, thus, highlighted a cultural dimension opposing the values of cooperative work (good agreement with leaders and colleagues, stability of employment and proximity to the workplace) and competitive values (remuneration, recognition, promotion and challenge). Given that this dimension is the only one on which men and women score differently (although this difference is lower in more feminine countries), Hofstede called this dimension "masculinity-femininity." Feminine cultures value cooperation and social support and, probably, reinforce expressiveness, while masculine cultures value competition, material and professional rewards, and reinforce instrumentality (Hofstede, 1999). In a study done by the United Nations in 2014 (Women, 2014), this survey emphasized the dominant role of gender parity in projecting the necessary actions to promote sustainability and the policies made by governments for this issue.

Awareness of the importance of ES also comes from the educational level of the actors; this factor generally reflects the number of years of schooling, has a potential effect on the promotion of the level of disclosure of information of social and environmental type (Arenas, 2003). Gasperini (2003) argues that it is essential to promote the education in rural zones to raise people's consciousness and subsequently raising mindfulness of the scope to ES.

Another cultural factor can affect the level of ES, it is the attitudes toward entrepreneurial risk. Few works have addressed this relationship; in this article, we will try to explore this relationship. Risk-taking is an inherent element of entrepreneurship. In fact, we can

enumerate these risks, environmental risk: organizational risk, financial risk, and operational risk, etc. . . . (Aras and Crowther, 2008; Weber *et al.*, 2002).

Risk has, therefore, become an important issue for the entrepreneur, as he/she has been associated not only with his/her definition but with the development of a clear conception of the function of the latter. Thus, accordingly, Messeghem and Sammut (2011) and Fillion (1997) define risk as the one whose wages are uncertain and argue that the entrepreneur is not only an investor but also a risk taker.

Focusing on the relationship between entrepreneurial risks and sustainability, two types of risks arise here. First, a risk of adaptability. At this level, the question is: are governments ready to deal with the environmental and social changes that may occur? Are they armed against climate disasters that could affect their infrastructure? What is their insurance policy for this risk? The second risk is a compliance risk: in a context where public pressure on environmental and social issues is increasing, regulations are changing (Kumarasiri and Gunasekarage, 2017). We have seen it in France, e.g. with the Duty of Vigilance Act, but other regulations will emerge. Regulations on the circular economy, the reduction of CO₂ emissions or the carbon tax, reporting and monitoring especially on social and environmental impacts (Ducassy and Montandrou, 2015). For organizations, understanding and anticipating these new rules is essential in order not to be caught off guard (Curry, 2014).

Regarding the affirmations above, we can state the following hypothesis:

H2. Cultural factors affect positively the relationship between SG and ES.

As studied above, we have presented three cultural factors in this study, so we state these related hypotheses:

H2a. “Gender parity” affects the relationship between “ES” and “SG.”

H2b. The “degree of schooling” affects the relationship between “ES” and “SG.”

H2c. There is an effect of “attitudes toward entrepreneurial risk” on the link between “ES” and “SG.”

4. Research design

4.1 Data collection

Our reasons for choosing an international context, global trends continue to put pressure on national governments, both individually and collectively, which will require them to maximize the benefits and mitigate the negative effects of bad organizational practices (Halkos and Skouloudis, 2016). The threats to societies and their vulnerability are constantly increasing. Governments are increasingly concerned with the health and well-being of their citizens, the impact on their cities (increasing urbanization and decreasing social resilience) and access to healthy natural resources essential to life on Earth. In addition to informed policy choices and decisions, governments are looking for effective ways to serve their people well. This should have consequences on how they will meet this goal, possibly even beyond national borders.

As Halkos and Skouloudis (2016), Cowan and Guzman (2018) and Pisani *et al.* (2017) have pointed out, every country’s approach to CSR encapsulates a series of different elements: political and institutional structure, political style and processes, social structure, emphasis on voluntary approach or acceptance of state guidelines and control, local and national views of the role of companies, the role and posture of non-governmental organizations and civil associations in society, the kind of educational system and the values it transmits, what is expected of their leaders and historical traditions. All this means that companies and

countries must be increasingly aware of the need to formulate their own approach to CSR. CSR does not now simply affect relationships between company and society. It has become a way of rethinking the role of companies in society that takes governance and sustainability as its core values (Morales and Moratis, 2018; Moratis, 2017).

On the other hand, for governance, it is believed that in a world of growing interdependence, it has become imperative to improve economic governance at all levels to maximize the benefits of globalization for all humankind (Kyriacou, 2016). It is indisputable that the emergence of governance on the international political agenda constitutes a new paradigm of development policies (Aras and Crowther, 2008); more than 15 years ago, the World Bank was the first player to address this notion. Very quickly, other institutions and donors (United Nations agencies, national cooperation agencies and the European Commission) have incorporated this concept into their policies. Then, according to a process of “spill-over” or overflow, actors from civil society, and in particular non-governmental organizations from the north, have in turn launched programs and projects placing governance at the heart of their activities.

All these arguments allow us to conduct this research via a final sample, on an international context made up of 140 countries.

4.2 Variables measurement

4.2.1 *Measure of dependent variable: environmental sustainability (Environmental Sustainability Index)*. The index established for measuring ES is used to measure the overall environmental performance of countries to ensure ES. It is calculated from a list of 76 underlying variables embedded in 21 basic indicators. The 21 indicators considered include the quality of air and water, biodiversity, artificialization of the territory, constraints on ecosystems, waste, natural resource management, environmental policy, etc. ES refers to the ability to achieve high levels of performance in five areas (environmental systems, reducing environmental stress, reducing human vulnerability, social and institutional capabilities, global stewardship) in a sustainable manner. All these data are then combined to give a global picture of countries' ES (Moldan *et al.*, 2004).

This index makes it possible to measure environmental performance and allows nations to compare and evaluate how they can strengthen their control of pollution and increase their efforts in natural resource management. It is also a general reference that compares the degree of improvement for a given year and tracks the evolution of each country from one publication to another. The index has evolved and is undergoing corrections between the 2001 and 2018 publications (Dias, 2017).

4.2.2 *Measure of explanatory variable (shareholder governance)*. Governance refers to the process and institutions through which decisions are made and the authority exercised within an organization. Governance involves making decisions about directions to take (Chen *et al.*, 2007). It requires interaction between the structures, procedures and traditions that determine how decisions are made and how the actors involved can be involved in the process (Scherer and Palazzo, 2011).

In this study, we attempt to test the effect of the SG on ES. This independent variable used in sustainability reports by the World Economic Forum (WEF). The measure of this variable is in the form of an index, assessing three dimensions:

- (1) “Shareholders’ rights and role in major corporate decisions,
- (2) Governance safeguards protecting shareholders from undue board control and entrenchment,
- (3) Corporate transparency on ownership stakes, compensation, audits and financial prospects.”

The data are collected manually by authors from WEF reports for the year 2018 for 140 countries.

4.2.3 *Measure of the moderator variable (cultural factors)*. In this research, we try to present the cultural factors as the moderator variable in the sort of three proxies (gender parity, mean years of schooling and attitudes toward entrepreneurial risk), which could have an effect on the relationship between the SG and the ES. Same as the other variables, we extracted the measurements from reports published by the WEF in 2018.

Concerning gender parity, the oldest indicators of gender (in)equality are the United Nations Development Program (UNDP) Gender-related Development Index (GDI) and the Gender Empowerment Measure (GEM), introduced in 1995. The first is based on the UNDP Human Development Index and includes gender disparities in life expectancy, adult literacy, educational attainment and per capita income. The second includes, in addition to other variables, the proportion of women in parliaments or on the boards of large corporations. The GEM measures the ability of men and women to participate actively in the political and economic life of the country. It is, therefore, considered more specialized. The debate on the interest of these two indices is often passionate, but we can note that these two indices cannot be used independently of the score of the index of human development. This is, therefore, a strong limitation for international comparisons. Among the most recent measures is the Gender Equity Index (GEI) introduced by Social Watch in 2004; the idea is to measure situations that are unfavorable to women. It is designed to facilitate international comparisons by ranking countries according to the three dimensions of gender inequality indicators: education, economic participation and women's degree of autonomy. Because of its focus on socio-economic factors, it has been criticized for ignoring the underlying causes of gender inequality, such as health (Bird, 2003; Mosconi, 2001; Subrahmanian, 2005; Waal, 2006). After a review of the different measurements, we will use the WEF index established in 2008.

Moving on to the other proxy of cultural factors is the level of schooling. There is a consensus of the international community about the critical role of training and schooling in the process of growth and development. The achievement of "education for all" is affirmed as a priority because it is the prime factor for growth. This role seems to be reinforced in the new economy of information, knowledge and innovation and of cognitive capitalism (Hugon, 2005). To measure this variable, we use the index developed by WEF in 2018.

Finally, for the third proxy of cultural factors, "attitudes toward entrepreneurial risk," called by Hofstede as risk aversion, is a behavior that drives an investor to hesitate or even to resist the pressure of risk-taking. It is a subjective notion that differs from person to person. To measure this variable and similarly to other variables, we use an index of WEF made in 2018.

4.3 Tests of models and results

Before testing hypotheses, we summarized all variables, which will be used in this study, in Table 1.

4.3.1 *Descriptive statistics*. Regarding Table 2, we conclude the existence of a significant disparity between countries in terms of the level of ES (minimum value = 0.6 and maximum value = 15.7), this is due to government policies deployed for ensuring sustainability.

Scandinavian countries are at the head of the most sacrificing countries for sustainability (Kakabadse and Morsing, 2006; Kyriacou, 2016; Pérez, 2010). For example, Norway is one of the world's most widely recognized countries for investing heavily in sustainable development, as sustainability and green nature are widely accepted and applied by all sectors of society. Based on the large participation of authority and society in sustainability issues, many institutions and organizations have been established in Norway with clear programs to defend or apply sustainability issues. Education is one of the Norwegian

Government’s strategies for achieving sustainability in the country. For sustainable development, the education has been described as one of the basic strategies (Kakabadse and Morsing, 2006; Kudlak *et al.* 2018).

On the other hand, we find countries that are least concerned about sustainability and which African countries have overlooked (Manteaw, 2012).

One of the most serious impediments to sustainability is the accumulation of debt and poverty, where the debts of countries account for more than half their national income, causing poverty for peoples. The third obstacle is the low level of technical capabilities and technical expertise, and its decline: because these countries are obsessed with immigration to developed countries, which will harm their development plans. We also find that the economic conditions and unemployment among the different sectors of the society are impaired. This contributes to the weakening of economic development. And finally, the phenomenon of population explosion: where the large population growth burdens economic and social development (Goergen *et al.*, 2017).

This divergence between countries appeared more by making an analysis by continent (Table 3). We remark from this table that the higher level of ES is in Oceania continent, and the lowest level is in Africa (Manteaw, 2012).

4.3.2 Effect of SG on ES.

$$\text{Model 1: } ES_{it} = \alpha_0 + \alpha_1 SG_{it} + \alpha_2 BT_{it} + \alpha_3 MC_{it} + \omega$$

All variables are described in Table 1.

Conducting a multivariate regression requires that underlying assumptions be made about the application of this method.

By analyzing Tables 4 and 5, we remark firstly that we can reject the null hypothesis that the variance of the residuals is constant and infer that heteroscedasticity is indeed present; we will resolve this anomaly by testing regression with the appropriate predictor in the model. Secondly, we conclude the absence of the problem of multicollinearity.

Table 1.
Variables description

Variable name	Variable code	Variable type
Environmental sustainability	ES	Dependent
Shareholder governance	SG	Explanatory
Gender parity	GP	Moderator
Mean years of schooling	MS	Moderator
Attitudes toward entrepreneurial risk	ER	Moderator
Budget transparency	BT	Control
Market capitalization	MC	Control

Table 2.
Descriptive statistics of all variables of the model

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
ES	139	3.439	2.467	0,6	15.7
SG	140	5.516	1.630	1	9
Gender parity	133	0.698	0.085	0	0.9
Mean years of schooling	140	8.911	3.154	1.4	14.2
Attitudes toward entrepreneurial risk	140	20.57	83.536	0	886.8
Budget transparency	140	55.464	21.531	3.8	100
Market capitalization	140	51.48	120.803	0	1044.6

Thereby, viewing the results of precedent tests, we made the multivariate regression to test the causal relationship between SG and ES. The outputs of Stata software in Table 6 show a positive and significant effect of SG on ES at a level of 5%.

Several previous studies have supported this finding, all of which converge toward the recognition of the new role of governance in regulating the discretionary power of managers, and it is also a question of encouraging them to build a sustainable and responsible enterprise (Boström *et al.* 2015; Pahl-Wostl, 2019). That is to say a company for which social

Continents	Mean of ES level
Europe	4.576
Africa	1.778
Asia	4.009
Latin America	2.784
Oceania	6.180
America	2.671

Table 3.
Level of ES by
continent

Models	Model 1	Model 2	Model 3-1	Model 3-1
H0	Constant variance			
Variables	Fitted values of ES			
chi ² (1)	4.58	32.75	34.41	0.00
Prob > chi ²	0.0323	0.000	0.000	0.984

Table 4.
Test of Breusch–
Pagan/Cook–Weisberg
test for
heteroskedasticity for
the models

Models	Variables	VIF	1/VIF	Mean of VIF
Model 1	SG	1.17	0.854	<i>1.12</i>
	Budget transparency	1.17	0.856	
	Market capitalization	1.03	0.972	
	Market capitalization	2.28	0.439	
Model 2	Attitudes toward entrepreneurial risk	2.05	0.488	<i>1.68</i>
	Mean years of schooling	1.53	0.654	
	Budget transparency	1.30	0.770	
	Gender parity	1.26	0.793	
Model 3-1	Market capitalization	2.29	0.436	<i>1.71</i>
	Attitudes toward entrepreneurial risk	2.05	0.487	
	Mean years of schooling	1.86	0.539	
	SG	1.50	0.666	
Model 3-2	Budget transparency	1.33	0.753	<i>2.98</i>
	Gender parity	1.26	0.793	
	SG	3.92	0.255	
	Attitudes toward entrepreneurial risk	4.91	0.203	
	Mean years of schooling	1.86	0.536	
	Gender parity	1.80	0.554	
	Budget transparency	1.31	0.764	
	Market capitalization	1.28	0.779	
	SG £ Gender parity	5.02	0.199	
	SG £ Entrepreneurial risk	4.72	0.211	
SG £ Mean years of schooling	1.97	0.507		

Table 5.
Test of multi-
collinearity for the
models

Note(s): *Italic* is the mean of the inflation vector of all the variables of the model

responsibility and sustainable development, the endogenization of ethics, do not reduce to rhetoric but constitute the vector as the product of an ambitious general policy (De Graaf and Stoelhorst, 2013; Frias-Aceituno *et al.*, 2014). Finally, the governance is gradually moving away from its primary role as a mechanism for regulating “internal” relationships (indirectly focused on economic and financial aspects) between executives, boards and shareholders (Haniffa and Cooke, 2005).

4.3.3 *Effect of cultural factors on environmental sustainability (ES)*. We call back that our study uses cultural factors as a moderator variable, so we must first of all test the effect of this variable on the dependent variable ES. This relation is materialized in model 2, the same tests as those of Model 1 have been done.

$$\text{Model 2: } ES_{it} = \alpha_0 + \alpha_1 GP_{it} + \alpha_2 MS_{it} + \alpha_3 ER_{it} + \alpha_4 BT_{it} + \alpha_5 MC_{it} + \omega$$

All variables are described previously in Table 1.

Same as Model 1, we conducted the pre-tests, which concern the multivariate regression, according to the outputs of Tables 4 and 5, the conditions (heteroskedasticity and multicollinearity) are checked.

The STATA software outputs of the multivariate regression for the Model 1 show a positive effect of the three proxies of the cultural factors, but the most signification is accorded to “gender parity.” This finding confirms the spread of the vital role of the female sex in economic life, and the importance accorded by organizations and governments to women in decision-making (García-Sánchez *et al.*, 2018; Martínez-Ferrero *et al.*, 2016). In the same context, Miska *et al.* (2018) were examining in their study gender egalitarianism and its role in supporting the human development.

4.3.4 *Effect of SG on ES via the moderator role of cultural factors*.

$$\text{Model 3 - 1: } ES_{it} = \alpha_0 + \alpha_1 SG_{it} + \alpha_2 GP_{it} + \alpha_3 MS_{it} + \alpha_4 ER_{it} + \alpha_5 BT_{it} + \alpha_6 MC_{it} + \omega$$

$$\text{Model 3 - 2: } ES_{it} = \alpha_0 + \alpha_1 SG_{it} + \alpha_2 GP_{it} + \alpha_3 MS_{it} + \alpha_4 ER_{it} + \alpha_5 GP*SG_{it} + \alpha_6 MS*SG_{it} + \alpha_7 ER*SG_{it} + \alpha_8 BT_{it} + \alpha_9 MC_{it} + \omega$$

All variables are described previously in Table 1.

For the first model, we test the effect of shareholders governance and cultural factors without moderating effect, while for the second model, we integrate the moderating effect of cultural factors. The statistical results of the multivariate regression of these two models are shown in Table 7.

We conclude that gender parity as a moderator cultural factor plays a crucial role to enhance ES.

Gender parity can be discussed from a diversity perspective. Indeed, a number of trends are leading organizations to view diversity as a real strategic advantage, such as the need to remain competitive, demographic changes, labor shortages, immigration and globalization.

Table 6.
Correlation matrix for
the variables in
Model 1

	ES	SG	Budget transparency	Market capitalization
ES	1			
SG	0.267	1		
Budget transparency	0.075	0.371	1	
Market capitalization	0.319	0.129	0.124	1
	0.0001	0.1304	0.1460	

	Dependent variable: ES									
	Model 1		Model 2		Model 3-1		Model 3		Model 3-2	
	SG effect (SG) Coefficient	t-statistic	Cultural factors effect Coefficient	t-statistic	Effect of SG and cultural factors on ES Coefficient	t-statistic	Moderator variables role Coefficient	t-statistic	Moderator variables role Coefficient	t-statistic
Intercept	1.372	1.86	0.669	0.47	1	0.68	15.230	2.08	15.230	2.08
SG	0.372	2.88	-	-	0.118	0.95	2.630	2.12	2.630	2.12
BT	-0.006	-0.06	0.028	3.27	0.027	3.1	0.023	2.66	0.023	2.66
MC	0.008	3.65	0.018	3.58	0.018	3.64	0.018	3.6	0.018	3.6
GP			0.082	0.04	0.076	0.04	19.802	1.89	19.802	1.89
MS			0.439	6.94	0.467	5.69	0.338	1.68	0.338	1.68
ER			0.011	2.03	0.012	2.07	0.026	0.74	0.026	0.74
GP × SG							3.44	1.95	3.44	1.95
ER × SG							0.006	1.09	0.006	1.09
MS × SG							0.019	0.52	0.019	0.52
F (p-value)	0.000		0.000		0.000		0.000		0.000	
Adjusted R ²	0.136		0.409		0.436		0.418		0.418	
Number of observations	139*		133*		133*		133*		133*	

Note(s): SG: shareholder governance; BT: budget transparency; MC: market capitalization; GP: gender parity; MS: mean years of schooling; ER: attitudes toward entrepreneurial risk; *due to missed values

Table 7.
Multivariate
regression analysis

Diversity goes far beyond the employment equity legislation, quotas and targets that have characterized the rhetoric of equal employment opportunity and the concrete actions taken over the years (Alazzani *et al.*, 2017; Gennari, 2019).

Organizations that recruit and manage their businesses with diversity in mind can take advantage of new business and marketing opportunities that tap into different perspectives, in addition to better understanding the needs and requirements of a changing clientele. The inclusion of people from all communities, regardless of their gender, nationality, disability, age, sexual orientation or beliefs, can confer a competitive advantage and subsequently improve their reputation and sustainability (Ben-Amar *et al.*, 2017; Nadeem *et al.*, 2017).

5. Conclusion

Environmental and social concerns have become a major issue over the years: the proliferation of legal texts; the increasing political dimension that these questions are taking are just a few examples of this development. But, the way in which these questions are considered and dealt with has itself evolved. The first approach, in terms of environmental protection, structured around the sanctuary of certain areas, and the fight against the main pollution was succeeded by another approach in terms of sustainable development, which aims to meet the development needs of generations present without compromising the ability of future generations to meet the needs of present generations. In this paper, we try to deploy the relationship between sustainability and governance, a concept on which a lot of research has been done.

Complex environmental issues cannot be resolved by traditional governance approaches. These approaches do not consider their integrated nature or the overlaps between them, nor the complexity of the interactions between the various societal components. A single, universal solution cannot solve modern environmental problems. A drastic change is, therefore, needed in the modes of governance of environmental issues to achieve sustainability, as government structures reflect traditional governance, ignoring the complexity of current environmental problems.

Various implications for organizations and governments can be derived from the found results; while there are many thoughts of what defines sustainability, it is generally established that concepts related to CSR and sustainability are preoccupied with the future as well as community. Governments are expected to develop their legislation to better adapt to change and to align with the expectations of individuals and organizations. As for the empirical contributions, they consist in the adoption of the sustainable approach that mobilized to develop our research approach, which thus constitutes a solid base to provide a dynamic character of the societal perspective of the new approach to sustainable growth the world. Thus, our empirical approach was built following a solid theoretical outcome. With this methodology, we have quantitatively estimated sustainability, governance and cultural factors and their relation; this presents a contribution in itself.

Subjects for further research were discussed, and we invite researchers to explore the main relationship between sustainability and management in future studies, especially in the organizational context.

Note

1. COP21 is the 21st Conference of Parties of the United Nations Framework Convention on Climate Change.

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