

Environmental Management Reputation Effect on Financial Performance of Nigerian Companies

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Abstract

The paper examined the effect of environmental management reputation on financial performance of the Nigerian companies. This was informed by the need to explore the strategic importance of the EMS_ISO certification and clear the doubt about its contribution to the Nigerian companies' profitability. It was posit that environmental reputation brings about brand loyalty and incentives. This ultimately increases profitability and subsequently the financial performance of the companies. Data was collected from 11 Nigerian companies operation in environment sensitive industries for a period of 5 years. The regression analysis shows the reputation has a significant positive effect on the companies' financial performance. That is achievement of environmental reputation through certification contributes to profitability. This finding contributes to the Natural Resource Based theory by supporting the strategic use of environmental reputation to achieve financial performance. Though, caution should be exercised in the use of this finding. This is because of the companies' characteristics and contextual issues related to level of economic development of Nigeria. It is recommended for further study that to investigate other forms of performance such as operational and social performance. Also improvement in the method can be made with the use of path analysis (SEM) instead of only robust regression.

Keywords: Environmental management reputation; EMS_ISO; Financial performance; Nigerian companies.

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Introduction

Environmental management is becoming an emerging strategic issue where companies' environmental activities are being considered in business decisions (Albertini, 2013). The companies are expected to show some level of commitment toward sustainability in the use of environmental resources. Also, there is a need for the adoption of environmental management system (EMS) that guide, control and regulate environmental activities of the companies (Baumgartner & Rauter, 2017). It is a proactive approach to the reduction of negative environmental impact arises from operations. With the deployment of the system a company achieve considerable environmental performance and build reputation for itself.

International Standard Organisation (ISO) issues guidelines in form of EMS-ISO standards of environmental management and certify companies that adopt the system to a considerable level. This certification signals a company environmental performance and reputation as a sustainable entity.

In contrast with resource depletion view of Friedman (2007), Baumgartner and Rauter (2017); Hart and Dowell (2011) argued environmental activities are strategic resources that can be used to business advantage. Connors and Gao (2010) show investors, in particular green and ethical groups, are more willing to invest in a company that demonstrate sufficient effort towards environmental protection and sustainability. Similarly, the public and regulatory agencies tend to rewards environment friendly companies with incentives in form of waivers and increased products demand (Baumgartner & Rauter, 2017; Reyes-Rodríguez, Ulhøi, & Madsen, 2016; Schaltegger & Synnestvedt, 2002). Whereas, non-performing companies suffer reputation threat, sanctions, fines and product boycott to express dissatisfaction about the poor attitude (Baumgartner & Rauter, 2017; Cheng, Lin, & Wong, 2016). This results in decreased sales income and drain the limited finances of the companies, ultimately affects profitability and financial performance.

To avoid this spiteful situation that destroy the companies' reputation, managers adopt environmental performance measures. The measures as suggested by EMS-ISO (2004) demand for efficient environmental resource utilisation, materials recycling and waste management in the companies' operations. Similarly, Rebelo, Santos, and Silva (2016) provide for the implementation of occupational health and safety measures to improve employees' satisfaction. This improvement in the operational efficiency helps achieve environmental management system (EMS) certification with its strategic importance in reputation management. McWilliams and Siegel (2010) argue EMS-ISO practices reduce lead time, improve quality, reduce operational costs, and enhance efficiency and impact on financial performance.

The standards help companies integrate environmental considerations into corporate decision-making in a more organized and systematic fashion (Henri & Journeault, 2010). While the ISO standards deals with various matters concerning the environment, it primarily focuses more on environmental management systems (EMS) and ISO 14001. The ISO 14001 is designed to lead environmental improvement into every aspect of a

company's operations, and offers an organized approach to manage environmental issues. The focus of the standard is to the entire organizational structure of the business. Thus bringing environmental issues into the mainstream of the corporate decision-making process.

The standards are designed in such a way that they can be applied to organizations irrespective of size, circumstances and financing among others. The businesses are assessed by the ISO to ascertain the extent of the implementation of the standards, and certificates are issued to companies that achieved satisfactory level of environmental management practice. The certificate is a symbol used by the businesses to sell themselves to their supplies, customers, rivals and the regulatory bodies, that they are environmentally responsible (Murray, 1999). These enunciated the relevance of the certification in today's businesses. This is because companies are increasingly asserting their role as responsible social entity. They regard environmental concern as an integral part of their daily operations. Castro, Amores-Salvadó, and Navas-López (2016) opine that EMS-ISO 14001 standards certification can be an indicator of a company's environmental reputation.

Problem Statement

EMS-ISO 14001 standard was introduced with the aim to encourage environmental sustainability of businesses through a systematic environmental management practice. However, the practice focuses more on processes rather than specific outcomes that signal environmental sustainability. This arose concern about the relevance of the EMS-ISO to financial performance of companies (Reyes-Rodríguez et al., 2016; Teles, Ribeiro, Tinoco, & ten Caten, 2015). For example, Martín-de Castro, Amores-Salvadó, and Navas-López José (2015) observed a slit in the EMS certification to achieve economic benefit. This is because of ambiguity observed in the EMS certification. For example, Melnyk, Sroufe, and Calantone (2003) alleged a vague relationship between companies' pollution control efforts and profitability. Lucas and Noordewier (2016) pointed that the implementation of the practice by many companies is at preliminary level. They attributed this to the doubt companies have about its contribution to financial performance.

However, it was argued that investors (in particular green and ethical group) are more willing to invest in a company that demonstrate sufficient effort towards environmental protection and sustainability (Connors & Gao, 2010). Similarly, the public and regulatory agencies tend to reward environment friendly companies with incentives in form of waivers and increased products demand (Baumgartner & Rauter, 2017). Whereas, non-performing companies suffer reputation threat, sanctions, fines and product boycott to express dissatisfaction about the poor attitude (Baumgartner & Rauter, 2017; Cheng et al., 2016). This results in decreased sales income and drain the limited finances of the companies, ultimately affects profitability and financial performance.

Though, the adoption of the standards to be environment reputable entity by the companies in Nigeria poses a problem (Omofonmwan & Osa-Edoh, 2008). This is particularly to companies operating in environment sensitive industry due to their non-proactive attitude in the management of environmental activities. Therefore, they tend to

subject themselves to public scrutiny and regulatory sanctions that negatively impacts on their performance (Ayoola, 2011; Sambasivan, Bah, & Jo-Ann, 2013). One reason for the non-proactive effort is attributed to the doubt in the third party certification of environmental activities, and the expected financial benefits (Amaeshi & Amao, 2009; Stanny, 2013).

Therefore, the objective this study is to examine the effect of the environmental reputation (EMS-ISO certification) on financial performance of the Nigerian listed companies.

Literature Review and Hypothesis

For the past several decades, when public awareness was drawn to companies environmental activities. Intense pressure is constantly being made on the companies to adopt environmental management practice that limit negative effect on the environment (Blanco, Rey-Maqueira, & Lozano, 2009). Otherwise, the companies suffer reputation issue that negatively affect product's demand, regulatory sanctions and cash flows (Castro et al., 2016). Ultimately, these impact on financial performance of the companies.

With the importance of the environmental management practice in building reputation, empirical literature stripes to support its positive effect on financial performance (Dixon-Fowler, Slater, Johnson, Ellstrand, & Romi, 2013). Though, no famed conclusion is reached due to contextual issues, subjective measurement and array of theoretical bases used in the previous studies.

Lucas and Noordewier (2016) work on the interaction of industrial context on the relationship between EMS and financial performance. The study found a significant positive effect of the EMS on the financial performance of companies that are less proactive compare to proactive ones. This can be attributed to sensitivity of the industry in which the companies operate. A little demonstration commitment to protect the environment by polluters helps build reputation important for the companies financial performance.

San Ong, Teh, Ng, and Soh (2016) study on Malaysian companies reports that EMS-ISO certification impacts positively on the companies' financial performance. It helps the companies build reputation and brand selection that brings increased sales and investors' poise in the companies. In context of China, Feng and Wang (2016) work on EMS certification effect on financial performance of the listed companies. Environmental reputation is captured through customers satisfaction and loyal arising from EMS implementation. They found a significant positive effect of the reputation on the companies' financial performance.

Singh, Brueckner, and Padhy (2015) relate EMS and waste minimisation among small and medium scale companies in India. It was more of a comparative study to pin out the relationship between certification and waste minimisation among the companies classes. They found a quarter increase in waste minimisation is a result of EMS adoption. With

effective waste management and certification companies build reputation, cost reduction and profitability. This ultimately improve financial performance

Castro et al. (2016) study based on natural resource view EMS-ISO certification effect on financial performance of Danish companies found a significant positive relationship. Those companies that are EMS-certified benefit from the environmental image and brand royalty. These increase products' demand, profitability and financial performance.

Lo, Yeung, and Cheng (2012) identify concern about environmental activities among environmental stakeholders groups and the need for EMS adoption. They examined the impact of the EMS-certification on the financial performance of companies in textile and fashion industry. The study found a significant positive relationship between the certification and financial performance due to its effect on profitability. The impact is resulted from efficiency in costs management attributable to the EMS adoption.

Miroshnychenko, Barontini, and Testa (2017) global study of environmental practices of 58 companies drawn from different countries. The study covered environmental activities of the companies over a period of 13 years. They found internal environmental practice (EMS) is the main driver of the financial performance. The EMS-ISO certification has a significant negative effect on the companies' financial performance because of its reputation importance.

Lee, Hu, and Ko (2008) study of Taiwan companies EMS adoption and financial performance indicators. It used a sample 96 listed companies EMS-certified over a period of 3 years. The data was analysed through data enveloping method and Ranked-Wilcoxon signed test. They discovered that the EMS is negatively related to the companies' financial performance.

Montabon, Melnyk, Sroufe, and Calantone (2000) surveyed a total of 1510 supply-chain and purchasing managers that adopted the EMS practice. The study relates the practice to operational lead time, cost efficiency and product quality, and found a negative effect of the practice. It disputed the claim of strategic importance of the certification to enhance reputation, competitive market advantage and financial performance.

It can be seen the empirical literature findings are mixed, with early researchers report negative effect. This can be attributed to non-appreciation of the practice by both the companies' managers, customers, suppliers and regulators. While the recent research reports positive findings asserting the importance of the certification in reputation building and its effect on financial performance.

However, Horváthová (2010) meta review of prior studies of companies' environmental activities effect on financial performance, while greater number reported a positive relationship but about one-third are inconclusive. Likewise, Lo et al. (2012) argued the inconsistent results of the EMS effect on financial performance reported in previous studies are flaws. This is because of the subjective measurements and methodological issues with the data analysis.

Therefore, this study revisit the effect and hypothesised:

There is a significant positive effect of environmental management reputation (measured by EMS-Certification) on financial performance.

This is grounded on Resource Based Theory (RBT) which provides that a company's peculiar internal capabilities and resources serve important inspiration to the achievement of outstanding performance (Barney, 1991). The performance is attainable with the developing and exploiting unique company's capabilities, enabling cost reduction, operational efficiency and sustainability (Baumgartner & Rauter, 2017). These help the company build reputation, customers' loyalty, incentives and competitive position to achieve superficial financial performance.

The figure below depict the conception model of the study.

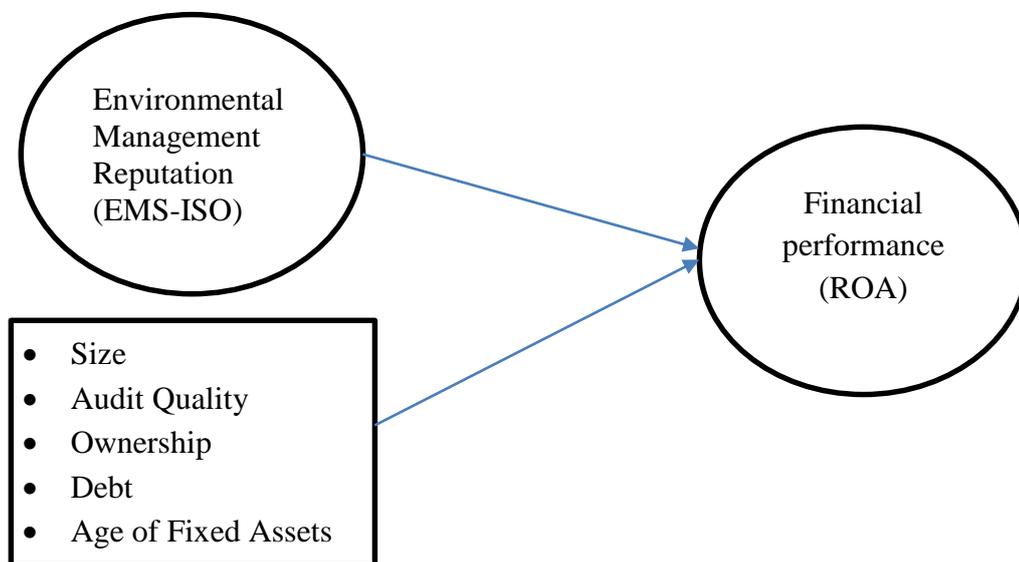


Figure 1 Conceptual Model

That is, those companies that are able to secure EMS-ISO certification signal reputation in the management of environmental activities. The reputation can be strategically used to again financial performance.

Control variables

Apart from the companies environmental management reputation effect on the financial performance there are other variable that are considered relevant in the study model.

Size

This refers to a company's value in terms total assets stocks, sales volume and number of employees. For example, da Silva Monteiro and Aibar-Guzmán (2010) define company size such as turnover, sales, revenues, total assets, number of employees. Heras-

Saizarbitoria, Arana, and Boiral (2016); Wang, Dou, and Jia (2016) supported that larger companies tend to achieve higher return on asset comparable to smaller ones. This is because the smaller companies are constrained to undertake projects that provide due to limited finances and access to loan capital. While larger companies have more resources at their disposal for business use, and have easy access to credit facilities.

Audit Quality

Stakeholders' expectation is important for a company's shareholders' confidence and financial performance (Huang & Kung, 2010). This is achieved with the reliability of information content of the financial statements. Quality assurance provided by a company's auditor helps build investors' confidence to finance the company's projects. This will provide the company with easy access to finance. Therefore, it enables it to undertake more profitable projects that will contribute to its financial performance. Therefore, those companies whose accounts are audited by the big 4 (Ernst & Young, EY; PricewaterhouseCoopers, PwC; Deloitte; KPMG) tend to have comparably higher return on assets than non-big 4 audited companies.

Ownership composition

The composition of the shareholders of a company determines its performance in terms of management standards, employment of specialists, taxation, among others. A foreign-owned company (developed countries) tends to observe all necessary ethical obligations in its operations (Maung, Wilson, & Tang, 2016). This helps deter them from incurring liabilities that arise from breaches and lawsuits. This includes adherence to environmental laws and standards.

Debt financing

A company's capital structure played an important role in its financial performance. The composition of the financing option (equity and/or debt) has a significant effect on a company's return on assets. This is because of the tax shield benefit enjoyed in debt financing. Financial experts support more debt in a company's capital structure because of the allowable interest charge in the determination of tax liability (Eldomiaty, 2008). Though, there are opposing views, the trade-off provides for optimal financing of capital projects with debts to maximize the debt shield from interest charges (Mazur, 2007). Therefore, more debt financing provides a company with a higher return on assets.

Age of fixed assets

This refers to the newness of the asset use by a company in its operational activities. With development in technologies, companies that use state-of-the-art equipment tend to be more efficient. The deployment of new assets signifies innovation in energy efficiency, pollution control, and cost saving (Moroney, Windsor, & Aw, 2012). Where a company's assets are new, there are little repairs and maintenance costs. Likewise, depreciation provision on the assets, in the short run, offers an additional finance access to the company which can be channeled to some other profitable ventures. Therefore, companies with new

assets tend to be more profitable because of less charges on revenue, thus improved financial performance.

Method and model specification

The population of the study is 21 companies drawn from environment sensitive industries as population. These are public companies listed on Nigerian stock exchange whose activities have environmental implication. However, upon checks it was only 11 out the 21 participated in EMS-ISO certification over the study period (2012-2016). Therefore, the 11 served as the sample used to gather the data and the analysis. Though, the number looks small it represents 50.5% of the population. Annual reports of the companies are analysis to get the scores for each variable over the study period. The scores are aggregated and averaged, then input into Stata 13 for the analysis.

Environmental management reputation is measured by receive of EMS-ISO certification by the companies over the study period. It indicates commitment to environmental sustainability and the resultants incentive drive in form customers loyalty and product demand. While financial performance indicates financial benefits drive from reputation build from adoption of environmental management system. It measures increased in profitability arises from environmental reputations.

From the review the research model is given as:

$$ROA = \beta_0 + \beta_1 REPU + \beta_2 SIZE + \beta_3 AQ + \beta_4 OWNER + \beta_5 DEBT + \beta_6 AFA + \varepsilon$$

Where:

ROA= Return on Assets

REPU= Reputation

SIZE= Size

AQ = Audit Quality

OWNER = Ownership Composition

DEBT = Debt Structure

AFA = Age of Fixed Assets

β = Coefficient

ε = Error Term

Table 1 Variable Measures

Variables	Description/proxy	Measures	sources
ROA	Financial performance of the companies, indicates Return on Assets from business activities	Net Profit/Total Assets	Cho, Roberts, and Patten (2010); Serrasqueiro and Caetano (2014)
REPU	Reputations build by a company from the adoption environmental management system and EMS-ISO Certification	EMS-ISO Certification	Feng and Wang (2016); Xie, Jia, Meng, and Li (2017)
SIZE	A company's value in terms total assets stocks, sales volume and number of employees.	Natural Logarithm of Total Assets	Clarkson, Li, Richardson, and Vasvari (2008); Cho et al. (2010) Christina and Janice (2014)
AQ	The quality assurance receives from the audit reports by reputable audit firms.	Dummy: 0 for accounts not audited by Big 4. 1 for accounts audited by Big 4.	Huang and Kung (2010)
OWNER	A whole foreign-own company or Locally own company.	Dummy: 0 for Nigerian-own; 1 for foreign-own.	(Francesco, Giorgia, & Ilaria, 2016)
DEBT	A proposition of debt finance in the companies' capital.	Total Assets/total Liabilities	He, Tang, and Wang (2013); Clarkson et al. (2008); Iatridis (2012)
AFA	The newness of the fixed assets. A state-of-the-art assets in the companies' balance sheet	Net fixed/Total Assets	Gao and Connors (2011); Moroney et al. (2012)

Result and Discussions

Analyses are on the study data to enable the achievement stated objective. First summary statistics was conducted to understand the nature of the data. Correlation and regression help provide a base a decision regarding the hypothesis.

Descriptive statistics

A summary statistics result provides description about the nature of the data. Table 3 shows the outcome of the analysis, mean, median, standard deviation, maximum and minimum score for each variable under consideration.

Table 2 Descriptive Statistics

Variables	Mean	Median	Standard deviation	Min	Max
EMS_ISO	0.511	0.000	0.109	0	1
SIZE	11.396	7.265	0.549	4.237	13.506
AQ	0.729	1.000	0.167	0	1
OWNER	0.467	0.000	0.035	0	1
DEBT	0.518	0.629	0.474	0.120	0.411
AFA	0.321	0.508	0.268	0.193	0.479

The Table 2 presents the descriptive result on all the study variables. The environmental management reputation proxy by EMS certification has a mean score of 0.511 and standard deviation of 0.109 coefficients. This indicates moderate dispersion between the mean. While the minimum score is 0 and maximum is 1. There is little variable between SIZE mean and the minimum score. This can be attributed to stock of the companies' assets, where most the companies under study are relatively small. It is the same with AFA which have a min of 0.193, max of 0.479 and mean 0.321.

Imperatively, all the variable have moderate variability between the mean scores and lower standard deviations.

Correlation analysis

To test the correlations among the study variables spearman analysis is made. This is to test the direction and strength of the relationships among the variables of interest. Table 3 shows the correlations analysis results.

Table 3 Correlation Result

Variables	EMS_ISO	SIZE	AQ	OWNER	DEBT	AFA
EMS_ISO	1					
SIZE	-0.627	1				
AQ	0.281	0.227	1			
OWNER	0.392	0.303	0.769	1		
DEBT	-0.237	-0.428	0.537	0.416	1	
AFA	-0.113	-0.294	0.294	0.410	0.706	1

Correlation ranges as in Zikmund (2003)²

² Zikmund (2003) provides for numerical ranges of the correlation strength between -0.10 to +1.00. Further broken into three: Small correlation -0.10 to -0.29 and +0.10 to +0.29; Medium correlation -0.30 to -0.49 and +0.30 to +0.49; Large correlation -0.50 to -1.00 and +0.5 to +1.00.

It can be seen from table 3 the relationship between EMS_ISO and SIZE is negative with -0.627 coefficient. This indicates a negative bidirectional behavior between the variables. AQ, OWNER and the EMS_ISO are positively correlated with 0.281 and 0.392 coefficient, respectively. While DEBT and AFA have -0.237 and -0.113 show smaller correlation coefficient with the EMS_ISO.

Regression analysis

As earlier mentioned, the study objective is examine the effect environmental management reputation effect on companies' financial performance of Nigerian companies. Further analysis is made to examine the effect of the reputation (proxy with EMS_ISO certification) on the performance.

A regression analysis is made based Pool, 2SLS and 3SLS methods. The method is relevant where linearity assumption is not achievable for variables. Also, it is soft on the need for normality of the study variables.

The research model guides the regression analysis with the EMS_ISO as independent and financial performance (ROA) as dependent, together with SIZE, AQ, OWNER, DEBT and AFA as control variables.

Table 4 shows the result of the regression analysis of the pool, 2SLS, and 3SLS.

Table 4 Regressions Results

Pool Analysis					2SLS Analysis				3SLS A Analysis			
Var: ROA	Coef.	Std. error	t- value	p>ltl	Coef.	Std. error	t/z- value	p>ltl	Coef.	Std. error	t- value	p>ltl
EMS	0.228	0.065	3.52	0.001***	0.228	0.065	3.52	0.001***	0.228	0.058	3.91	0.000***
SIZE	0.103	0.036	3.37	0.002***	0.103	0.031	3.37	0.002***	0.103	0.028	3.74	0.000***
AQ	0.243	0.120	2.03	0.050**	0.243	0.119	2.03	0.050**	0.243	0.108	2.26	0.024**
OWNER	0.133	0.086	1.54	0.132	0.133	0.086	1.54	0.132	0.133	0.078	1.72	0.086*
DEBT	0.051	0.069	0.75	0.459	0.051	0.069	0.75	0.459	0.051	0.062	0.83	0.405
AFA	-0.034	0.056	-0.59	0.556	-0.034	0.051	-0.66	0.509	-0.034	0.051	-0.66	0.509
Obs	52				52				52			
R ²	0.724				0.724				0.728			
Adj R ²	0.716				0.716				0.721			

The significant level is indicated with *** for 1% p-value, ** for 5% p-value, and * for 10% p-value.

To report a more robust finding the study concentrates on 3SLS results. This is because Wooldridge (2010) favours the 3SLS result as it is unbiased and gives more consistent results.

From the 3SLS analysis, the R² is 0.728 indicating a model strength of 72.8% to explain the effects. EMS_ISO certification as a measure of reputation has a positive 0.228 coefficient and 0.058 standard error and 0.000 p-value. This shows a 1 % significant effect of the variable on the ROA. The certification signal a company's environmental

management reputation which help achieve favorable financial performance. That is a 1% change in the reputation results in 1% change in financial performance of the Nigerian companies.

Similar finding is documented in Lo et al. (2012); Melnyk et al. (2003); Castro et al. (2016); Lucas and Noordewier (2016) San Ong et al. (2016); Feng and Wang (2016) who provide that companies certified with EMS_ISO show efficiency in costs management, enjoy loyalty and less regulatory interventions. Ultimately, contributes to the company's profitability. These arise from the reputations build in the management of the environmental activities.

Though, Miroshnychenko et al. (2017); Lee et al. (2008) report a negative effect. This may likely resulted from the methodological flaws observed by Lo et al. (2012) which affect the findings. For example, the Miroshnychenko et al. (2017) gathered the research data across countries which are at different level of economic development. Environmental consciousness and regulatory interventions is relative to a country developmental level (de Villiers & van Staden, 2006). Likewise, Lee et al. (2008) study, though country-specific suffers time-scope issue. The study covered only 3 years which may affect the reliability of the data.

Size relates a company's stock of assets and sales volume. It is expected larger companies enjoys economic of scale and have more resources at their disposal to adopt EMS_ISO standards. Therefore, more disposes to gain the EMS certification and environmental build reputation. A positive significant effect of size on financial performance is identified with 0.0228 coefficient and 0.058 standard error at 0.000 p-value. This shows larger companies tend to have favourable financial performance than smaller ones. As larger companies have more resources at their disposal to adopt different management strategy (including EMS_ISO) to achieve cost efficiency, brand loyalty, and incentives.

Audit quality enjoys by a company impact on its financial performance. Companies financial audited by Big 4 are believed to be credible and reliable to a greater extent. This has a significant positive effect on the companies' financial performance measured by the ROA. The analysis result show 0.243 coefficient and standard error of 0.108 at 0.024 p-value. This presupposes the importance of quality service provided by the auditors to entice stakeholders to contract businesses with the companies. Prior studies such as Eccles, Ioannou, and Serafeim (2014); Clarkson, Li, Richardson, and Vasvari (2011) have reported a significant positive effect of the audit quality on companies' financial performance.

A company's ownership reflects the management practice employed. The result show 0.133 coefficient and standard error of 0.078 at 10% positive significant level. A foreign-owned (developed countries) companies are more likely to adopt EMS and get certification. This certification enables character orientation towards cost efficiency and reputation in the business environment. With reputation enjoys from parent companies affiliation companies benefit from brand loyalty, innovative technology. These help improve sales, profitability and contributes to financial performance of the companies.

Debt financing in the capital structure also play importance role in a company's financial performance. Financial economists propagate for more debt in a company's capital structure. This is to benefit from tax shield of interest charge to income before the determination of taxable income. The analysed result indicates non-significant effect of debt financing on the companies' financial performance with 0.051 coefficient and 0.062 standard error. Despite the significant support provided by Darnall, Henriques, and Sadorsky (2010); Darush and Peter (2015) the study finds debt financing did not affect the companies' financial performance. This could be caused by the underdeveloped nature of the Nigerian capital market.

Age of fixed assets indicates technical soundness of the companies' operational efficiency. It is assumed that companies' that deploy state-of-the-art have little pollution issues, environment related legal battle and sanctions. These help achieve favourable financial performance, however, result of this study could provide sufficient evidence to support this assertion. It shows non-significant -0.034 coefficient and 0.051 standard error. Therefore, irrespective of the age of the fixed assets used in the production process no valid argument emerge for its effect on the companies' financial performance. This could be attributed to the cost of acquiring new asset and high depreciation charge in the early life-span of the fixed assets.

Conclusion

The study consider environmental management reputation effect on Nigerian listed companies operating in environment sensitive industries. The choice of the study is informed by non-appreciation of the EMS_ISO certification and reputation build therefrom. It is documented that those companies that adopted EMS standards achieved certification and environmental management reputation. This impact on the companies' financial performance through cost efficiency, brand loyalty and incentives.

The study discovered Nigerian companies with environment management reputation not only more environmentally responsible but also more efficient. Thus, ISO 14001 certification has a positive impact on the financial performance of the companies. This is important because it was found that environmental management reputation achieve by EMS_ISO is a strategic tool enjoy by the companies. It contributes to profitability through cost efficiency in operational processes and image management. It reputes the claim that ISO 14001 is a formality/empty label, which the reputation build does contribute to financial performance.

The findings of the study contribute to management practice that requires EMS_ISO standards adopt by Nigerian companies to enjoy brand loyalty and incentives from environmental regulatory bodies. It also contributes to the theoretical view of NRBV of environmental management practice. It extended the NRBV Theory, demonstrates internal capabilities of a companies in management of environmental activities enable strategic use of the reputation build to achieve favorable financial performance.

Notwithstanding the benefit of the EMS_ISO certification and reputation, its adoption is contingent upon contextual intervention, stakeholders demand and a country level of

economic development. Therefore, its generalisation to other countries should be with caution. Similarly, a company's characteristics should be taken into consideration as this study is limited to Nigerian companies operating in environment sensitive industries. Likewise, the study used ROA as a measure of financial performance, though it may not be a favourable measure from a market's point of view.

As this study is based on EMS_ISO and reputation effect on financial performance, further interesting study can be made by investigating other forms of company's performance such as operational and social performance. Methodological application can be improved with use of SEM, as this study analysed the data using robust regression. A potentially rich insight can be found about the effect of the reputation on the companies' financial performance.

References

- Albertini, E. (2013). Does environmental management improve financial performance? A meta-analytical review. *Organization & Environment*, 26(4), 431-457.
- Amaeshi, K., & Amao, O. O. (2009). Corporate social responsibility in transnational spaces: Exploring influences of varieties of capitalism on expressions of corporate codes of conduct in Nigeria. *Journal of Business Ethics*, 86, 225-239. doi:<http://dx.doi.org/10.1007/s10551-009-0192-z>
- Ayoola, T. J. (2011). Gas flaring and its implication for environmental accounting in Nigeria. *Journal of Sustainable Development*, 4(5), 244-250.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.
- Baumgartner, R. J., & Rauter, R. (2017). Strategic perspectives of corporate sustainability management to develop a sustainable organization. *Journal of Cleaner Production*, 140, 81-92.
- Blanco, E., Rey-Maqueira, J., & Lozano, J. (2009). The economic impacts of voluntary environmental performance of firms: A critical review. *Journal of Economic Surveys*, 23(3), 462-502.
- Castro, G. M. d., Amores-Salvadó, J., & Navas-López, J. E. (2016). Environmental Management Systems and Firm Performance: Improving Firm Environmental Policy through Stakeholder Engagement. *Corporate Social Responsibility and Environmental Management*, 23(4), 243-256. doi:[doi:10.1002/csr.1377](https://doi.org/10.1002/csr.1377)
- Cheng, S., Lin, K. Z., & Wong, W. (2016). Corporate social responsibility reporting and firm performance: evidence from China. *Journal of Management & Governance*, 20(3), 503-523.

- Cho, C. H., Roberts, R. W., & Patten, D. M. (2010). The language of US corporate environmental disclosure. *Accounting, Organizations and Society*, 35(4), 431-443. doi:<http://dx.doi.org/10.1016/j.aos.2009.10.002>
- Christina, H., & Janice, L. (2014). Does environmental reporting reflect environmental performance? *Pacific Accounting Review*, 26(1/2), 134-154. doi:10.1108/PAR-07-2013-0073
- Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society*, 33(4), 303-327.
- Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2011). Does it really pay to be green? Determinants and consequences of proactive environmental strategies. *Journal of Accounting and Public Policy*, 30(2), 122-144. doi:<http://dx.doi.org/10.1016/j.jaccpubpol.2010.09.013>
- Connors, E., & Gao, L. S. (2010). The impact of corporate environmental performance on the capital structure of firms. *Proceedings of the Northeast Business & Economics Association*.
- da Silva Monteiro, S. M., & Aibar-Guzmán, B. (2010). Determinants of environmental disclosure in the annual reports of large companies operating in Portugal. *Corporate Social Responsibility and Environmental Management*, 17(4), 185-204. doi:10.1002/csr.197
- Darnall, N., Henriques, I., & Sadorsky, P. (2010). Adopting proactive environmental strategy: The influence of stakeholders and firm Size. *Journal of Management Studies*, 47(6), 1072-1094. doi:10.1111/j.1467-6486.2009.00873.x
- Darush, Y., & Peter, Ö. (2015). Debt financing and firm performance: An empirical study based on Swedish data. *The Journal of Risk Finance*, 16(1), 102-118. doi:10.1108/JRF-06-2014-0085
- de Villiers, C., & van Staden, C. J. (2006). Can less environmental disclosure have a legitimising effect? Evidence from Africa. *Accounting, Organizations and Society*, 31(8), 763-781. doi:<http://dx.doi.org/10.1016/j.aos.2006.03.001>
- Dixon-Fowler, H. R., Slater, D. J., Johnson, J. L., Ellstrand, A. E., & Romi, A. M. (2013). Beyond “does it pay to be green?” A meta-analysis of moderators of the CEP–CFP relationship. *Journal of business ethics*, 112(2), 353-366.
- Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11), 2835-2857.

- Eldomiaty, T. I. (2008). Determinants of corporate capital structure: evidence from an emerging economy. *International Journal of Commerce and Management*, 17(1/2), 25-43.
- Feng, T., & Wang, D. (2016). The influence of environmental management systems on financial performance: A moderated-mediation analysis. *Journal of business ethics*, 135(2), 265-278.
- Francesco, C., Giorgia, P., & Ilaria, T. (2016). Corporate Ownership and Environmental Proactivity. *Business Strategy and the Environment*, 25(6), 369-389. doi:doi:10.1002/bse.1873
- Friedman, M. (2007). The social responsibility of business is to increase its profits. In *Corporate ethics and corporate governance* (pp. 173-178): Springer.
- Gao, L. S., & Connors, E. (2011). Corporate environmental performance, disclosure and leverage: An integrated approach. *International Review of Accounting, Banking and Finance*, 3(2), 1-26.
- Hart, S. L., & Dowell, G. (2011). Invited editorial: A natural-resource-based view of the firm Fifteen years after. *Journal of Management*, 37(5), 1464-1479.
- He, Y., Tang, Q., & Wang, K. (2013). Carbon disclosure, carbon performance, and cost of capital. *China Journal of Accounting Studies*, 1(3-4), 190-220. doi:10.1080/21697221.2014.855976
- Henri, J.-F., & Journeault, M. (2010). Eco-control: The influence of management control systems on environmental and economic performance. *Accounting, Organizations and Society*, 35(1), 63-80. doi:http://dx.doi.org/10.1016/j.aos.2009.02.001
- Heras-Saizarbitoria, I., Arana, G., & Boiral, O. (2016). Outcomes of environmental management systems: The role of motivations and firms' characteristics. *Business Strategy and the Environment*, 25(8), 545-559.
- Horváthová, E. (2010). Does environmental performance affect financial performance? A meta-analysis. *Ecological Economics*, 70(1), 52-59. doi:http://dx.doi.org/10.1016/j.ecolecon.2010.04.004
- Huang, C.-L., & Kung, F.-H. (2010). Drivers of environmental disclosure and stakeholder expectation: Evidence from Taiwan. *Journal of Business Ethics*, 96(3), 435-451. doi:10.1007/s10551-010-0476-3
- Iatridis, G. (2012). Environmental disclosure quality: Evidence on environmental performance, corporate governance and value relevance. *Emerging Markets Review*.
- ISO, E. (2004). 14001: 2004. *Environmental management systems-Requirements with guidance for use (ISO 14001: 2004)*.

- Lee, Y.-C., Hu, J.-L., & Ko, J.-F. (2008). The effect of ISO certification on managerial efficiency and financial performance: An empirical study of manufacturing firms. *International Journal of Management*, 25(1), 166.
- Lo, C. K. Y., Yeung, A. C. L., & Cheng, T. C. E. (2012). The impact of environmental management systems on financial performance in fashion and textiles industries. *International Journal of Production Economics*, 135(2), 561-567. doi:<https://doi.org/10.1016/j.ijpe.2011.05.010>
- Lucas, M. T., & Noordewier, T. G. (2016). Environmental management practices and firm financial performance: The moderating effect of industry pollution-related factors. *International Journal of Production Economics*, 175, 24-34.
- Martín-de Castro, G., Amores-Salvadó, J., & Navas-López José, E. (2015). Environmental Management Systems and Firm Performance: Improving Firm Environmental Policy through Stakeholder Engagement. *Corporate Social Responsibility and Environmental Management*, 23(4), 243-256. doi:10.1002/csr.1377
- Maung, M., Wilson, C., & Tang, X. (2016). Political connections and industrial pollution: Evidence based on state ownership and environmental levies in China. *Journal of business ethics*, 138(4), 649-659.
- Mazur, K. (2007). The determinants of capital structure choice: Evidence from polish companies. *International Advances in Economic Research*, 13(4), 495-514. doi:10.1007/s11294-007-9114-y
- McWilliams, A., & Siegel, D. S. (2010). Creating and capturing value: strategic corporate social responsibility, resource-based theory, and sustainable competitive advantage. *Journal of Management*, 0149206310385696.
- Melnyk, S. A., Sroufe, R. P., & Calantone, R. (2003). Assessing the impact of environmental management systems on corporate and environmental performance. *Journal of Operations Management*, 21(3), 329-351.
- Miroshnychenko, I., Barontini, R., & Testa, F. (2017). Green practices and financial performance: A global outlook. *Journal of Cleaner Production*, 147, 340-351. doi:<https://doi.org/10.1016/j.jclepro.2017.01.058>
- Montabon, F., Melnyk, S. A., Sroufe, R., & Calantone, R. J. (2000). ISO 14000: Assessing its perceived impact on corporate performance. *Journal of Supply Chain Management*, 36(2), 4.
- Moroney, R., Windsor, C., & Aw, Y. T. (2012). Evidence of assurance enhancing the quality of voluntary environmental disclosures: An empirical analysis. *Accounting & Finance*, 52(3), 903-939.

- Omofonmwan, S., & Osa-Edoh, G. (2008). The challenges of environmental problems in Nigeria. *Journal of human Ecology*, 23(1), 53-57.
- Rebello, M. F., Santos, G., & Silva, R. (2016). Integration of management systems: towards a sustained success and development of organizations. *Journal of Cleaner Production*, 127, 96-111. doi:<https://doi.org/10.1016/j.jclepro.2016.04.011>
- Reyes-Rodríguez, J. F., Ulhøi, J. P., & Madsen, H. (2016). Corporate environmental sustainability in Danish SMEs: A longitudinal study of motivators, initiatives, and strategic effects. *Corporate social responsibility and environmental management*, 23(4), 193-212.
- Sambasivan, M., Bah, S. M., & Jo-Ann, H. (2013). Making the case for operating “Green”: Impact of environmental proactivity on multiple performance outcomes of Malaysian firms. *Journal of Cleaner Production*, 42, 69-82.
- San Ong, T., Teh, B. H., Ng, S. H., & Soh, W. N. (2016). Environmental management system and financial performance. *Institutions and Economies*, 27-53.
- Schaltegger, S., & Synnestvedt, T. (2002). The link between ‘green’ and economic success: environmental management as the crucial trigger between environmental and economic performance. *Journal of environmental management*, 65(4), 339-346.
- Serrasqueiro, Z., & Caetano, A. (2014). Trade-off theory versus pecking order theory: Capital structure decisions in a peripheral region of Portugal. *Journal of Business Economics and Management*, 16(2), 445-466. doi:10.3846/16111699.2012.744344
- Singh, M., Brueckner, M., & Padhy, P. K. (2015). Environmental management system ISO 14001: effective waste minimisation in small and medium enterprises in India. *Journal of Cleaner Production*, 102, 285-301. doi:<https://doi.org/10.1016/j.jclepro.2015.04.028>
- Stanny, E. (2013). Voluntary disclosures of emissions by US firms. *Business Strategy and the Environment*, 22(3), 145-158. doi:10.1002/bse.1732
- Teles, C. D., Ribeiro, J. L. D., Tinoco, M. A. C., & ten Caten, C. S. (2015). Characterization of the adoption of environmental management practices in large Brazilian companies. *Journal of Cleaner Production*, 86(0), 256-264. doi:<http://dx.doi.org/10.1016/j.jclepro.2014.08.048>
- Wang, Q., Dou, J., & Jia, S. (2016). A Meta-Analytic Review of Corporate Social Responsibility and Corporate Financial Performance: The Moderating Effect of Contextual Factors. *Business & Society*, 55(8), 1083-1121. doi:10.1177/0007650315584317
- Wooldridge, J. M., &. (2010). *Econometric analysis of cross section and panel data*: MIT press.

- Xie, X., Jia, Y., Meng, X., & Li, C. (2017). Corporate social responsibility, customer satisfaction, and financial performance: The moderating effect of the institutional environment in two transition economies. *Journal of Cleaner Production*, 150, 26-39.
- Zikmund, W. G. (2003). *Business Research Methods*, Mason, Ohio, South-Western. X
the Restaurant Behaviour of the Berlin People.