Twenty years of research on the relationship between economic and social performance: A meta-analysis approach.

Article type: Original research

Abstract

The aim of this paper is to analyze the relationship between economic and social performance in an organizational context. We perform a meta-analysis to test this relationship and to examine the influence of the measurement criteria and organizational characteristics, such as activity, social orientation, technology and cultural environment. We find 678 effect sizes in 83 papers. Our results reveal a positive relationship between economic and social performance, although differences in the sign are detected depending on the measurement instrument and the type of organization.

Keywords: Economic performance, social performance, meta-analysis, measurement criteria, organizational context.

INTRODUCTION

Currently, organizations are developing a growing interest in promoting socially friendly activities. Michellon, Boesso and Kumar (2013) identify advantages of an organization deciding to promote these activities, such as improvement in its legitimation and reputation, a better relationship with its stakeholders and the promotion of skills, processes and systems that increase the organization's competitiveness. These advantages are translated into the ability to generate social and economic performance. As a consequence, one of the most interesting topics studied in the literature is the relationship between an organization's economic and social performance.

The aim of this paper is to determine the existence and nature of the relationship between economic and social performance in the organizational context. Although the concepts of social and economic performance originated in socioeconomic research more than twenty years ago, there are no generally accepted definitions, measurements or descriptions of the interactions between them (Felício, Gonçalves, and da Conceição, 2013; Bellostas, López-Arceiz, and Mateos, 2016).

This paper develops a meta-analysis of the relationship between economic and social performance. Meta-analysis is an appropriate statistical approach to use when multiple individual studies have yielded inconclusive or conflicting results, as in the case of this relationship (Waddock and Graves, 1997; Rosenthal and DiMatteo, 2002; Orlitzky, Schmidt, and Rynes, 2003; Wu, 2006). We propose the treatment of the measurement criteria of economic and social performance and the characteristics of the organization as elements that can condition this relationship. Orlitzky *et al.* (2003) and Margolis, Elfenbein and Walsh (2007) analyzed some of these aspects approximately ten years ago. However, in the last few years, there has been a strong progress in this research field with the creation of new measurement criteria or indicators of economic

and social performance. This paper introduces these new criteria and analyses its influence in the relationship between economic and social performance in different types of organizations. The influence of these new elements has not been studied by the previous economic literature up to date. As our main contribution, we statistically aggregate extant evidence concerning the claim that social performance interacts with the economic performance of an organization. Second, we test a central assertion of instrumental stakeholder theory, i.e., that there is a positive interaction between the two types of performance. Moreover, we investigate whether the relationship varies based on the distance between performance measures and characteristics of the organization. In particular, those measurements of social performance that include the degree of satisfaction of stakeholders promote higher interaction between both types of performance. Something similar happens when the organization is oriented to service delivery or belongs to an intensive technology sector. Finally, we note that organizations must design and integrate relevant definite indicators in their strategic management practices and that researchers should be careful in drawing conclusions because they could be influenced by the abovementioned elements.

This paper is organized into five sections: The first section is the introduction. The second section defines the various research questions posed in this paper. The third and fourth sections introduce the methodology and the results, respectively, to answer the proposed research questions. In the fifth section, we discuss the results. The last section provides conclusions based on the results obtained.

THEORETICAL BACKGROUND

Interaction between economic and social performance

The link between economic and social performancehas been a core topic in the management literature for years (Schaltegger and Synnestvedt, 2002). Corporate social

responsibility and socially friendly activities have been understood as an alternative way of generating economic and social welfare (Godfrey and Hatch, 2007). These practices imply the creation of social value from different initiatives. Traditionally, business companies, cooperatives and mutuals created social value through the market, whereas other types of nonprofits, such as foundations or associations, created social value outside the market system (Sanzo *et al.*, 2015, Costa and Carini, 2016). Nowadays, all these organizations have an active role in markets, competing between them to obtain users and financial resources, although with a different social orientation or strategy (Chaves and Monzón 2012)

Despite the large number of academic contributions, the links between social and economic performance remain unclear (Brammer and Millington, 2008; Hahn and Figge, 2011; Lockett *et al.*, 2006; Orlitzky *et al.*, 2003; Waddock and Graves, 1997; Wu, 2006). Aupperle, Carroll, and Hatfield (1985) and, more recently, McWilliams, Siegel, and Teoh (1999) and McWilliams and Siegel (2001) find no empirical relationship between economic and social performance in companies with a social orientation. By contrast, Waddock and Graves (1997), Kinnell and MacDougall (1997), Blois (1999), and Sargeant (1999) detect a positive relationship between a proxy of social value and accounting measurements of economic value, whereas Abiodun (2012) detects a negative relationship between investment in social activities and economic return. Taking into account the conflicting results reached by previous studies, we propose the following research question:

> **RQ_1:** Is there a significant relationship between economic and social performance?

If there is a significant relationship, the results will be in line with Preston (1978), Freedman and Stagliano (1991), Graves and Waddock (2000), Berman *et al.* (1999),

Van de Velde, Vermeir, and Corten (2005) and Wu (2006). These authors all find a relationship between economic and social performance. The sign of this relationship could be influenced by the measurement criteria and the indicators used by different authors to analyze this relationship. In the context of corporate social responsibility, Orlitzky *et al.* (2003) study the importance of measurement criteria as influential variables. Bellostas *et al.* (2016) also detect a lack of agreement among academic researchers concerning the composition and measurement of both types of performance. Moreover, in the last few years, both new types of organizations with social orientation and measurement criteria of performance have emerged in the economic arena (López-Arceiz *et al.*, 2016). However, the impact of these criteria and the behavior of new hybrid organizations have not been studied yet. Thus, correlations between the economic and social performance constructs can be influenced by these new factors.

Measurement strategies for economic and social performance

The interaction between economic and social performance can be influenced by the measurement criteria adopted in each research project, being a lack of consensus about the operational level. (Yang, Huang, and Lee, 2014; Testi and Bellucci, 2011).

In this sense, the measurement of economic performance is not free of challenges. Economic performance supposes that stable and continuous economic activities are being conducted. The question is how to measure an organization's economic activity. Orlitzky *et al.* (2003) proposed three broad subdivisions of economic performance: market-based (investor returns), accounting-based (accounting returns), and perceptual (survey) measurements. Market-based and accounting-based measurements constitute a partial perspective because they recognize only the consumer and the producer or owner of a company as legitimate stakeholders (Payne, Holt, and Frow, 2000; Johansen and Nielsen, 2011; Nishimura, 2007; Fontaine, Haarman, and

Schmid, 2006; Freeman, 1984). In this case, traditionally the most used criterion has been the accounting return, but nowadays sales or asset growth are more important in some entities such as nonprofit organizations (Liu, Takeda, and Ko, 2012; Coombes *et al.*, 2011; Bai, 2013). Something similar happens with perceptual measures. These measures are based on the answers of a person who can give a subjective evaluation (Conine and Madden, 1986; Reimann, 1975). The perceptions of managers are being used as a source in the measurement of economic performance because managers have access to the entity's economic targets (Brouthers, 2002; Liu, Eng, and Takeda, 2014). Nevertheless, it is reasonable to assume that the measurement criteria of economic performance chosen by the researcher can influence the relationship between economic and social performance. For instance, Lu et al (2014) evidenced a negative effect of the market measurements. These indicators tend to consider all the available information, while accounting indicators are the result of the organizational accounting policy. Then, currently, the traditional criteria, compiled by Orlitzky *et al.* (2003) and Margolis *et al.* (2007), live together with new measurement criteria, such as perceptual measurements and growth or size criteria. These new measurements can be able to influence positively the interaction between economic and social performance according to Santos and Brito (2012) or Bai (2013) (Table 1). Therefore, we define the following research question:

> **RQ_2:** Does the relationship between economic and social performance depend on the measurement criterion of economic performance?

If there is no influence of the measurement criteria of economic performance, we can assume that although there is no consensus in the measurement criteria of economic performance, there is a general agreement about the meaning of economic performance

(such as return, growth or perception). Conversely, if we observe an influence of these criteria, economic performance should be considered a multidimensional construct with different dimensions that the researcher must consider (Moneva and Ortas, 2010).

INSERT TABLE 1

This idea is relevant when we analyze the measurement criteria of social performance. In general terms, social performance refers to the generated impact on stakeholders affected by the organization. Lu *et al.* (2014), Orlitzky *et al.* (2003) and Post (1991) identify four strategies for measuring social performance: a) Social performance disclosure; b) Social performance reputation ratings; c) Social audits, social performance processes, and observable outcomes, and d) Managerial social performance principles and values. Social performance disclosure is a criterion based on public information (annual reports, letters to shareholders, etc.). Although this is the most objective criterion, information disclosure by itself is only a proxy of social performance and may be insufficient to study this element in its entirety (Farneti and Guthrie, 2009). The second and third approaches are related to systematic third-party efforts to assess a firm's 'objective' social performance behaviors, such as community service, environmental programs, and corporate philanthropy. For this criterion, the main problem is the comparability of the information. If the initiative does not publish the social audit process, the comparison will not be feasible, and the usefulness of this criterion will be low (Gao and Zhang, 2001, 2006). The fourth criterion assesses the values and principles inherent in an organization's culture (Aupperle, 1984; Carroll, 1979). This criterion is a broad category with a high level of subjectivity because it is based on the perceptions of the individual who evaluates these values and principles.

Although these authors made an important effort when they studied these measurement strategies, additional criteria should be considered at present. For

example, service quality can be an indicator of the level of integration of stakeholders' needs into the organization (Mitchell, Agle, and Wood, 1997; Sacchetti, Tortia, and López-Arceiz, 2016). Furthermore, community interests or regional development are proxies of this integration when the entity promotes higher levels of growth in that area (Borzaga and Fazzi, 2000). Other authors have developed indicators, such as social return on investments that offer a specific vision of social performance (Rotheroe and Richards, 2007). Finally, social auditing and social indexing are not available in all cases because some entities are easier to access than others. Table 1 shows negative influences when the measurement criterion uses the third-party assessments. Moreover, the new criteria would be able to change the interaction between economic and social performance. Millar and Hall (2013), in relation to the social return on investment, suggest a tendency to obtain positive relationships. Bai (2013) in relation to social auditing identify negative interactions in the context of nonprofit organization which are not table to participate in social indexing. All these particularities can modify the relationship between economic and social performance. These new aspects have not been studied by the previous meta-analysis. As a consequence, we propose the following research question:

RQ_3: Does the relationship between economic and social performance depend on the measurement criterion of social performance?

Finally, some organizational characteristics, which can act as control variables, influence the relationship between economic and social performance. Deegan and Gordon (1996) and García-Ayuso and Larrinaga (2003) identify a strong influence of the type of developed activity on the relationship between economic and social performance. The social orientation of the organization is also a variable that can modify this relationship. According to Felício *et al* (2013), entities that adopt a legal

form closer to nonprofit organizations will have a stronger social orientation and will be able to create a more intense relationship. However, other authors, such as Bai (2013), Bouckaert and Vandenhove (1998) and Weisbrod (2009), propose that although nonprofit organizations have an explicit social aim, self-dealing and market competition can prevent these entities from reaching an optimal level of social performance. The level of technology required by the organization also determines this relationship. In this sense, Guadamillas-Gómez et al. (2010) and Morfit (2014) state that entities belonging to technological sectors are the ones that provide more information to their stakeholders and, as a consequence, are able to create a more intensive relationship between economic and social performance. Other characteristics that can influence this relationship are the cultural environment of the organization. Defourny and Nyssens (2008), Kerlin (2006), Quintão (2007) and Hulgård (2010) show that the impact of socially friendly activities varies based on the diversity of experiences at a regional level and is affected by the prevailing cultural backgrounds. As a consequence, the prevalent sphere of values will promote the development of a more intense relationship between economic and social performance (López-Arceiz *et al.*, 2016; Wang, Dou and Jia, 2016).

> **RQ_4:** Organizational characteristics are a moderator variable of the relationship between economic and social performance.

The previous three research questions allow the relationship between economic and social performance to be tested from different perspectives to determine the extent to which economic and social measurements and the characteristics of the entity influence the behavior of organizations that decide to develop a "double bottom" strategy.

METHODOLOGY

Sample and indicators used

Searches of the Web of Science, Scopus, and ABI/Inform, databases were conducted using the keyword 'organizational performance'. Synonyms, which were searched separately, were 'organizational performance', 'profitability', 'economic performance', 'financial performance', and 'economic value'. The keyword 'social performance' was alternately substituted with '(corporate) social responsibility' and 'social value'. Web of Science gives access to the full text and images of more than four million business and trade journal articles, with a coverage period of one hundred years. Scopus indexes abstracts of journal articles (approximately 57 million references) and books (approximately 100,000 references). To increase the scope of our search, cross-citations from previous reviews (for example, Orlitzky*et al.*, 2003; Margolis *et al.*, 2007) were also explored.

The relevant studies selected for the meta-analysis had the following characteristics, and these were the selection criteria:

- The studies referred to concepts associated with socially responsible businesses, social enterprises and nonprofit organizations.
- The analyzed studies quantitatively examined the relationship between economic and social performance. The reported effect size could be Pearson's correlation r, a t-test statistic or an effect size (Hunter and Schmidt, 1990).
- The studies were concerned with at least one aspect of a firm's economic performance. To study the different aspects, we distinguished between five possible criteria based on the theoretical framework (Moneva and Ortas, 2010): a) Accounting measurements, b) Market criteria, c) Economic aim management or perceptual indicators, d) Size or growth criteria, and e) Other measurements. We identified indicators that had a frequency of one in our database search as 'other' (for instance, the level of intangible assets).

- The same procedure was used for social performance[1].According to the previous economic literature, we considered seven possible indicators: a) Professional integral audit based on social performance disclosure (e.g., KLD), b) Stakeholder integration (e.g., managerial social performance), c) Service quality, d) Social auditing/indexing (e.g., reputational measurements), e) Regional development criteria, f) Created social value criteria (e.g., social return on investments), and g) Other criteria (Wood, 1991; Moneva and Ortas, 2010). In the 'other' category, we included indicators that had a frequency lower than one (for instance, volunteering or networking).
- Finally, we considered organizational characteristics such as the organization's activity (raw materials, production of goods or service delivery), its social orientation (based on its legal form), the intensity of its use of technology, and the cultural environment (Anglo-Saxon or continental) in which the organization was framed.

As consequence, we had access to 678 effect sizes from 83 papers[2]. The Appendix lists the most important study characteristics, such as author(s), date of study, study sample size Ni, observed r (or transformed and/or partially corrected r), number of correlations per study, organizational characteristics and the measurement criteria of economic and social performance.

Methodology

[1] We included studies of environmental management and financial performance in the meta-analysis. First, some studies, especially earlier ones, use environmental management as a proxy for social performance. Second, we found stakeholders related to environmental aims (Starik, 1995). Finally, the business community tends to regard social responsibility as including both social and environmental performance (for example, BusinessWeek, 1999).

2 We started the research process using this sequence of Boolean operators: (Social performance OR Corporate social responsibility OR Social value) AND (Economic performance OR Profitability OR Financial performance OR Economic value). We obtained 167,132 papers in SCOPUS and 452 in Web of Science. After this process, we added three elements: type of organization (socially responsible business, social enterprise and nonprofit), relationship and correlation. Web of Science offered 16 articles, and SCOPUS offered 83 papers. Those papers from Web of Science were included in SCOPUS.

A meta-analysis integrates the quantitative findings of separate but similar studies and provides a numerical estimate of the overall effect of interest (Petrie, Bulman, and Osborn, 2003)[3]. This meta-analysis uses Hunter and Schmidt's (1990) statistical aggregation techniques for cumulative correlations and to correct for various study artefacts to estimate the true score correlation (ρ) between economic and social performance. The meta-analysis arrives at a mean true-score correlation by correcting observed correlations for sampling error[4]. Because sampling error varies directly with sample size, all studies are weighted by sample size N_i (Schmidt and Hunter, 1977). Studies with a smaller standard error and larger sample size are given more weight in the calculation of the pooled effect size[5].

Agreement or disagreement between the studies can be examined using a heterogeneity test. In this study, we use Cochran's Q. This statistic is the weighted sum of squares on a standardized scale. It is reported with a p-value, where low p-values indicate the presence of heterogeneity (Higgins *et al.*, 2003). To test the relationship between *economic* and social performance, we specify a meta-regression model to study the role of the measurement criteria of economic and social performance. In this model, we have added the influential variables, such as dummy variables, following this expression [1]:

$$\rho_{ij} = \alpha_i + \beta_i D_{ij} + \varphi_{ij} \qquad [1]$$

[3] A meta-analysis takes into account individual studies, but also previous meta-analyses that are introduced with a mean correlation and a std. deviation. Consequently, this technique provides a complete set of information about the studied item.

[4] According to Horfmann (2005), there are three advantages related to the use of the correlation coefficient. First, the accumulation of findings across studies allows for a proper estimation of the mean population correlation being controlled variability. Second, the variance of population can be estimated. Finally, we can model the variability among population through the effect of potential moderators.

[5] To evaluate the publication bias, we use Egger's test for small-study effects. The obtained results do not enable us to reject the null hypothesis (p-value>0.10). Thus, there is a little evidence of this type of bias in the studied sample.

where ρ_{ij} is the effect size, D_{ij} represents each influential variable (economic and social performance measurement criteria and organizational characteristics), and φ_{ij} is the random error. Parameter β measures the effect of the moderator elements on the effect size. We use the software SPSS 22.0 and Stata 14.0 to estimate the different models.

Finally, we have implemented a bootstrap estimation (number of samples: 10,000) in order to robust the obtained results. A bootstrap estimation allows us to obtain a set of uniform subsamples based on the total sample, the original model being tested in each one. Moreover, we have re-estimated the model using the Bayesian estimator. The Bayesian estimator is suitable in a meta-analysis when we have finite sample sizes and we introduce prior information based on previous research. Both techniques enable us to robust the previous results.

RESULTS

As shown in the first line of Table 2, the mean observed correlation for the total set of 678 correlations (k) and the total sample size (N) of 1,368,044 observations is 0.188, with an observed standard deviation of 0.289.

INSERT TABLE 2

As Table 2 shows, Cochran's Q coefficient has a p-value lower than 5 percent, which indicates the presence of heterogeneity in the studied sample. Therefore, we decide to use a random effects meta-regression model. Thus, the true (corrected) correlation score is 0.199, which is higher than the observed correlation with a confidence interval at 95 percent of [0.165─0.232]. Therefore, there is positive and significant relationship between economic and social performance among the papers that discuss this relationship. However, this result could be affected by the measurement criteria employed for social and economic performance. Moreover, the control variables

related to the characteristics of the studied entities could affect this relationship. For this reason, taking into account the presence of heterogeneity, we decide to include these elements as moderator variables.

In Table 3, we show the impact of the measurement criteria of economic performance on the relationship between economic and social performance. Taking into account the previous literature, we create five measurement sets to examine the moderator effects based on the measurement criteria of economic performance: a) Accounting criteria, b) Market criteria, c) Perceptual criteria, d) Size criteria, and e) Other[6].

INSERT TABLE 3

Table 3 indicates that the association between economic and social performance depends on the type of measurement used by the researcher to measure economic performance. The size criteria reveals the highest positive correlation between economic and social performance (r:0.828, CI:[0.687—0.908]), whereas other (related to subjective organizational aspects, such as self-values and utilitarian identity) presents the lowest correlation (r:-0.054, CI:[-0.202—0.096]). Accounting measures are more highly correlated with social performance than market-based measures (r:0.167; CI:[0.147—0.187] vs. r:0.082; CI:[0.071—0.093]). Finally, perceptual criteria, related to management by targets, show an intermediate behavior (r:0.129; CI:[0.111—0.146]). Therefore, the relationship between economic and social performance changes when we consider the measurement criteria of the economic dimension.

[6] We include in this category indicators with a frequency lower than one: financial sustainability, economic efficiency, economic efficacy, self-values, utilitarian identity, quality of service, organizational satisfaction, organizational success, and volunteer-worker relationship.

We also test whether the measurement criteria of social performance may affect the relationship between economic and social performance. The results are shown in Table 4.

INSERT TABLE 4

To study the measurement of social performance, we distinguish between the following categories: a) Professional integral audit criteria (e.g., KLD); b) Stakeholder criteria; c) Quality criteria; d) Social auditing/indexing criteria; e) Regional development criteria; f) Created social value criteria; and g) Other criteria[7]. The results show that the highest correlation occurs when the measurement criteria include the degree of satisfaction among stakeholders (r:0.221, CI:[0.163—0.278]). By contrast, the lowest value is observed when the researcher decides to entrust in the measurement of a third party (r:0.072; CI:[0.062—0.082]). In all cases, the correlations are positive, except when the created social value criteria are used (r:0.215, CI:[-0.044—0.447]). Therefore, the measurement criteria of social performance moderate the relationship between economic and social performance.

The obtained results are robust according to the meta-regression model (Table 5). In all cases, the indicators of each dimension determine the correlation between economic and social performance (p-value<0.05). However, the interpretation of each parameter is different because the β parameter is a measurement of the intensity of the change.

INSERT TABLE 5

[7] We include in this category indicators with a frequency lower than one: promotion of cultural development, existence of pension plans, promotion of research and development, definition of organization values, normative identity, knowledge update, creation of shared value, commitment to stakeholders, community development, and promotion of trust.

For example, in economic performance, when the paper uses a size criterion, the relationship between economic and social performance is higher (β:0.158), whereas when the author uses the market criterion, the result is inverse (β:-0.069). Although we are not able to determine the correlation using this methodology, we can approximate the change in magnitude. Thus, this method is complementary to the traditional meta-analysis. This methodology enables us to determine the influence of different variables. As we can observe, entities whose activity is related to service delivery are able to intensify the interaction between economic and social performance (β:0.274, β:0.296). This same pattern is revealed in high-technology organizations (β:0.214, β:0.239) in an Anglo-Saxon cultural environment (β:0.071, β:0.127). In contrast, socially oriented organizations are not able to promote a more intense relationship between economic and social performance because of the non-significant parameter achieved in the meta-regression (β:0.019, β:-0.021). Taking into account this result, a positive correlation between economic and social performance is detected, although this result is affected by the measurement criteria of economic and social performance and organizational characteristics.

This result is consistent with the alternative estimation techniques used in this study (Table 6). The first four columns show the parameters, pvalues and confidence intervals for the bootstrap estimation, while the second four show the same information for the Bayesian estimator.

INSERT TABLE 6

As we can observe, there is a positive interaction between economic and social performance, although the final sign depends on the measurement criteria and organizational characteristics. We only attract attention on the improvement in term of goodness-of-fit in the case in Bayesian estimation which robust the obtained results.

DISCUSSION

The results of this meta-analysis demonstrate a positive association between social and economic performance across the studied papers. This result contradicts conclusions of McWilliams *et al.* (1999) and McWilliams and Siegel (2000), who state that economic and social performance are independent spheres in the organizational context. By contrast, our results support the conclusions of Waddock and Graves (1997), Kinnell and MacDougall (1997), Blois (1999), and Sargeant (1999), who detected a positive relationship between economic and social performance.;

However, this relationship may be influenced by the criteria used in the measurement of economic and social performance and by organizational characteristics. The measurement criteria for economic and social performance have been discussed in previous papers. Brown and Perry (1994, 1995) and Wood and Jones (1995) found that positive correlations may be artefactual functions of the measurement elements. Therefore, we distinguish different measurement indicators in the definition of both types of performance in our meta-analysis. In the analysis of the previous literature, we identified five measurement criteria. Differences in the correlation between economic and social performance are observed in the subjective criteria (other criteria), when the measurement adds elements such as self-behavior or a utilitarian identity. This measurement can cause illogical results because the relationship is based on the opinion of the manager who evaluates the level of economic performance in the entity. This result is also found by Ortliztky *et al.* (2003), who observe that when the economic performance measurement is based on a survey, the cross-study variation in correlation is removed, and the correlation becomes positive. Measurements based on perceptual criteria are associated with a stronger relationship between economic and social performance according to Santos and Brito (2012) or Peloza (2009). Thus, according

Ortliztky *et al*. (2003), many of the negative findings in individual studies are artefactual, and if the researcher or the company uses a different criterion, positive relationships will appear (Jones and Wicks, 1999; Pava and Krausz, 1995; Wood and Jones, 1995). The meta-regression shows that changes in the measurement criteria used tend to strengthen or weaken this relationship. Measurements that are not associated with efficiency, such as size measurements (sales or asset growth), are able to favor the relationship. However, market criteria introduce a penalization. This same result had been obtained by Goyal, Rahman and Kazmi (2013). Therefore, the use of a criterion can encourage or discourage the relationship between economic and social performance.

In relation to the measurement of social performance, we have grouped the indicators into seven categories and obtained different intensities in the function of each indicator. The weakest relationship is obtained when the created social value criteria are used. In the meta-regression, we observe that if the researcher decides to change the measurement strategy of social performance, it can influence the interaction between economic and social performance. In this sense, the indicators based on professional integral auditing and social auditing/indexing can decrease the strength of the relationship between economic and social performance. This result diverges from Chen, Feldmann and Tang (2015), who obtain a positive interaction in the context of manufacture sector when these criteria are used. In contrast, taking into account the local impact and the regional development may improve this relationship. In any case, similar to the measurement of economic performance, some studies use one measurement and have small sample sizes; therefore, the conclusions in some papers may be biased (Ortliztky *et al*., 2003).

Finally, the control variables play an important role. The activity of the organization determines the relationship between economic and social performance.

Those activities related to the services sector are able to promote a more intense interaction between the two types of performance. This result is obtained by Miles, Verreynne and Luke (2014), who demonstrate a stronger relationship in the case of organizations in the sphere of social services. Other control variables also show a positive effect on this relationship. Then, when the entity develops high-technology activities, it is able to create a better interaction, according to Guadamillas-Gómez *et al*. (2010) and Morfit (2014). The Anglo-Saxon environment also tends to promote greater interaction (Jackson and Apostolakou, 2010). According to these authors, the differences in the institutional context and the level of involvement of stakeholders are the explanations for this behavior. In contrast, the social orientation of the organization does not influence this relationship. Costa *et al*. (2012) or Bellostas *et al*. (2016) detect a strong relationship between social and economic performance in Italian social cooperatives and Spanish sheltered workshops, respectively. This result can be explained based on the legal form of the organization, which drives this positive correlation. However, the meta-regression evidences that the social orientation does not influence the relationship between economic and social performance. In this sense, the adoption of professional management criteria in nonprofit organizations and the promotion of socially friendly activities in for-profit organizations has reduced the gap between both types of organizations according to .Chaves and Monzón (2012). So, social performance can be created by hybrid organizations in the market or in the nonmarket, independently of their legal form.

CONCLUSIONS

The objective of this paper has been to analyze the relationship between economic and social performance in the organizational context. The results show how those entities that develop socially friendly activities experience positive synergies between their

social and economic performance. However, some singularities appear when we take into account the measurement criteria of economic and social performance and some characteristics of the organization, such as its activity, its technology and the cultural environment in which it operates. Although some of these indicators had been analyzed by previous studies (Ortliztky *et al*., 2003; Margolis *et al.,* 2007), the impact of the new measurements of performance and organizational characteristics had not been considered as an influential variable.

Moreover, this paper contributes to the academic debate about the relationship between economic and social performance and shows how it is possible to foster social and economic performance from different strategic organizational models. In fact, a gradual process of convergence occurs in which some non-profit entities tend to develop the economic side in their management model. Similarly, some for-profit entities tend to develop their social side. Currently, there are emerging new models of hybrid organizations that pose a challenge for researchers and managers who need new theoretical frameworks that can explain these models. In any case, it is not possible to provide a universal set of indicators for the measurement of both types of performance due to the observed diversity among the different entities. Therefore, this paper also issues a warning about the use and design of different indicators. In this sense, managers of organizations must design specific indicators that take into account the singularities of the entity. Otherwise, if they follow general indicators, the measurement will be imprecise, and conclusions about the efficiency of the activity will be measured incorrectly.

Finally, this paper has some limitations that should be noted. The aggrupation in different categories of the indicators of economic and social performance is based on previous studies, and it could be different if we analyzed other papers. Moreover, in

some selected studies, we have detected small sample sizes, which could influence the extracted conclusions. This fact and the lack of specific indicators are limitations that future research must address.

Ethical approval:

This article does not contain any studies with human participants or animals performed by any of the authors.

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Table 1. Expected signs related to the moderator variables

Moderator	Measurement criterion	Expected Sign	Main references
Economic	Accounting criteria	+	Preston and O'bannon (1997), Tang et al (2012)
	Market criteria	-	Lu et al (2014)
	Perceptual criteria	+	Santos and Brito (2012), Peloza (2009)
	Size criteria	+	Wu (2006), Bai (2013), Liu et al (2012)
Social	Professional integral audit criteria	+	Miras et al (2014), Rhodes et al (2008)
	Stakeholders criteria	-	Orlitzkyet al (2003)
	Quality criteria	+	Felicio et al (2013), Leipniztz (2014), Bellostas et al (2016)
	Social auditing/indexing criteria	+	Wu and Shen (2013), Mallin et al (2014)
	Regional development criteria	+	Ramayah et al (2011)
	Created social value criteria	+	Rahim et al (2015), Lebovics et al (2015)

Table 2. Metanalysis with sample error correction.

Observed effect	0.188	**Observed standard deviation**	0.289
Size effect	0.199	**Confidence Interval 95%**	0.165-0.232
Total size (N)	1,368,044.000	**Number of correlations (k)**	678.000
Q-Cochram (pvalue)	0.000		

Table 3. Meta-analysis with sample error correction. Economic performance.

	NA	N	Size effect	C's Q (pvalue)	CI 95%	
					L	U
Accounting criteria	62	1,164,019	0.167	0.000	0.147	0.187
Market criteria	24	734,001	0.082	0.000	0.071	0.093
Perceptual criteria	21	567,210	0.129	0.000	0.111	0.146
Size criteria	14	42,321	0.828	0.000	0.687	0.908
Others	6	4,607	-0.054	0.000	-0.202	0.096

Table 4. Metanalysis with sample error correction. Social performance.

	NA	N	Size effect	C's Q (pvalue)	CI 95%	
					L	U
Professional integral audit criteria	36	678,853	0.106	0.000	0.093	0.119
Stakeholders criteria	43	876,824	0.221	0.000	0.163	0.278
Quality criteria	32	627,615	0.146	0.000	0.128	0.163
Social auditing/indexing criteria	16	924,676	0.072	0.000	0.062	0.082
Regional development criteria	6	483,393	0.089	0.000	0.076	0.103
Created social value criteria	9	5,172	0.215	0.000	-0.044	0.447
Other criteria	6	4,873	0.179	0.000	0.043	0.309

Table 5. Meta-regression. REML estimator.

	Economic dimension				Social dimension			
			CI 95%				CI 95%	
	β	pvalue	L	U	β	pvalue	L	U
Intercept	-0.621	0.000	-0.715	-0.527	-0.574	0.000	-0.649	-0.499
Economic dimension								
Accounting criteria	0.035	0.111	-0.008	0.079				
Market criteria	-0.069	0.000	-0.111	-0.027				
Perceptual criteria	0.017	0.450	-0.027	0.060				
Size criteria	0.158	0.000	0.078	0.238				
Others	-0.032	0.610	-0.156	0.092				
Social dimension								
Professional integral audit criteria					-0.116	0.000	-0.148	-0.084
Stakeholders criteria					0.015	0.301	-0.013	0.043
Quality criteria					-0.019	0.199	-0.049	0.010
Social auditing/indexing criteria					-0.274	0.000	-0.305	-0.239
Regional development criteria					0.237	0.000	0.178	0.295
Created social value criteria					-0.042	0.220	-0.109	0.025
Other criteria					-0.073	0.111	-0.164	0.017
Control variables								
Activity	0.274	0.000	0.235	0.313	0.296	0.000	0.269	0.324
Social orientation	0.019	0.331	-0.019	0.058	-0.021	0.219	-0.056	0.013
Technology	0.214	0.000	0.175	0.253	0.239	0.000	0.208	0.271
Cultural context	0.071	0.000	0.037	0.105	0.127	0.000	0.098	0.157
R2		59.80%				80.52%		
pvalue (F test)		0.000				0.000		

Table 6. Meta-regression. Robustness.

	Economic dimension								Social dimension							
	Bootstrapping estimation				Bayesian estimation				Bootstrapping estimation				Bayesian estimation			
			CI 95%				CI 95%				CI 95%				CI 95%	
	β	pvalue	L	U	β	pvalue	L	U	β	pvalue	L	U	β	pvalue	L	U
Intercept	-0.621	0.000	-0.693	-0.545	-0.611	0.000	-0.698	-0.524	-0.574	0.000	-0.668	-0.480	-0.569	0.000	-0.642	-0.497
Economic dimension																
Accounting criteria	0.035	0.051	0.000	0.070	0.031	0.112	-0.008	0.073								
Market criteria	-0.069	0.000	-0.101	-0.036	-0.069	0.000	-0.108	-0.029								
Perceptual criteria	0.017	0.331	-0.010	0.050	0.017	0.398	-0.023	0.058								
Size criteria	0.158	0.000	0.071	0.245	0.162	0.000	0.088	0.236								
Others	-0.032	0.640	-0.167	0.103	-0.034	0.561	-0.147	0.079								
Social dimension																
Professional integral audit criteria									-0.116	0.000	-0.155	-0.076	-0.118	0.000	-0.148	-0.087
Stakeholders criteria									0.015	0.393	-0.019	0.048	0.015	0.274	-0.012	0.042
Quality criteria									-0.019	0.251	-0.053	0.013	-0.021	0.149	-0.049	0.008
Social auditing/indexing criteria									-0.272	0.000	-0.311	-0.234	-0.274	0.000	-0.306	-0.243
Regional development criteria									0.236	0.000	0.169	0.305	0.239	0.000	0.184	0.296
Created social value criteria									-0.042	0.321	-0.125	0.041	-0.045	0.169	-0.109	0.019
Other criteria									-0.070	0.051	-0.141	0.000	-0.076	0.092	-0.164	0.012
Control variables																
Activity	0.274	0.000	0.239	0.309	0.274	0.000	0.237	0.310	0.296	0.000	0.257	0.335	0.298	0.000	0.272	0.324
Social orientation	0.019	0.203	-0.010	0.493	0.021	0.267	-0.016	0.057	-0.021	0.339	-0.065	0.022	-0.022	0.196	-0.055	0.011
Technology	0.214	0.000	0.186	0.241	0.209	0.000	0.173	0.245	0.239	0.000	0.207	0.271	0.237	0.000	0.207	0.266
Cultural context	0.071	0.000	0.044	0.098	0.068	0.000	0.037	0.099	0.127	0.000	0.094	0.160	0.127	0.000	0.099	0.155
R2		59.80%				67.42%				80.52%				82.83%		
pvalue (F test)		0.000				0.000				0.000				0.000		

Appendix. Meta-analysis references

Author(s) (year)	N_i	r	Nr_i	Characteristics of the organizations*	Measurements of social performance	Measurements of economic performance
Kristoffersen, I., Gerrans, P., and Clark-Murphy, M. (2008)	1,398	0.259	24	Service and manufacture industries, low social orientation, high technology, Anglo-saxon environment	Philanthropy, employment, weapons, drugs, human rights, ethnics	ROE, Sharpe ratio, Alfa Jensen, Benchmark, Market beta
Preston, L.E., and O'bannon, D.P. (1997)	6,231	0.419	93	Service, manufacture and raw material industries, low social orientation, high technology, Anglo-saxon environment	Philanthropy, employment, service quality	ROA
Saeidi, S.P., Sofian, S., Saeidi, P., Saeidi, S.P., and Saaeidi, S.A. (2015)	2,460	0.173	12	Service and manufacture industry, low social orientation, high technology, continental environment	Philanthropy, employment, weapons, drugs, human rights, ethnics, service quality	ROA, ROE, Sales margin
Oh, W., and Park, S. (2015)	2,475	0.382	9	Manufacture industry, low social orientation, high technology, continental environment.	Social index (KEJI Index)	ROA, Sales, Capital cost
Škare, M., and Golja, T. (2012)	45	0.164	1	Service, manufacture and raw material industries, low social orientation, high technology, Anglo-saxon environment	Social index (Dow Jones Sustainability World Index)	ROA, ROE
Tang, Z., Hull, C. E., and Rothenberg, S. (2012)	10,400	0.103	8	Service, manufacture and raw material industries, low social orientation, high technology, Anglo-saxon environment	Philanthropy, employment, human rights, service quality, corporate governance, gender	ROA
Barnett, M.L., and Salomon, R.M. (2012)	4,856	0.048	4	Service, manufacture and raw material industries, low social orientation, high technology, Anglo-saxon environment	Philanthropy, employment, human rights, service quality, corporate governance, gender	ROA, Net Profit
Van der Laan, G., Van Ees, H., and Van Witteloostuijn, A. (2008)	12,000	-0.0175	4	Service, manufacture and raw material industries, low social orientation, low technology, Anglo-saxon environment	Philanthropy, employment, human rights, service quality, corporate governance, gender	ROA, ROE, Net Profit
Callan, S.J., and Thomas, J.M. (2009)	7,056	-0.045	16	Service, manufacture and raw material industries, low social orientation, low technology, Anglo-saxon environment	Philanthropy, employment, weapons, drugs, human rights, service quality, corporate governance, gender	ROA, ROE, ROS, Tobin's Q
Inoue, Y., and Lee, S. (2011)	2,936	-0.003	32	Service and manufacture industry, low social orientation, low technology, Anglo-saxon environment	Philanthropy, employment, service quality, gender	ROA, Tobin's Q
García-Castro, R., Ariño, M.A., and Canela, M.A. (2010).	2,632	-0.0578	4	Service, manufacture and raw material industries, low social orientation, low technology, Anglo-saxon environment	Philanthropy, employment, human rights, service quality, corporate governance, gender	ROA, ROE, Book to market, Tobin's Q
Makni, R., Francoeur, C., and Bellavance, F. (2009)	3,222	0.006	18	Service, manufacture and raw material industries, low social orientation, high technology, Anglo-saxon environment	Philanthropy, employment, human rights, service quality, corporate governance, gender	ROA; ROE, Market beta
Lee, D.D., Faff, R. W., and Langfield, K. (2009).	366,858	0.015	72	Service, manufacture and raw material industries, low social orientation, high technology, Anglo-saxon environment	Social Index (Dow Jones Sustainability Indexes)	ROA; ROE, ROS, Sharpe ratio, Jensen's alfa, market beta, book to market, market value, liquidity, absolute return, working capital, treasury
Lioui, A., and Sharma, Z. (2012).	69,032	-0.030	4	Service, manufacture and raw material industries, low social orientation, low technology, Anglo-saxon environment	Philanthropy, weapons, drugs, human rights, service quality	ROA, ROE, Tobin's Q
Soana, M.G. (2011).	432	0.027	27	Service and manufacture industry, low social orientation, low technology, continental environment	Philanthropy, ethnics, employment, service quality, corporate governance, regional development, transparency, social balance, internationalization	ROA, ROE, Cost-benefit relation

Author(s) (year)	N_i	r	Nr_i	Characteristics of the organizations*	Measurements of social performance	Measurements of economic performance
Wang, H., and Choi, J. (2013).	2,365	0.14	1	Service, manufacture and raw material industries, low social orientation, high technology, Anglo-saxon environment	Social Index (KLD data)	Tobin's Q
Yang, F.J., Lin, C.W., and Chang, Y. N. (2010).	900	0.077	6	Service, manufacture and raw material industries, low social orientation, high technology, continental environment	Philanthropy employment, service quality, shareholders/funders	ROA, ROE, ROS
Mallin, C., Farag, H., and Ow-Yong, K. (2014).	180	0.044	2	Service industry, low social orientation, high technology, continental environment	Social Index (AAOIFI)	ROA, ROE
Waddock, S.A., and Graves, S.B. (1997).	2,916	0.123	6	Service, manufacture and raw material industries, low social orientation, high technology, Anglo-saxon environment	Social Index (KLD data)	ROA, ROE, ROS
McWilliams, A., and Siegel, D. (2000).	524	0.356	1	Service, manufacture and raw material industries, low social orientation, high technology, Anglo-saxon environment	Social Index (KLD data)	ROA
Moore, G. (2001).	32	-0.002	4	Service and manufacture industry, medium social orientation, low technology, Anglo-saxon environment	Philanthropy, human rights, employment, service quality, corporate governance, gender	ROA, ROE, Sales
Simpson, W.G., and Kohers, T. (2002).	770	0.358	2	Manufacture industry, low social orientation, high technology, Anglo-saxon environment	Social Index (KEJI Index)	ROA, Working capital
Choi, J.S., Kwak, Y.M., and Choe, C. (2010).	7,332	0.177	6	Service, manufacture and raw material industries, low social orientation, high technology, continental environment	Philanthropy, human rights, employment, service quality, corporate governance, gender, stakeholders	ROA, ROE, Tobin's Q
Wu, M.W., and Shen, C.H. (2013).	1,296	0.165	8	Service and manufacture industries, low social orientation, high technology, continental environment	Social Index (EIRIS data)	ROA; ROE; ROS, Debt
Sahin, K., Basfirinci, C.S., and Ozsalih, A. (2011).	825	-0.009	5	Service, manufacture and raw material industries, low social orientation, low technology, continental environment	Corporate Governance	ROA; ROE; ROS, Tobin's Q, Debt
Boesso, G., Kumar, K., and Michelon, G. (2013).	752	0.330	4	Service, manufacture and raw material industries, low social orientation, high technology, continental enviroment	Social Index (KLD data)	Market value, EBITDA, Intangible assets, financial expenses
Auamnoy, T., and Areepium, N. (2011).	129	0.703	3	Manufacture and raw material industries, low social orientation, high technology, continental environment	Philanthropy, human rights, drugs, service quality	ROA, ROE; ROS
Hamid, K., Akash, R. S.I., Asghar, M., and Ahmad, S. (2011).	332	-0.022	2	Service industry, low social orientation, low technology, continental environment	Philanthropy, human rights, ethnics, service quality, corporate governance, transparency, social balanced, stakeholders	ROA, ROE
Valenzuela, L., Jara, M., and Villegas, F. (2015).	5,814	0.015	18	Service, manufacture and raw material industries, low social orientation, high technology, continental environment	Transparency	ROE, ROS, Book to market
Miras, M.D.M., Carrasco, A., and Escobar, B. (2014).	482,511	0.068	54	Service, manufacture and raw material industries, low social orientation, high technology, continental environment	Philanthropy, human rights, ethnics, weapons, drugs, employment, service quality, social index (DJSI, FTSE4GOOD), corporate governance, gender, regional development, transparency, social balanced, internationalization, shareholder, stakeholder	ROA, ROE, ROS, Jensen's alfa, book to market, market beta, benchmark return, sales, sales margin, market value, capital cost, net profit, Tobin's Q, liquidity, absolute return, working capital, treasury, cost-benefit relation, debt, EBITDA, intangible assets, financial expenses

Author(s) (year)	N_i	r	Nr_i	Characteristics of the organizations*	Measurements of social performance	Measurements of economic performance
Miles, M.P., Verreynne, M.L., and Luke, B. (2014).	85	0.181	1	Service, manufacture and raw material industries, medium social orientation, high technology, Anglo-saxon environment	Philanthropy, human rights, service quality, corporate governance, social balance, shareholder/funder, stakeholder	Benchmark return, assets, financial sostenibility, economic efficiency, economic eficacy
Stevens, R., Moray, N., Bruneel, J., and Clarysse, B. (2014).	148	-0.090	1	Service industry, medium social orientation, low technology, continental environment	Philanthropy, human rights, weapons, drugs, employment, service quality, corporate governance, shareholder/funder, stakeholder	ROA
Liu, G., Eng, T.Y., and Takeda, S. (2013).	2,136	0.535	8	Service, manufacture and raw material industries, medium social orientation, high technology, Anglo-saxon environment	Social aims, created social value	Economic aims, created economic Value
Sanchís, J.R., Campos, V., and Mohedano, A. (2013).	129	-0.145	1	Service industry, medium social orientation, low technology, continental environment	Employment	ROA, ROE
Stevens, R., Moray, N., and Bruneel, J. (2014).	5,346	-0.222	9	Manufacture industry, medium social orientation, low technology, continental environment	Social aim, other values, normative identity	Economic aim, self values, utilitarian identity
Liu, G., Takeda, S., and Ko, W.W. (2012).	534	0.480	2	Service, manufacture and raw material industries, medium social orientation, high technology, Anglo-saxon environment	Service quality, stakeholders	Sales, assets
Siciliano, J.I. (1996).	240	0.157	1	Service industry, high social orientation, high technology, Anglo-saxon environment	Social Index (YMCA)	Economic efficiency
Coombes, S.M., Morris, M.H., Allen, J.A., and Webb, J.W. (2011).	420	-0.107	3	Service industry, high social orientation, low technology, Anglo-saxon environment	Social Index (IRS)	Sales, assets, financial expenses
Bai, G. (2013).	1,939	0.200	1	Service industry, medium social orientation, high technology, Anglo-saxon environment	Philanthropy	Sales
Rhodes, J., Lok, P., Yu-Yuan Hung, R., and Fang, S.C. (2008).	555	0.186	5	Service and manufacture industries, medium social orientation, high technology, continental environment	Service quality, normative identity, knowledge, network, shared value	ROA
Felício, J.A., Gonçalves, H.M., and da Conceição, V. (2013).	119	0.540	1	Manufacture industry, medium social orientation, high technology, continental environment	Philanthropy, human rights, employment, service quality, corporate governance, social balance, stakeholders	Service quality, satisfaction, success
Matei, L., and Matei, A. (2012).	8512	0.997	4	Raw material industry, medium social orientation, high technology, continental environment	Employment	Number of social enterprises depend on a mother entity
Mendoza, K.I., Anokhin, S., and Zamudio, C. (2015).	88	-0.180	1	Service industry, medium social orientation, low technology, Anglo-saxon environment	Social aim	Economic aim
Jung, K., Jang, H.S., and Seo, I. (2016).	166	-0.100	1	Service industry, medium social orientation, low technology, continental environment.	Social aim	Economic aim
Rahim, H. L., Mohtar, S., and Ramli, A. (2015).	384	0.544	1	Manufacture industry, medium social orientation, high technology, continental environment	Created social value	ROA, ROE, ROS, sales, net profit
Bellostas, A.J., López-Arceiz, F.J., and Mateos, L. (2016).	354	0.325	3	Manufacture industry, medium social orientation, high technology, continental environment	Service quality	Sales, net profit, sales cost
Mano, R (2015).	1,344	0.078	12	Service and manufacture industries, high social orientation, low technology, continental environment	Employment, users, volunteers	Sales, sales cost

Author(s) (year)	N_i	r	Nr_i	Characteristics of the organizations*	Measurements of social performance	Measurements of economic performance
Shiva, M.M., and Suar, D. (2012).	1,248	0.198	4	Service and manufacture industries, medium social orientation, high technology, Anglo-saxon environment	Employment	Sales
Leipnitz, S. (2014).	2,599	0.810	1	Raw material industry, high social orientation, high technology, continental environment	Service quality	Equity
Mano, R.S. (2014).	255	-0.140	1	Service industry, high social orientation, low technology, continental environment	Volunteers	Sales, equity, Number of social enterprises depend on a mother entity, sale cost, volunteer-workers relationship
Lebovics, M., Hermes, N., and Hudon, M. (2015).	28	0.384	1	Manufacture industry, medium social orientation, , high technology, continental environment	Created social value	Created economic value
Mickiewicz, T., Sauka, A., and Stephan, U. (2014).	270	0.300	1	Manufacture industry, medium social orientation, high technology, continental environment	Philanthropy	Sales
McKay, S., Moro, D., Teasdale, S., and Clifford, D. (2011).	232,872	0.416	3	Service and manufacture industry, high social orientation, high technology, Anglo-saxon environment	Funds	Sales
Suárez, D.F., and Hwang, H. (2013).	2,400	0.124	12	Service, manufacture and raw material industries, high social orientation, high technology, Anglo-saxon environment	Funds, networks	Sales, equity
Guo, C., and Brown, W. A. (2006).	234	0.020	2	Service industry, high social orientation, low technology, Anglo-saxon environment	Corporate governance	Net profit, equity
Costa, E., Andreaus, M., Carini, C., and Carpita, M. (2012).	27,876	0.969	2	Raw material industry, medium social orientation, high technology, continental environment	Employment	Total income, assets
Ramayah, T., Lee, J.W.C., and In, J.B.C. (2011).	360	0.115	4	Service and manufacture industries, medium social orientation, high technology, continental environment	Network, community service, trust, commitment	ROA
Tan, W.L., and Yoo, S.J. (2015).	184	0.108	2	Service and manufacture industries, high social orientation, low technology, continental environment	Social aim, created social value	ROA
Di Zhang, D., and Swanson, L.A. (2013).	606	0.075	3	Service, manufacture and raw material industries, high social orientation, low technology, Anglo-saxon environment	Social balance, social aim, created social value	Sales
Ortlitzky, Schmidt and Rynes (2003)	33,878	0.184	388	Different industries, medium social orientation, different technologies, Anglo-saxon environment	Disclosure, reputation indexes, social auditing, CSR values and attitudes	Market-based, accounting-based and perceptual measures
Margolis, Elfenbein and Walsh (2007)	27,848	0.132	192	Different industries, medium social orientation, different technologies, Anglo-saxon environment	Environmental performance, revealed misdeeds, transparency, perceptual measures, charitable contributions, corporate policies	Market-based, accounting-based and perceptual measures
Esteban-Sanchez, de la Cuesta-Gonzalez and Paredes-Gazquez (2017)	154	0.061	8	Service, medium social orientation, low technology, continental environment	Corporate governance, employment, community service, service quality	ROA, ROE
Fatemi, Glaumb and Kaiser (2017)	550	0.168	3	Manufacture industries, medium social orientation, low technology, continental environment	Social Index (KLD data)	ROA, sales, Tobin's Q
López-Arceiz, Bellostas, Moneva and Rivera (2017)	174	0.086	2	Service and manufacture industries, medium social orientation, low technology, Anglo-saxon environment	Corporate governance, transparency	ROE, Tobin's Q

Author(s) (year)	N_i	r	Nr_i	Characteristics of the organizations*	Measurements of social performance	Measurements of economic performance
Maletic, Maletic, Dahlgaard, Dahlgaard-Park and Gomiscek (2017)	266	0.355	1	Raw material industries, medium social orientation, low technology, continental environment	Perceptual measures	Perceptual measures
Dell'Atti, Trotta, Iannuzzi and Demaria (2017)	75	0.157	3	Service, medium social orientation, low technology, Anglo-saxon environment	Corporate governance, employment, environment	Market beta
Hong, Zhang and Ding (2017)	209	0.682	1	Manufacture industries, low social orientation, low technology, continental environment	Perceptual measures	Perceptual measures
Dobre, Stanila and Brad (2015)	64	0.061	21	Manufacture industries, low social orientation, low technology, continental environment	Environment protection	ROA, ROE, market value
Yang, Sun, Zhang and Wang (2016)	311	0.690	1	Manufacture industries and services, medium social orientation, high technology, continental environment	Perceptual measures	Perceptual measures
Augustine, Wheat, Jones, Baraldi and Malgwi (2016)	172	0.005	2	Services, high social orientation, low technology, continental environment	Gender	ROA, sale costs
Lisi (2016)	97	0.247	1	Manufacture industries, low social orientation, low technology, continental environment	Perceptual measures	Perceptual measures
Scarlata, Zacharakis and Walske (2016)	43	0.228	1	Services, medium social orientation, low technology, continental environment	Perceptual measures	Perceptual measures
Singh, Sethuraman and Lam (2017)	42	0.227	15	Service, manufacture and raw material industries, medium social orientation, low technology, continental environment	Stakeholder integration	Tobin's Q
Ferrero-Ferrero, Fernández-Izquierdo and Muñoz-Torres (2016)	373	0.460	1	Service, manufacture and raw material industries, medium social orientation, low technology, continental environment	Social index (Thomson Routers Asset4)	Growth assets, growth sales
Xiong, Lu, Skitmore, Chau and Ye (2016)	125	0.190	16	Manufacture industries, medium social orientation, low technology, continental environment	Stakeholder integration	Profitability, solvency, stock return
Li, Puumalainen and Toppinan (2014)	60	0.349	6	Raw material industries, medium social orientation, low technology, continental environment	Perceptual measures	ROA
Ntim (2016)	500	0.235	1	Manufacture industries, medium social orientation, high technology, continental environment	Corporate governance	Tobin's Q
Garcia-Sanchez, Cuadrado-Ballesteros and Frias-Aceituno (2016)	1,598	0.004	1	Manufacture industries, medium social orientation, high technology, Anglo-saxon environment	Social auditing	ROA
Alsaid (2016)	327	0.232	1	Service and manufacture industries, medium social orientation, high technology, continental environment	Social index (EEJI score)	Sales margin

* Order: Main activity, social orientation, level of technology and cultural context.