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Corporate social responsibility and performance: Evidence from the water industry

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Abstract

The aim of this research is assessment of the relationship between the adoption of social responsibility practices and the performance of the water sector companies. The complexity of challenges in the water sector means that innovative solutions are required, in the manner businesses are conducted and operated. In order to integrate sustainability into business companies, this investigation identifies performance indicators that recognise the main difficulties facing the water industry and contributes to define strategies sustainability for these companies, since the water market and the inherent value of water as a public good embrace all stakeholders. On the other hand, the financial crisis introduces in society, in general, the demand for greater interest on practices of Corporate Social Responsibility (CSR); for this reason, the authors defend the implementation of CSR strategies to get sustainable success in the water sector.

Keywords: Corporate social responsibility, financial performance, water sector, Portugal.

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1. Introduction

Social responsibility arises as a strategic response of a company that faces the current world challenges as new demands to profitable economic growth (Aras & Crowther, 2010) and at the same the demands for more social equity, respect for the environment, diminished climate changes and limited natural resources (Crowther & Rayman-Bacchus, 2004). Water companies are currently facing challenges, because social responsibility must be a constant concern in the development of their economic activity, increasing business competitiveness and achieving the collective well-being, while on the other hand, face severe constraints of water as resource, which is scarce for endless needs. This justifies the knowledge of the reality of the bottled water sector companies, which depends on water as a natural resource (Amores, Meneses, Pasqualino, Anton & Anton, 2013). It is essential that companies respond to these challenges in an innovative way, allowing the efficiency and effectiveness of their business activities, and help to maintain and improve natural, social and financial resources (Lozano, 2011; Rifkin, 2014; Srivastava & Statler, 2012).

In response to the global challenges, this paper explores the relationship between corporate social responsibility (CSR) and performance in the water sector. Methodologically, this research focuses, on the one hand, in the literature review to contextualise the water sector, in particular, and the CSR, in general, based on the international standards as well as the corporate's financial performance. On the other hand, it promotes an empirical analysis to investigate the water sector, using different qualitative and quantitative methods.

The structure of this paper is organised as follows. Section 2 details the literature review from CSR to the performance context. Section 3 presents the methodology, including an overview of the water sector and Section 4 discusses the results. Finally, Section 5 presents the conclusions and future research.

2. Literature review

CSR: In today's global competitive environment, CSR is seen as a modern developmental tool projected not only to address social and environmental issues, but also to maximise a company's potential, by providing different options to capture market opportunities. In this context, CSR is playing an increasingly significant role in business activities economic. Political and social factors are influencing CSR activities all around the world (Baughn, Bodie & McIntosh, 2007) and have become important influences for all companies that want to preserve the attention of the general public (customers, community, business partners, local authorities, etc.). Indeed, one of the main results of the incorporation of CSR in business activities is to increase differentiation from the competition (Gupta, Czinkota & Melewar, 2013; Marin, Rubio & Ruiz de Maya, 2012; Torugsa, O'Donohue & Hecker, 2013).

CSR studies have employed a variety of theories and methodologies to study the possible relationship among CSR actions and other traditional measures of a firm's success (Mahoney & Roberts, 2007). The influence of CSR on economic performance has received significant attention in the literature over the past three decades (Waddock & Graves, 1997; Griffin & Mahon, 1997; McGuire, Sundgren & Schneeweis, 1988; McWilliams & Siegel, 2000; 2001; Hillman & Keim, 2001; Simpson & Kohers, 2002; Orlitzky, Schmidt & Rynes, 2003; Coombs & Gilley, 2005; Brine, Brown & Hackett, 2006; Margolis, Elfenbein & Walsh, 2009; Aras, Aybars & Kutlu, 2010). The instrumental stakeholder theory (Donaldson, 1999; Donaldson & Preston, 1995; Jones & Wicks, 1999) defends that good management indicates positive relations with key stakeholders, which in turn, expands financial performance (Freeman, 1984; Waddock & Graves, 1997).

According to the authors Gelb & Strawser (2001), Chih, Shen & Kang, (2008), Choi & Pae (2001) socially responsible firms are attentive not only to increasing the existing profits, but also to development of future relationships with stakeholders (the long-term perspective hypothesis). From

this point of view, socially responsible firms are inclined to foster long-term relationships with stakeholders rather than maximise their short-term profit (Choi, Lee & Park, 2013).

Internationally, there are several guidelines that guide companies towards responsible practices and accomplish high social performance like the Global Reporting Initiative (GRI) and the United National Global Compact. GRI affords guidelines to support companies that require divulgation of their CSR activities and sustainability measures (Waworuntu, Wantah & Rusmanto, 2014). However, there are no 'fixed' formulae in defining CSR activities (Corporate Watch Report, 2006), so it is prudent for companies to guarantee that they are able to meet as many indicators as possible according to the GRI framework. Even if the index may not capture the real or 'realised' CSR practices of the company, it measures what the management would like their stakeholders to be familiar with (Yang & Yaacob, 2012).

In this context, the United States Agency for International Development proposed a tool to measure the social performance of organisations, which comprises three components managed in distinct stages: 'social performance score determination, social audit and obtaining a standardised social rating' (Woller, 2006). Measuring corporate social performance is a complex mission, with additional investigations using reputation indexes and databases such as The Kinder, Lydenberg and Domini Database, the Fortune Index Database and the Canadian Social Investment Database (Turker, 2009). Corporate social performance is evaluated using five different methods: content analysis, questionnaire based surveys, reputation measurement, one-dimensional indicators and evaluation of ethics based on multidimensional indexes (Soana, 2011). The purpose of some of these studies was to even measure social performance in organisations belonging to diverse industries, both manufacturing and services (Mahon & Wartick, 2012).

3. Methodology

The objective of this theoretical-empirical research is to investigate the bidirectional relationship between CSR and corporate financial performance (CFP) in bottled water companies. It is fundamental to the bottled water sector to combine a competitive economic activity with sustainability and responsibility towards future generations, defending and preserving water as an irreplaceable natural resource and grounding an important industry for the country and its consumers (APIAM, 2016). The sustainable development of companies implies taking initiatives that will lead to improvement/control of environmental performance, so that the maintainable development of these organisations depends on proper management of the aquifer; rational management of water consumption; management of packaging and packaging waste; management of waste and controlled management of energy resources. For this reason, the adoption of reduced energy and water consumption policies are also crucial, many of the production plants already rely on natural gas as a primary energy source, and are also committed to reducing the weight of packaging. Over the years, significant reduction in the weight of packaging has occurred, which results in significant environment advantages, in particular in terms of its production and transportation. The water industry takes full responsibility for the disposal of waste packaging that sells and manages a system of collection and recycling of packaging waste (APIAM, 2016).

Consequently, the authors state that the application of management practices of CSR in water industry companies implies the adoption of policies focused on meeting the expectations of all stakeholders, as well as creating new competitive factors and the revitalisation of the actual social model. There are many ways to measure CFP. However, this research will focus on testing statistically the relationship between CSR and CFP disclosure.

For these reasons, the research of water sector companies is important, but is rarely investigated, because the beverage sector is an important sector of the Portuguese economy. It makes sense to explore recent developments in this market, which are in the final perseverance, reflecting the changes in society. It is clear that companies that exploit natural resources, like the water sector, are

in turn affected by an external environment increasingly more complex and changeable, depending on political, social, economic and environmental factors that influence their progress, making it relevant to include corporate governance principles in their business activities.

The sample used for this research is composed of 26 active companies in the water sector, with an annual report over a period of 10 years (2003–2013). Information on the financial reports was collected from the base SABI (i.e., Balance Sheet Analysis System Iberians) or in the site of the companies. The Statistical Package for Social Sciences (SPSS: version 23) was used to analyse the collected data and to examine the variables. In this research the correlation analysis was used. Therefore, the authors propose the following hypotheses:

H0: CSR disclosure are not relevant to the financial performance of a company.

H1: CSR disclosure are relevant to the financial performance of a company.

This research will measure the financial performance of companies by looking at the return on asset (ROA), return on equity (ROE), earnings before interest and taxes (EBIT), earnings before interest, taxes, depreciation and amortisation (EBTDA) and indebtedness (IND).

The research will explore the type and the extent of CSR and CFP disclosure on the annual reports and websites of the entire bottled water sector in Portugal. According to Wilmshurst and Frost (2000), Milne and Adler (1999), Burritt and Welch (1997), the analysis of annual reports of companies continues to be the best source to use in this type of empirical studies, considering the ease of access since it is required by the law, and the fact that companies include in their reports voluntary information, as CSR information and is the most used method to investigate the social and environmental reports of economic entities. The variables used to explore the type and the extent of CSR disclosures are Environmental Report, Social Report and Sustainable Report.

4. Results

The matrix of correlation coefficients allows evaluating the degree of association between variables and is a common feature of most multivariate techniques. According to Andrade (2004), a correlation equal to 0.00 means that there is no association between the variables, so the closer is the value of the extreme values (-1 to $+1$) the greater the association. In this respect, the correlation coefficients take on values between -1 and $+1$, indicating the maximum level of negative and positive association, respectively (Hair, Babin, Money & Samouel, 2005a; Hair, Anderson, Tatham & Black, 2005b) and allows the ranking of the results. Table 1 shows the result of Spearman's correlation test.

Table 1. Spearman Rho's correlation test

Variable		Env. report	Social report	Sust report	ROE	ROA	EBIT	EBITDA	IND
Env. report	Coefficient of correlation	1,000	1,000**	1,000**	−121	219	405**	614**	208
	sig. (bilateral)				453	169	009	000	192
	N	41	41	41	41	41	41	41	41
Social report	Coefficient of correlation	1,000**	1,000	1,000**	−121	219	405**	614**	208
	sig. (bilateral)				453	169	009	000	192
	N	41	41	41	41	41	41	41	41
Sust. report	Coefficient of correlation	1,000**	1,000**	1,000	−121	219	405**	614**	208
	sig. (bilateral)				453	169	009	000	192
	N	41	41	41	41	41	41	41	41
ROE	Coefficient of correlation	−121	−121	−121	1,000	211	143	−015	022

	sig. (bilateral)	453	453	453		185	372	925	892
	N	41	41	41	41	41	41	41	41
ROA	Coefficient of correlation	219	219	219	211	1,000	744**	646**	−358*
	sig. (bilateral)	169	169	169	185		000	000	022
	N	41	41	41	41	41	41	41	41
EBIT	Coefficient of correlation	405**	405**	405**	143	744**	1,000	806**	−127
	sig. (bilateral)	009	009	009	372	000	.	000	429
	N	41	41	41	41	41	41	41	41
EBITDA	Coefficient of correlation	614**	614**	614**	−015	646**	806**	1,000	073
	sig. (bilateral)	000	000	000	925	000	000		649
	N	41	41	41	41	41	41	41	41
IND	Coefficient of correlation	208	208	208	022	−358*	−127	073	1,000
	sig. (bilateral)	192	192	192	892	022	429	649	
	N	41	41	41	41	41	41	41	41

According to the results presented in Table 1, from the financial performance, the significant correlations are as follows:

- Variable EBIT has a positive correlation with the variables Environmental report (0.405), Social report (0.405) and Sustainable report (0.405). This means that the variables Environmental, Social and Sustainable Reports were directly proportional to companies' EBIT. The companies that disclosure their CSR information have a higher EBIT. The significance value of $p = 0.009$ was less than 0.05, this means that the value was significant, thus H1 is accepted.
- Variable EBITDA has a positive correlation with the variables Environmental, Social and Sustainable Report (0.614). This means that the variables Environmental, Social and Sustainable Report were directly proportional to firms' EBITDA. The companies that disclosure their CSR information have a higher EBITDA. The significance value of $p = 0.000$ was less than 0.05, this means that the value was significant, thus H1 is accepted.
- Variable ROA has a positive correlation with the variables EBIT (0.744) and EBITDA (0.646). This means that the variables EBIT and EBITDA were directly proportional to firms' ROA. The companies with higher EBIT and EBITDA have a higher ROA. The significance value of $p = 0.000$ was less than 0.05; this means that the value was significant.
- Variable ROA has a negative correlation with the variable IND (−0.358). This means that the variable ROA was inversely proportional to firms' IND. The companies with higher ROA have a lower IND. The significance value of $p = 0.022$ was less than 0.05; this means that the value was significant.

5. Conclusion and future research

This research contributes to the literature concerning how formal and informal factors promote a higher CSR compliance in the bottled water sector. The implementation of good CSR practices increases transparency of firm's operations, ensures accountability and improves profitability. It also helps to defend the attention of shareholders by supporting their interest with the managers. This research is relevant, because it deals with the way companies are managed and controls accountability, so efficient CSR practices in bottle water companies support the business to scope its goals, as well as its financial performance. The CSR framework is crucial to increasing the efficiency in company monitoring. The findings show that the beverage industry firms that disclosure their CSR information have a higher EBIT and EBITDA and obtain better financial results through their operational activities. The results of correlation analysis also show that there is a positive relationship

between the ROA and the EBIT and EBITDA, but negative IND, which indicates that firms that have a higher ROA have an efficient management by using its assets to generate earnings and generate a better financial result with inferior levels of IND. This research has one limitation, that is, the sample of the 26 Portuguese beverage sector companies from 2003 to 2013, but it represents almost 90% of the water market. In the next research, the authors will use companies from another sector to compare the results and, also, from another country. The water sector is essential to life so the importance of the research is fundamental to the future.

Acknowledgements

References

Amores, M., Meneses, M., Pasqualino, J., Anton, A. & Castells. F. (2013). Environmental assessment of urban water cycle on Mediterranean conditions by LCA approach. *Journal Clean Production, 43*, 84–92.

Andrade, J. S. (2004). *Apontamentos de Econometria Aplicada*. Coimbra, Portugal: Autor.

Aras, G., Aybars, A. & Kutlu, O. (2010). Managing corporate performance. investigating the relationship between corporate social responsibility and financial performance in emerging markets. *International Journal Production Performance Management, 59*, 229–254.

Aras, G. & Crowther, D. (2008). The durable corporation: strategies for sustainable development. Surrey, UK: Gower.

Baughn, C. C., Bodie, N. L. & McIntosh, J. C. (2007). Corporate social and environmental responsibility in Asian countries and other geographical regions. *Corporate Social Responsibility and Environmental Management, 14*, 189–205.

Brine, M., Brown, R. & Hackett, G. (2006). *Corporate social responsibility and financial performance in the Australian context*. Australian Treasury.

Burritt, R. (2002). Environmental reporting in Australia: current practices and issues for the future. *Business Strategy and the Environment, 11*, 391–406.

Chih, H. L., Shen, C. H. & Kang, F. C. (2008). Corporate social responsibility, investor protection, and earnings management: some international evidence. *Journal of Business Ethics, 79*, 179–198.

Choi, B. B., Lee, D. & Park, Y. (2013). Corporate social responsibility, corporate governance and earnings quality: evidence from Korea. *Corporate Governance: International Review, 21*(5), 447–467.

Choi, T. H. & Pae, J. (2001). Business ethics and financial reporting quality: evidence from Korea. *Journal of Business Ethics, 103*, 403–427.

Coombs, J. E. & Gilley, K. M. (2005). Stakeholder management as a predictor of CEO compensation: main effects and interactions with financial performance. *Strategic Management Journal, 26*(9), 827–841.

Corporate Watch Report. (2006). *What's wrong with Corporate social responsibility?* London, UK: Corporate Watch.

Crowther, D. & Rayman-Bacchus, L. (2004). *Introduction: perspectives on corporate social responsibility*. In D. Crowther & L. Rayman-Bacchus (Eds.), *Perspectives on corporate social responsibility*. Aldershot, UK: Ashgate.

Donaldson, L. (1999). Making stakeholder theory whole. *Academy Management Review, 24*, 237–241.

Donaldson, T. & Preston, L. E. (1995). The stakeholder theory of the corporation: concepts, evidence, and implications. *Academy Management Review, 20*, 701–711.

Freeman, E. (1984). *Strategic management: a stakeholder approach*. Boston, MA: Pitman

Gelb, D. S. & Strawser, J. A. (2001). Corporate social responsibility and financial disclosure: an alternative explanation for increased disclosure. *Journal of Business Ethics, 33*, 1–13.

Griffin, J. J. & Mahon, J. F. (1997). The corporate social performance and corporate financial performance debate: twenty-five years of incomparable research. *Business Society, 36*, 5–31.

Gupta, S., Czinkota, M. & Melewar, T. C. (2013). Embedding knowledge and value of a brand into sustainability for differentiation. *Journal of World Business, 48*, 287–296.

Hair, J., Jr, Babin, B., Money, A. H. & Samouel, P. (2005a). *Fundamentos de Metodos de Pesquisa em Administracao*. Porto Alegre, Brazil: Bookmann.

Hair, J. F., Anderson, R. E., Tatham, R. L. & Black, W. C. (2005b). *Analisis Multivariante*. Madrid, Spain: Prentice Hall.

Hillman, A. J. & Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: what's the bottom line? *Strategic Management Journal, 22*(2), 125–139.

Jones, T. M. & Wicks, A. C. (1999). Convergent stakeholder theory. *Academy Management Review, 24*, 206–221.

Kim, Y. (2005). Board characteristics and firm performance in Korea. *Corporate Governance 13*(6), 800–808.

Lozano, R. (2011). Creativity and organizational learning as means to foster sustainability. *Sustainable Development, 22*(3), 205–221.

Mahon, J. & Wartick, S. L. (2012). Corporate social performance profiling: using multiple stakeholder perceptions to assess a corporate reputation, *Journal of Public Affairs, 12*(1), 12–28.

Margolis, J. D., Elfenbein, H. A. & Walsh, J. P. (2009). *Does it pay to be good and does it matter? a meta-analysis of the relationship between corporate social and financial performance*. Cambridge, MA: Harvard University. Retrieved from http://dx.doi.org/10.2139/ssrn.1866371andhttp://ssrn.com/abstract=1866371

Marin, L., Rubio, A. & Ruiz de Maya, S. (2012). Competitiveness as a strategic outcome of corporate social responsibility. *Corporate Social Responsibility and Environmental Management, 19*, 364–376.

McGuire, J., Sundgren, A. & Schneeweis, T. (1988). Corporate social responsibility and firm financial performance. *Academy Management Journal, 31*(4), 854–872.

McWilliams, A. & Siegel, D. (2000). Corporate social responsibility and financial performance: correlation or misspecification? *Strategic Management Journal, 21*, 603–609.

McWilliams, A. & Siegel, D. (2001). Corporate social responsibility: a theory of the firm perspective. *Academy Management Review, 26*(1), 117–127.

Milne, M. J. & Adler, R. W. (1999). Exploring the reliability of social and environmental disclosure content analysis. *Accounting, Auditing and Accountability Journal, 12*, 2.

Orlitzky, M. & Benjamin, J. D. (2001). Corporate social performance and firm risk: a meta-analysis review. *Business Society, 40*(4), 369–387.

Orlitzky, M., Schmidt, F. L. & Rynes, S. L. (2003). Corporate social and financial performance: a meta-analysis. *Organization Studies, 24*, 403–441.

Ponnu, C. H. (2008). Corporate governance structures and the performance of Malaysian public listed companies. *International Review of Business Research Papers, 4*(2), 217–230.

Rifkin, J. (2014). *The zero marginal cost society: the internet of things, the collaborative commons, and the eclipse of capitalism*. New York, NY: Palgrave Macmillan.

Abreu, R., Almeida, R. & Lopez, J. A. P. (2017). Corporate social responsibility and performance: Evidence from the water industry. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. *4*(10), 265–272. Available from: www.prosoc.eu

Shrivastava, P., Ivanaj, V. & Ivanaj, S. (2012). Sustainable development and the arts. *International Journal Technology Management, 60*, 23–43.

Simpson, W. & Kohers, T. (2002). The link between social and financial performance: evidence from the banking industry. *Journal of Business Ethics, 35*, 97–109.

Soana, M. G. (2011). The relationship between corporate social performance and corporate financial performance in the banking sector. *Journal of Business Ethics, 104*, 133–148.

Torugsa, N. A., O'Donohue, W. & Hecker, R. (2012). Capabilities, proactive CSR and financial performance in SMEs: empirical evidence from an Australian manufacturing industry sector. *Journal of Business Ethics, 109*, 483–500.

Turker, D. (2009). Measuring corporate social responsibility: a scale development study. *Journal of Business Ethics, 85*, 411–427.

Waddock, S. A. & Graves, S. B. (1997). The corporate social performance-financial performance link. *Strategic Management Journal, 18,*303–319.

Waworuntu, S. R., Wantah, M. D. & Rusmanto, T. (2014). CSR and financial performance analysis: evidence from top ASEAN listed companies. *Procedia - Social and Behavioral Sciences, 164*, 493–500.

Wilmshurst, T. & Frost, G. (2000). Corporate environmental reporting. a test of legitimacy theory. *Accounting, Auditing & Accountability Journal, 13*(1), 10–26.

Woller, G. (2006). *Evaluating MFI's social performance: a measurement tool*. Washington, US: US Agency for International Development.

Yang, L. & Yaacob, Z. B. (2012). A comparative analysis of corporate social disclosure of top listed companies in China and Malaysia. *World Review of Business Research*, 45–61.