Integrating Sustainability into Corporate Governance: An Empirical Study on Board Diversity

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ABSTRACT

This study explores the mediating role of corporate social responsibility (CSR) management quality in the relationship between board diversity and CSR performance. It states that generational diversity is a consistent construct of age diversity as variety, and uses three different proxies to measure CSR management quality and performance. The sample consists of 146 companies listed in FTSE 100, DAX 30, and CAC 40 for the year 2009. The results reveal that generational diversity enables a more effective design of vision and strategies to address financial and extra-financial aspects, and consequently, it encourages companies to adopt a sustainable approach to their businesses. This study concludes that generational diversity is a key component for improving good corporate governance codes. The findings of this research recommend enhancing generational diversity in board structures to encourage sustainability in firms that aspire to be in tune with the needs of the times. Copyright © 2013 John Wiley & Sons, Ltd and ERP Environment

Introduction

THE MOST RECENT GLOBAL FINANCIAL CRISIS HAS QUESTIONED THE ADEQUACY AND PROPRIETY OF THE CURRENT corporate governance framework, since an effective corporate governance system would have helped to mitigate, even to prevent the worst aspects of the crisis. In view of the seriousness of the economic situation, a growing number of supranational organizations and national initiatives have reviewed their recommendations and codes for good corporate governance with the aim of increasing the effective application and monitoring of corporate governance mechanisms.

The board of directors is one of the most significant governance issues under review by many initiatives on corporate governance, since the most recent financial crisis has revealed serious weaknesses in how this body fulfils its duties. A common recommendation to improve board effectiveness concerns diversity in the boards. For instance, the European Commission in a communication entitled *Action Plan: European Company Law and Corporate Governance – A Modern Legal Framework for more Engaged Shareholders and Sustainable Companies* recently announced new developments on board diversity that ask for future action of the European Commission. In fact, the European Commission states:

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Diversity of competences and views among the board's members is very important. It facilitates understanding of the business organisation and affairs and thus enables the board to challenge the management's decisions objectively and constructively. In contrast, insufficient diversity could lead to a so-called group-think process, translating into less debate, fewer ideas and challenges in the boardroom and potentially less effective oversight of the management board or executive directors (COM, 2012).

Recent initiatives on corporate governance recommend increasing board diversity, arguing that a greater diversity both enhances information resources and broadens the cognitive and behavioural range of the board. In this context, boards examine different policies, means of implementation, and control mechanisms with the aim of making effective decisions. Therefore, board diversity may be an important element that positively affects the management quality of the companies and, as a consequence, a higher quality of the management system should lead to better corporate performance.

In accordance with this reasoning, several scholars have suggested that the relationship between board diversity and firm performance is mediated by process-oriented constructs (Certo *et al.*, 2006; Hambrick, 2007; Joshi and Roh, 2009). However, few empirical studies have gone beyond finding a simple direct relationship between board diversity and corporate performance (Talke *et al.*, 2010; Andrevski *et al.*, 2011), while the omission of the variable 'management quality' could explain the mixed results found in board literature. A better understanding of these relationships represents one important question that requires further research in order to assess the impact of board diversity recommendations in the business world. Building on this research gap, this study provides empirical evidence of the indirect effect of board diversity on corporate performance by means of management quality. To reach that end, this study has used generational diversity as a consistent construct for a type of diversity that represents differences in personality, traits, skills, attitudes, work values, experiences, and behaviours. Consequently, generational diversity promotes problem-solving, improves the management quality, and facilitates the adoption of a corporate social responsibility (CSR) approach.

Numerous initiatives addressed by governments and international organizations (COM, 2011; OECD, 2011) encourage companies to consider their responsibilities towards their stakeholders with the goal of integrating economic, social, and environmental concerns into their management and activities, going beyond simple compliance (Russo and Perrini, 2010). These initiatives support a stream in stakeholder literature that adopts a management approach. The stakeholder management approach focuses on the creation, maintenance, and alignment of stakeholder relationships to bring benefits in terms of corporate reputation, trust, customer loyalty, cost savings, access to capital, human resource management, innovation capacity, and risk management among others (Parmar *et al.*, 2010; Dutta *et al.*, 2012; Michelon *et al.*, 2013).

Board literature has largely focused on financial performance as a measure of a firm's performance. However, boards of directors should engage in balancing stakeholder interests, which involves not just purely financial concerns but environmental, social, and governance concerns, too. In this vein, the literature needs to develop better measures to gauge global corporate performance (Parmar *et al.*, 2010). This study contributes to research based on the relationship between board diversity and CSR performance, presenting three different measures of CSR management quality and CSR performance to evaluate the relationship.

Therefore, the main purpose of this paper is to explore how generational diversity in a board affects CSR performance via CSR management quality. Providing an answer to this question seems particularly important in both academic and business fields.

This paper is divided into five sections. After this introduction, a review of the theoretical framework is provided. The third section includes information on the sample, variables, and methodology used in estimating the model. The fourth section presents the findings and empirical analysis, while the final section summarizes and concludes the study.

Theoretical Framework

The stakeholder perspective (Freeman, 1984) has been applied in a wide variety of disciplines such as management, finance, accounting, and law for the last three decades. In the field of strategic management, the stakeholder theory provides a reasoned perspective on how firms should manage their relationships with stakeholders to ensure a

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sustainable corporate success (Parmar *et al.*, 2010). In accordance with this approach, the CSR paradigm takes into account stakeholders' interest in the management process; integrating economic, social, and environmental concerns into the strategies, practices, and activities of the firm. From this view, boards of directors and managers need to integrate the concerns and interests of stakeholders into the decision-making processes in a balanced way. Thus, the role of the board of directors, as the pinnacle of performance management systems of the organization (Zona, 2012), is extremely important for incorporating CSR into corporate agendas.

Board Diversity and CSR Performance

The upper echelon theory (Hambrick and Mason, 1984) assumes that the analysis of the demographic characteristics of the board of directors allows a stronger explanation of strategic decisions and organizational outcomes. Many studies on corporate governance and CSR have examined the relationship between the characteristics of the boards of director and several CSR aspects (Huang, 2012). Specially, a board characteristic often investigated in CSR literature is board diversity (Dijk van *et al.*, 2012; Walls *et al.*, 2012). Although the meaning of board diversity is still unclear, Harrison and Klein (2007) defined three types of diversity – diversity as separation, variety, and disparity – and examined their implications on corporate performance. According to Harrison and Klein (2007), diversity as separation refers to differences in position or opinion among unit members; diversity as variety indicates differences in kind or category, knowledge, or experience; and diversity as disparity represents differences in concentration of power, prestige, and status. The majority of studies have focused on board diversity and CSR have adopted a definition of diversity close to diversity as variety.

In this vein, board diversity theoretically improves the chances that different knowledge domains, perspectives, values, and ideas are considered in the decision-making process (Post *et al.*, 2011); and consequently, board diversity, by means of the management quality, boosts corporate performance. Moreover, Hafsi and Turgut (2012) argued that customers and other stakeholders aspire to diversity as a demonstration of management sensitivity to their preferences, aspirations, and concerns. Likewise, Fernández Sánchez *et al.* (2011) suggested that board diversity is more sensitive to some specific social practices and therefore it improves social responsibility by taking into account stakeholders' interests in the corporation.

Age Diversity and CSR Performance

The empirical studies (Bear *et al.*, 2010; Post *et al.*, 2011; Frias-Aceituno *et al.*, 2012; Hafsi and Turgut, 2012; Walls *et al.*, 2012) have used a broad variety of director attributes, such as gender, age, or nationality, to measure board diversity. However, the research on age diversity of the board of directors is much less developed and needs new paradigms and approaches to explain how it may affect corporate performance (Shore *et al.*, 2009). Prior findings of limited empirical studies on the effect of age diversity on CSR performance did not support theoretical assumptions. Post *et al.* (2011) examined the relationship between the composition of boards and environmental CSR. They suggested that older individuals exhibit higher moral reasoning while younger individuals express more concern about the environment; expecting that firms with younger boards and firms with older boards exhibit more environmental corporate social responsibility. However, using data from 49 electronics firms and 40 chemical firms listed in *Fortune 1000*, they surprisingly found that boards whose directors averaged closer to 56 years in age were more likely to implement environmental governance structures or processes. Similarly, Hafsi and Turgut (2012) studied boardroom diversity and its effect on social performance in a sample of S&P500 firms. They suggested that age diversity among directors was likely to lead to a more balanced decision-making that takes into account the firm's responsibility to a larger array of stakeholders. Contrary to what they expected, they concluded that age diversity has a negative effect on social performance.

Consistent with Harrison and Klein's (2007) diversity typology, a possible explanation for the confusion in the previous findings could be due to the fact that researchers specified diversity as variety, which is related to greater information richness and knowledge; however, they operationalized the concept of diversity as separation, which implies disagreements and conflicts. Ferrero *et al.* (2012) explored how the different types of age diversity affect economic performance and, following Harrison and Klein (2007) for research design, found that age diversity as variety positively impacts corporate performance. In this sense, diversity as variety has to be a categorical attribute

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that represents differences in personality, traits, skills, attitudes, mental health, work values, and behaviours. Focusing on age, these differences may be categorized according to the generations, since the social and historical experiences and circumstances from a respective generation have influenced the individuals' behaviour (Ferrero *et al.*, 2012). In line with this approach, this study uses generational diversity as a consistent construct of age diversity as variety.

Generational Diversity and CSR Performance

Despite the fact that generational literature recognizes differences in values, motivational goals, and sensitivity in the work environment among generations, the examination of generational diversity among workers is a critical and underdeveloped area of inquiry for management research (Westerman and Yamamura, 2007). This paper sheds some light on this question by analyzing how generational diversity in the board of directors affects CSR performance.

Today's boards of directors consist of members from three generations: Veterans (1922–1942), Baby Boomers (1943–1960), and Generation X (1961–1981). The precise definition of each generation in term of the years when their members were born varies among works. This study follows a frequent definition used for Western economies where generations are considered approximately 20 years in breadth (Zemke *et al.*, 2000; Parry and Urwin, 2011). The Veterans have exhibited a high concern for security and a desire to avoid the risks and disasters witnessed during their early years. Veterans are viewed as hard working, dependable, and supportive of conservative values that emphasize the importance of loyalty, duty, conformity, and security (Egri and Ralston, 2004). Likewise, Hafsi and Turgut (2012) and Post *et al.* (2011) argue that older individuals exhibit higher moral reasoning and may be more sensitive to society and more willing to contribute to its welfare.

The Baby Boomers were active in radical social changes, the emergence of the civil rights changes, protests against the Vietnam War, and the women's movement. These changes coincided with greatly liberalized attitudes towards gender roles. According to Egri and Ralston (2004), Baby Boomers are very individualistic, competitive, free agents with high interest in self-fulfilment through personal growth. They have demonstrated a strong work ethic and high job-involvement.

Generation X was influenced by the financial, family, and societal insecurities that dominated their childhoods. They lack solid traditions but are highly mobile and are accustomed to rapid change. This generation place less importance on job security and status, but more on personal freedom and challenging work, which allows for a balance between work and personal life-style. They are supportive of social liberalism and environmentalism (Craig and Bennett, 1997), and fight against climate change because they perceive a higher vulnerability to its consequences (Ciocirlan and Pettersson, 2012).

Therefore, generational diversity represents differences in beliefs, values, attitudes, skills, or experience among the members of a unit. Focusing on a board of directors, this study expects that generational diversity is a factor that promotes problem-solving, improves management quality, and facilitates the adoption of CSR approach.

Management Quality as a Mediator between Generational Diversity and CSR Performance

Several scholars have suggested that the relationship between board diversity and firm performance is mediated by process-oriented constructs (Certo *et al.*, 2006; Hambrick, 2007; Joshi and Roh, 2009). However, the number of empirical studies that have explored such mediating processes is relatively limited, particularly studies focused on CSR aspects. Bear *et al.* (2010) examined whether CSR indicators mediate the relationship between board diversity and corporate reputation. Godos-Díez *et al.* (2011) analyzed the mediating effect of the perceived role of ethics and social responsibility on the relationship between manager profile and CSR practices. In spite of these recent contributions, empirical support is lacking when it comes to the question of how board diversity impacts CSR performance via CSR management quality.

With the aim of providing an answer to this question, this study explores whether generational diversity among directors leads to improved CSR practices that allow the achievement of better CSR outcomes. This relationship is in line with the strategic consistency (Moneva *et al.*, 2007; Muñoz *et al.*, 2008). Those firms that convincingly show and communicate integration of the economic social and environmental dimensions into their decision-making processes should present higher CSR performance, favourably meeting the interests of their stakeholders. Hence,

the firms that carry out CSR practices are not limited to discretionary actions, but have integrated them into strategic processes that involve the whole organization and achieve a higher CSR performance.

According to Talke *et al.* (2010), the relationship between board diversity and performance is indirect instead of direct, and thus depends on mediating processes. Consequently, this study assumes that generational diversity will have no direct effect on CSR performance but will directly affect CSR management quality, which in turn, will affect CSR performance. Figure 1 shows this complete mediation model.

Figure 1. Mediation of CSR management quality on the relationship between generational diversity and CSR performance

From the previous ideas, the following hypothesis is posed:

Hypothesis: Generational diversity positively affects CSR performance, by means of CSR management quality.

Methods

Sample and Data Sources

The sample consisted of companies listed in FTSE 100, DAX 30, and CAC 40 for the year 2009. Observations were deleted if information was missing. The final sample contained 146 companies: 80 were in FTSE 100 (54.80%), 30 were in DAX 30 (20.55%), and 36 were in CAC 40 (24.66%). There is considerable heterogeneity in the sample in terms of the industry type (one-digit SIC codes): 14 companies were in mining and construction (9.59%), 27 in heavy manufacturing (18.49%), 29 in high-tech computer sector of manufacturing (19.86%), 22 in transportation, communications, and utilities (15.07%), 14 in wholesale and retail trade (9.59%), 28 in finance and insurance (19.18%), 8 in non-healthcare services (5.48%), and 4 in healthcare services industries (2.74%).

The data set was formed using two different data sources. Information about board characteristics came from the BoardEx database. This database contains all the publicly disclosed information on the composition of boards and on each director. With respect to information about CSR, a widely used database in literature is Kinder, Lydenberg, Domini Research & Analytics (KLD). However, Chatterji *et al.* (2009) examined a set of environmental performance metrics in 588 US firms and found evidence that KLD's ratings are not optimally using publicly available data, and some indicators have a relatively weak ability for predicting future performance. Likewise, Ziegler *et al.* (2009) argued that data from Innovest Strategic Value Advisors or KLD include highly subjective elements. In this study, information about CSR was obtained from Asset4 database (Thomson Reuters), which also uses only publicly available information. As Schäfer *et al.* (2006) state, the Asset4 database provides transparent, objective, auditable, comparable and systematic economic, environmental, social and governance information, offering a comprehensive platform for establishing benchmarks for the assessment of corporate performance. The universe of this database includes over 4300 public world companies, covers major indices such as MSCI World, MSCI Europe, STOXX600, NASDAQ 100, Russell 1000, S&P 500, FTSE 100 or ASX 300, and it is estimated that investors that use the Asset4 data manage more than €2.5trillion assets (Hawn and Ioannou, 2012).

Measures

Dependent variables
The aim of this study is to examine how generational diversity of the board of directors affects CSR management quality and CSR performance. Traditionally, the literature focused on board diversity has used economic performance as a dependent variable (Nielsen, 2010). However, recent empirical studies have extended the financial (or economic) dimension of the performance using other dependent variables such as environmental performance (Post *et al.*, 2011; Walls *et al.*, 2012), reputation (Bear *et al.*, 2010), or social performance (Hafsi and Turgut, 2012).

Parmar *et al.* (2010) suggest that literature needs to develop better measures to gauge the performance of organizations in relation to the implicit and explicit claims of employees, managers, communities, suppliers, and customers. In this

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sense, this study presents three different measures of CSR management quality and CSR performance, which has been constructed using the Asset4 dataset. Asset4 contains over 250 driver and outcome indicators on financial, environmental, social, and corporate governance management. On the one hand, driver indicators provide information on management quality by looking at the different policies, means of implementation, and control mechanisms that a corporation has in place. On the other hand, outcome indicators render a picture of the actual performance, performance improvements, transparency, and areas with higher-than-average exposure to risk. Therefore, the proposed measures of CSR management quality are based on driver indicators, while the proposed measures of CSR performance are obtained from outcome indicators.

The first measure, 'Vision and Strategy', is an indicator provided by Asset 4 that assesses the commitment and effectiveness of a company's management towards the creation of an overarching vision and strategy that integrates financial and extra-financial aspects into its day-to-day decision-making processes. Focusing on the variable 'CSR management quality' (V&S CSR management quality), this proxy includes questions such as whether the company strategy integrates financial and extra-financial aspects of its business, whether the company describes the implementation of its integrated strategy through a public commitment from board members, whether the company monitors this integrated strategy through an specific sustainability index, and whether the company sets in the integrated strategy specific objectives to be achieved. In order to measure CSR performance, the proxy 'V&S CSR performance' measure whether a company integrates financial and extra-financial factors in the management discussion and analysis section of the annual report, taking into account the global activities of the company, whether it is a signatory of the UN Global Compact strategic policy initiative for businesses, and whether a company explains how it engages with its stakeholders.

The second measure, 'Integrated rating' is an equal-weighted rating created by Asset4 based on the information in economic, environmental, social and corporate governance pillars. It reflects a balanced view of a company's performance in these four areas. The 'IR CSR management quality' proxy is calculated from 72 driver indicators and the 'IR CSR performance' proxy is obtained from 206 outcomes indicators.

The high dimensionality of CSR data may make analytical results difficult to understand. One of the most widely used approaches to reduce dimensionality is principal components analysis (PCA) (Vaughan and Ormerod, 2005). PCA assumes that multicollinearity among variables reflects the existence of a smaller number of underlying factors. Each latent factor is described by a principal component (PC), which is uncorrelated with the others, eliminating multicollinearity. Thus, PCA allows the description of overall variation in a smaller number of PCs than original variables.

Following this approach, this study has developed an index to measure CSR management quality ('PC CSR management quality') and a second one to measure CSR performance ('PC performance'), based on the categories of the Asset4 data. Asset4 organizes into 18 categories the four pillars: economic, social, environmental and corporate governance management. This study has not included the category 'Board Structure' because this category considers board diversity, which is an independent variable of this study. Therefore, the 17 categories included in the study are the following: Board functions, compensation policy, vision and strategy, shareholder rights, margins and performance, profitability and shareholder loyalty, revenue and client loyalty, emission reduction, product innovation, resource reduction, customer and product responsibility, society and community, human rights, workforce opportunity, employment quality, health and safety, and training and development. Similarly to Goss and Roberts (2011), this study extracts the first PC of the 17 categories from drivers and outcomes to calculate each index. Unlike the equal-weighted rating ('Integrated rating'), the indices constructed from the PCA approach use different weights for each category.

Tables 1 and 2 report the scoring coefficients of the indices. Each index is obtained as a weighted sum of the categories with the scoring coefficients. Table 1 shows the scoring coefficients of the CSR management quality index. In this index the category with the highest scoring coefficient is 'Vision and strategy', which is related to the company's effectiveness towards the creation of an overarching vision and strategy integrating financial and extra-financial aspects. Other categories that also present high scoring coefficients in the index are 'Resource reduction', 'Human rights' or 'Emission reduction'. Focusing on the pillars, it slightly seems that the categories with higher scoring coefficients belong to the Environmental Pillar. Table 2 reports the scoring coefficients of the CSR performance index for 2009 and 2010. In both years, the categories regarding the Environmental Pillar ('Resource reduction', 'Human rights' or 'Emission reduction') clearly show higher scoring coefficients.

PILLAR	CATEGORY	PC CSR management quality 2009
Corporate Governance	Vision and strategy	0.1295
Environmental	Resource reduction	0.1243
Social	Human rights	0.1174
Environmental	Emission reduction	0.1170
Social	Workforce opportunity	0.1167
Environmental	Product innovation	0.1142
Economic	Revenue and client loyalty	0.1055
Social	Society and community	0.1054
Social	Training and development	0.1031
Social	Product responsibility	0.1009
Economic	Margins and performance	0.0931
Corporate Governance	Shareholder rights	0.0908
Social	Employment quality	0.0852
Corporate Governance	Board functions	0.0798
Social	Health and safety	0.0745
Economic	Shareholder loyalty	0.0583
Corporate Governance	Compensation policy	−0.0177
	Eigenvalue	5.9096
	Percent total variance	0.3476

Table 1. Scoring coefficients of the CSR management quality index
The table reports scoring coefficients of 'CSR management quality index' calculated from the first principal component. The principal components analysis has carried out using the Asset4 data for drivers structured in the 17 categories. 'Board Structure' category has been excluded because it assesses board diversity.

PILLAR	CATEGORY	PC CSR performance 2009	PC CSR performance 2010
Environmental	Resource reduction	0.19803	0.2253
Environmental	Emission reduction	0.19482	0.2279
Environmental	Product innovation	0.19128	0.2108
Social	Workforce opportunity	0.19043	0.2053
Corporate Governance	Vision and strategy	0.18987	0.2092
Social	Human rights	0.14645	0.1815
Social	Training and development	0.14527	0.1412
Economic	Revenue and client loyalty	0.13767	0.0960
Social	Employment quality	0.13490	0.0882
Economic	Margins and performance	0.11299	0.0988
Social	Product responsibility	0.10789	0.0159
Economic	Shareholder loyalty	0.08632	−0.0971
Social	Society and community	0.05756	0.0845
Corporate Governance	Board functions	−0.05349	−0.1110
Corporate Governance	Compensation policy	0.04958	−0.0307
Social	Health and safety	0.03969	0.0590
Corporate Governance	Shareholder rights	−0.02634	−0.0516
	Eigenvalue	3.2410	2.8667
	Percent total variance	0.1907	0.1686

Table 2. Scoring coefficients of the CSR performance index
The table reports scoring coefficients of 'CSR management performance index' for 2009 and 2010, calculated from the first principal component. The principal components analysis has carried out using the Asset4 data for outcomes structured in the 17 categories. 'Board Structure' category has been excluded because it assesses board diversity.

Independent variables

Harrison and Klein (2007) explained the implications of research design; in particular, they suggested the appropriate operationalization to each type of diversity. Following this study, Ferrero *et al.* (2012) empirically explored novel measures for age diversity of the boards that could reflect different types of diversity. They stated that generational diversity could be classified in diversity as variety, and consistent with this type of diversity, they found that generational diversity positively affects corporate performance.

According to Ferrero *et al.* (2012), this study uses Blau's Index (Blau, 1977) to measure 'generational diversity' by means of three categories based on generations – the Veterans (67–87), Boomers (49–66), and Xers (28–48).[1] Blau's Index (Blau, 1977) is calculated by Equation (1), where k is a particular generation and P_k is the proportion of directors of a particular generation within the board.

$$Variety = 1 - \sum_{K=1}^{3} P_K^2 \qquad (1)$$

This index has been divided by its theoretical maximum with the aim of standardizing the results and making the interpretation of the index easier. The minimum theoretical variety occurs when all members belong to the same category. Harrison and Klein (2007) highlight that the maximum theoretical variety is when each member within a unit comes from a unique category. However, this maximum implies that all boards have the same size and there are as categories as directors. Given the data does not fulfil both conditions, the maximum empirical variety is maximized when the three categories are present in a board in equal proportions.

Control variables

The presence of dual roles a Chairman and Chief Executive Officer (CEO) could impact the effectiveness of board monitoring (Bear *et al.*, 2010). In this vein, Quigley and Hambrick (2012) argued that the effectiveness of the board also may be affected when the Chairman is the former CEO, since it restricts the new CEO's behaviour, limiting strategic changes. Consistent with this argument, this study includes as a control variable the variable 'CEO duality'. This variable is equal to 1 when the chairman of the board is CEO or was the former CEO.

Other variable that could affect the corporate performance and has been included as a control variable is the size of the firm (SIZE) measured as the natural log of total assets. Additionally, dummy variables are considered to reflect differences between countries (COUNTRY), and industries (INDUSTRY) using one-digit SIC.

Methodology

This study tests how generational diversity affects CSR performance through CSR management quality. A popular method to test mediation hypotheses is the causal steps strategy, proposed by Baron and Kenny (1986). This method requires a direct effect of the independent variable on the dependent variable. However, some authors (Collins *et al.*, 1998; Mackinnon *et al.*, 2000; Shrout and Bolger, 2002) have argued that a significant direct effect is not necessary for the mediation to occur. Moreover, Preacher and Hayes (2004, 2008) and Shrout and Bolger (2002) suggested not using the causal steps strategy except in large samples.

This study focuses on the indirect effect of the generational diversity on CSR performance through CSR management quality, and a common way to compute this indirect effect is by using the product of the coefficients method (Sobel, 1982, 1986). To aptly compute this method, this study estimated first, model 1 (Equation 2) to obtain the coefficient for direct effect –CSR management quality on generational diversity – and then, model 2 (Equation 3) was estimated to obtain the coefficient for total effect –CSR performance

$$CSR\_ManagementQuality_i = \beta_0 + \beta_1 \cdot GenerationalDiversity_i + \beta_2 \cdot CEODuality_i + \beta_3 \cdot SIZE_i +$$
$$\sum_{J=0}^{7} \lambda_J \cdot Industry_i + \sum_{J=1}^{2} \lambda_J \cdot Country_i \cdot + \mu_i \qquad (2)$$

[1]Age of the directors using 2009 as the base year.

on both CSR management quality and generational diversity—using a seemingly unrelated regression model for the estimator.

$$CSR\_Performance_i = \alpha_0 + \alpha_1 \cdot CSR\_ManagementQuality_i + \alpha_2 \cdot GenerationalDiversity_i +$$
$$\alpha_3 \cdot CEODuality_i + \alpha_4 \cdot SIZE + \sum_{J=0}^{7} \phi_J \cdot Industry_i + \sum_{J=1}^{2} \phi_J \cdot Country_i \cdot + \mu_i \tag{3}$$

Secondly, after obtaining the regression coefficients, the product of coefficients and their standard errors were calculated, assuming that the estimates of the indirect effect were normally distributed.

Furthermore, this study used bootstrapping–a nonparametric resampling procedure–as an additional method to test the mediation relationship. Preacher and Hayes (2008) and Shrout and Bolger (2002) recommended the use of bootstrapping because it has higher power while maintaining a reasonable control over the Type I error rate.

Results

Table 3 contains the main values, standard deviations, and correlation coefficients for the main variables used in this study. The three proxies used for measuring CSR Performance and CSR Management Quality showed a statistically significant correlation. The average generational diversity of board is fairly high (0.63), and its standard deviation is 0.22. In the sample, the minimum diversity occurs in three boards of directors, i.e. Blau's Index is equal to 0, since all members of the board belong to the same generation, in particular, to the Boomers. The maximum empirical diversity takes place when the Blau's Index is equal to 0.99. In this case, 31% of the members belong to the Veterans, 38% to the Boomers, and 31% to the Xers.

Table 4 reports the results of the regression analysis using different proxies for CSR Performance and CSR Management Quality. In this case, all variables refer to year 2009. In model 1, the mediating variable is regressed on independent and control variables. Focusing on Vision and Strategy proxies, the results show that generational diversity positively affects CSR management quality ($\beta_1 = 0.14$, $p < 0.001$, Table 4). This result is supported with the rest of management quality measures ($\beta_1 = 0.05$, $p < 0.10$; and $\beta_1 = 0.70$, $p < 0.05$, Table 4), although the result is slightly weak when the integrated rating is considered. In model 2, the dependent variable is regressed on mediating, independent and control variables. The coefficient for management quality is positive and statistically significant regardless of the proxy used ($\alpha_1 = 0.66$, $p < 0.001$; $\alpha_1 = 0.40$, $p < 0.001$; and $\alpha_1 = 0.54$, $p < 0.001$, Table 4). This result is in line with the idea of strategic consistency. Those firms that convincingly communicate that are integrating the economic, social, and environmental dimensions into their day-to-day decision-making processes have

VARIABLE	Mean	SD	1	2	3	4	5	6	7	8	9
1 V&S - CSR Performance	0.7265	0.1302									
2 IR - CSR Performance	0.6451	0.0674	0.4581***								
3 PC - CSR Performance	0.0000	1.0000	0.6154***	0.9194***							
4 V&S - CSR Management Quality	0.7144	0.1188	0.6009***	0.4476***	0.5341***						
5 IR - CSR Management Quality	0.6594	0.0819	0.5360***	0.5776***	0.6354***	0.7412***					
6 PC - CSR Management Quality	0.0000	1.0000	0.5649***	0.5858***	0.6609***	0.7653***	0.9879***				
7 Generational Diversity	0.6333	0.2195	0.1197	0.0975	0.1750*	0.2007*	0.1204	0.1476†			
8 CEO Duality	0.2740	0.4475	−0.0118	0.1356	0.0969	−0.0064	0.0269	0.0371	0.2029*		
9 Firm Size	10.0855	1.6969	0.3127***	0.3887***	0.5021***	0.3180***	0.4279***	0.4545***	0.0921	0.1034	

Table 3. Means, standard deviations and correlations
The table shows the Pearson's pair-wise correlation matrix. The value of n is 146 for all correlations
†$p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

INDEPENDENT VARIABLES	V&S-CSR Management Quality 2009 (1)	V&S – CSR Performance 2009 (2)	IR -CSR Management Quality 2009 (1)	IR – CSR Performance 2009 (2)	PC-CSR Management Quality 2009 (1)	PC – CSR Performance 2009 (2)
V&S-CSR Quality Management 2009		0.6600*** (0.0803)		0.4009*** (0.0610)		0.5354*** (0.0661)
Generational diversity	0.1404*** (0.0410)	−0.0225 (0.0414)	0.0528† (0.0280)	−0.0049 (0.0209)	0.7088* (0.3345)	0.1241 (0.2715)
CEO Duality	−0.0290 (0.0214)	−0.0219 (0.0209)	−0.0148 (0.0146)	0.0007 (0.0108)	−0.2102 (0.1746)	−0.0917 (0.1402)
Firm size	0.0272*** (0.0068)	0.0065 (0.0070)	0.0293*** (0.0046)	0.0046 (0.0039)	. 03601*** (0.0555)	0.0658 (0.0503)
Industry - SIC_1	−0.0625† (0.0338)	0.0386 (0.0332)	−0.0532* (0.0230)	−0.0186 (0.0173)	−0.6317* (0.2756)	−0.3098 (0.2242)
Industry - SIC_3	−0.0693* (0.0279)	−0.0211 (0.0277)	−0.0182 (0.0191)	−0.0066 (0.0141)	−0.2681 (0.2280)	−0.1653 (0.1831)
Industry - SIC_4	−0.0317 (0.0291)	0.0342 (0.0284)	−0.0250 (0.0199)	0.0017 (0.0147)	−0.3045 (0.2376)	0.1218 (0.1910)
Industry - SIC_5	0.0020 (0.0333)	−0.0134 (0.0323)	0.0076 (0.0227)	0.0214 (0.0167)	0.1330 (0.2715)	0.3122 (0.2172)
Industry - SIC_6	−0.0963** (0.0308)	0.0048 (0.0309)	−0.0786*** (0.0210)	0.0070 (0.0162)	−0.9666*** (0.2514)	0.2818 (0.2109)
Industry - SIC_7	−0.0808† (0.0416)	0.0554 (0.0409)	−0.0336 (0.0284)	0.0263 (0.0210)	−0.3856 (0.3392)	0.2193 (0.2724)
Industry - SIC_8	−0.1766*** (0.0552)	0.0821 (0.0554)	−0.0229 (0.0376)	−0.0026 (0.0278)	−0.3787 (0.4501)	−0.1322 (0.3607)
Country - DEU	−0.0518* (0.0252)	0.0498* (0.0248)	−0.0339* (0.0172)	0.0102 (0.0128)	−0.2694 (0.2057)	0.5445*** (0.1654)
Country - FRA	−0.0234 (0.0260)	0.0469† (0.0252)	−0.0104 (0.0177)	0.0363** (0.0131)	−0.0272 (0.2118)	0.5035** (0.1693)
Constant	0.4272*** (0.0712)	0.1784* (0.0772)	0.3728*** (0.0485)	0.3247*** (0.0424)	−3.597*** (0.5807)	−1.001† (0.5217)
R²	0.2790	0.4346	0.2957	0.4352	0.3244	0.5684
Chi2	56.50***	112.21***	61.30***	112.48***	70.11***	192.25***
N. obs.	146	146	146	146	146	146

Table 4. Results of regression analysis

Dependent variable: CSR Performance 2009

[1]The table reports regression results of CSR management quality in model 1 using three different measures: (i) 'V&S' means Vision and Strategy indicator provided by Asset4; (ii) 'IR' means the equal-weighted rating created by Asset4; and (iii) 'PC' means the index measure calculated from principal components analysis.

[2], The table reports regression results of CSR performance in model 2 using three different measures: (i) 'V&S' means Vision and Strategy indicator provided by Asset4; (ii) 'IR' means the equal-weighted rating created by Asset4; and (iii) 'PC' means the index measure calculated from principal components analysis.

†$p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Standard errors are in brackets.

obtained better CSR performance. The coefficient for generational diversity is not significant. Accordingly, this study does not find evidence on a direct effect of generational diversity on CSR performance.

However, the decisions made by the board of directors are unlikely to be immediately apparent in corporate performance. With the aim of ensuring the robustness of the results, this study extended for one year the sample period for the CSR Performance variable. Thus, Table 5 provides the estimations of model 2 using data of year 2010 to measure CSR performance and year 2009 to measure the rest of the variables. The results of the robustness analysis are

INDEPENDENT VARIABLES	V&S – CSR Performance 2010	IR – CSR Performance 2010	PC– CSR Performance 2010
IR - CSR Quality Management 2009	0.3356***	0.2496***	0.4578***
	(0.0703)	(.0616)	(0.0742)
Generational diversity	−0.0366	−0.0087	0.0735
	(0.0362)	(0.0211)	(0.3045)
CEO Duality	−0.0070	−0.0044	−0.2558
	(0.0183)	(0.0109)	(0.1573)
Firm size	0.0059	−0.0058	−0.0295
	(0.0061)	(0.0039)	(0.0565)
Industry - SIC_1	0.0168	−0.0097	−0.4730†
	(0.0291)	(0.0175)	(0.2515)
Industry - SIC_3	−0.0107	0.0107	0.0365
	(0.0243)	(0.0142)	(0.2054)
Industry - SIC_4	0.0195	0.0040	−0.0132
	(0.0249)	(0.0149)	(0.2142)
Industry - SIC_5	−0.0039	0.0317†	0.2809
	(0.0283)	(0.0169)	(0.2437)
Industry - SIC_6	0.0003	0.0350*	0.4557†
	(0.0271)	(0.0164)	(0.2366)
Industry - SIC_7	0.0102	0.0158	−0.1384
	(0.0358)	(0.0212)	(0.3055)
Industry - SIC_8	0.0039	−0.0374	−0.6658
	(0.0485)	(0.0281)	(0.4045)
Country - DEU	0.0470*	0.0104	0.8142***
	(0.0217)	(0.0130)	(0.1855)
Country - FRA	0.0293	0.0351**	0.3798*
	(0.0221)	(0.0132)	(0.1899)
Constant	0.4426***	0.5199***	0.0244
	(0.0676)	(0.0428)	(0.5851)
R²	0.2467	0.2301	0.4472
Chi²	47.82***	43.63***	118.12***
N. obs.	146	146	146

Table 5. Results of regression analysis
Dependent variable: CSR Performance 2010
The table reports regression results of model (2)
using data of year 2010 to measure CSR performance and year 2009 to measure the rest of the variables. 'V&S' means Vision and Strategy indicator provided by Asset4; (ii) 'IR' means the equal-weighted rating created by Asset4; and (iii) 'PC' means the index measure calculated from principal components analysis.
$^{\dagger}p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$
Standard errors are in brackets

consistent with the previous results (Table 4). The coefficient for management quality is positive and statistically significant regardless of the proxy used ($\alpha_1 = 0.36$, $p < 0.001$; $\alpha_1 = 0.24$, $p < 0.001$; and $\alpha_1 = 0.46$, $p < 0.001$, Table 5). Therefore, CSR management quality positively affects CSR performance.

The hypothesis predicts that generational diversity positively affects CSR performance, by means of CSR management quality. Table 6 shows the results of this indirect effect. In particular, Table 6 contains the direct and indirect effect coefficients, their standard errors, and the bias-corrected confidence intervals calculated using bootstrapping. This study finds clear evidence that generational board diversity positively affects the creation of an overarching vision and strategy integrating financial and extra-financial aspects into the day-to-day decision-making processes (V&S-CSR management quality), leading to the integration of financial and extra financial factors in the management discussion and improving engagement with the stakeholders (V&S-CSR performance). Accordingly, the hypothesis is supported.

VARIABLES	V&S – CSR Performance 2009 (Table 4)	V&S – CSR Performance 2010 (Table 5)
Direct Effect Generational diversity	−0.0225	−0.03664
	(0.0414)	(0.0362)
Indirect Effect Generational diversity	0.0927**	0.0471**
	(0.0293)	(0.0170)
Bootstrapping 95% Bias Corrected	[0.0315, 0.1798]	[0.0137, 0.1059]
VARIABLES	IR – CSR Performance 2009 (Table 4)	IR – CSR Performance 2010 (Table 5)
Direct Effect Generational diversity	−0.0049	−0.0087
	(0.0209)	(0.0211)
Indirect Effect Generational diversity	0.0212†	0.0132†
	(0.0117)	(0.0077)
Bootstrapping 95% Bias Corrected	[−0.0005, 0.0487]	[0.0006, 0.0354]
VARIABLES	PC – CSR Performance 2009 (Table 4)	PC – CSR Performance 2010 (Table 5)
Direct Effect Generational diversity	0.1242	0.0735
	(0.2715)	(0.3045)
Indirect Effect Generational diversity	0.3795*	0.3244*
	(0.1851)	(0.1619)
Bootstrapping 95% Bias Corrected	[0.0238, 0.8481]	[0.0210, 0.7668]

Table 6. Direct and Indirect Effect of Generational Diversity
The table reports the coefficients of the direct effect of the generational diversity on CSR performance and the indirect effect of the generational diversity on CSR performance through CSR management quality.
The bootstrap estimates presented are based on 5000 bootstrap samples.
†$p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$
Standard errors are in brackets.

Focusing on an equal-weighted rating to measure CSR aspects, this study shows weak evidence that generational board diversity positively impacts on an effective CSR management quality (IR-CSR management quality), while it positively affects the integrated CSR performance of the firm (IR-CSR performance). The hypothesis is not clearly supported with a confidence level of 95%.

Regarding the designed index to measure CSR aspects based on principal component analysis, this study shows that generational board diversity have a positive effect on CSR performance (PCA-CSR performance) through the CSR management quality (PCA-CSR management quality). Therefore, the hypothesis is supported.

Table 6 also summarizes the coefficients of the direct effect of generational board diversity on CSR performance. The coefficients of all models are statistically insignificant; therefore, as was expected, this study does not find evidence that the generational board diversity directly impacts on CSR performance. This result is consistent with the complete mediation model considered in the study.

Conclusion and Discussion

In the light of the recent developments in corporate governance that happened after the global financial crisis which involved changes in the composition of boards in order to increase their effectiveness, this study aims to explore how generational diversity of the boards affects CSR performance via CSR management quality.

This study used generational diversity as a consistent construct of age diversity as variety. This type of diversity is related to greater information richness, experience, and knowledge in a team, and therefore, it is positively associated with corporate performance. This study links generational board diversity to the CSR performance by means of a

complete mediation model. In particular, the research question is how generational diversity affects CSR performance via CSR management quality. The hypothesis is tested using 146 companies listed in FTSE 100, DAX 30, and CAC 40 for the year 2009 and three different measures of CSR management quality and CSR performance. The main results reveal that generational diversity positively affects the creation of an overarching vision and strategy integrating financial and extra-financial aspects into the day-to-day decision-making processes, while it leads to integration of the financial and extra financial factors in the management discussion, improving engagement with stakeholders, and supporting strategic consistency literature.

The results of this study have important implications for theory, business practice, and public policy. First, this study states that generational diversity as a crucial area of literature has been largely unexplored in the context of the board of directors. Second, it sheds some light on the question of how generational diversity in the board of directors positively affects CSR performance. In this sense and as a third implication, this research contributes to the unexplored mediating process of CSR management quality in the relationship between generational diversity and CSR performance. The results of this study could be seen as another important implication because they empirically assess the recommendation for corporate governance to encourage companies to enhance board diversity in order to achieve successful governance of the company. The findings also suggest that generational diversity enables a more effective design of vision and strategies to address financial and extra-financial aspects and, consequently, encourages companies to adopt a sustainable approach to their business. Finally, the results of this study encourage legislators to include generational diversity as a key component for good corporate governance codes. The findings of the research reveal that those companies with a generational diversity in the highest echelons of their decision-making bodies may take advantage of greater information resources, viewpoints, and experience in global markets, as well as be able to be more sensitive to stakeholders' preferences, aspirations, and concerns. Such companies can integrate sustainability into their corporate policies, setting up means of implementation and control mechanisms that are suitable for making effective decisions and achieving better CSR performance. Therefore, this study recommends enhancing generational diversity inside board structures to encourage sustainability within firms, meeting the needs of the times.

As with every empirical research, the findings should be viewed in light of potential limitations that might open new areas for future research. A limitation of this study is that empirical findings are conditioned by the sample and the availability of information. Larger samples are clearly needed to test the robustness of the results. The results of this study might also be limited by the CSR variables used. The integrated rating and the indexes developed following the Principal Component Analysis may present an offsetting effect among different CSR dimensions (Escrig *et al.*, 2010). Future studies should use more finely grained measurements of integral CSR management quality and performance.

As this study suggests new, interesting insights on the question of how board generational diversity impacts on CSR performance via CSR management quality, its findings should encourage further research to enhance and assess the understanding of generational diversity as a driving force for CSR developments inside organizations.

Acknowledgement

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