INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT

IJRCM

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

Indexed & Listed at:

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A., Google Scholar, Indian Citation Index (ICI), J-Gage, India [link of the same is duly available at Inflibnet of University Grants Commission (U.G.C.)], Index Copernicus Publishers Panel, Poland with IC Value of 5.09 (2012) & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than **7835 Cities** in **197 countries/territories** are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

http://ijrcm.org.in/

CONTENTS

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to the recent developments & practices in the areas of Computer Science & Applications; Commerce; Business; Finance; Marketing; Human Resource Management; General Management; Banking; Economics; Tourism Administration & Management; Education; Law; Library & Information Science; Defence & Strategic Studies; Electronic Science; Corporate Governance; Industrial Relations; and emerging paradigms in allied subjects like Accounting; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Rural Economics; Co-operation; Demography: Development Planning; Development Studies; Applied Economics; Development Economics; Business Economics; Monetary Policy; Public Policy Economics; Real Estate; Regional Economics; Political Science; Continuing Education; Labour Welfare; Philosophy; Psychology; Sociology; Tax Accounting; Advertising & Promotion Management; Management Information Systems (MIS); Business Law; Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labour Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; International Relations; Human Rights & Duties; Public Administration; Population Studies; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism & Hospitality; Transportation Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic; Web Design and emerging paradigms in allied subjects.

Anybody can submit the **soft copy** of unpublished novel; original; empirical and high quality **research work/manuscript** ***anytime*** in ***M.S. Word format*** after preparing the same as per our **GUIDELINES FOR SUBMISSION**; at our email address i.e. infoijrcm@gmail.com or online by clicking the link **online submission** as given on our website (***FOR ONLINE SUBMISSION, CLICK HERE***).

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR

IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF_____.**

(e.g. Finance/Mkt./HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript titled '_____' for likely publication in one of your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published anywhere in any language fully or partly, nor it is under review for publication elsewhere.

I affirm that all the co-authors of this manuscript have seen the submitted version of the manuscript and have agreed to inclusion of their names as co-authors.

Also, if my/our manuscript is accepted, I agree to comply with the formalities as given on the website of the journal. The Journal has discretion to publish our contribution in any of its journals.

NAME OF CORRESPONDING AUTHOR	:
Designation/Post*	:
Institution/College/University with full address & Pin Code	:
Residential address with Pin Code	:
Mobile Number (s) with country ISD code	:
Is WhatsApp or Viber active on your above noted Mobile Number (Yes/No)	:
Landline Number (s) with country ISD code	:
E-mail Address	:
Alternate E-mail Address	:
Nationality	:

* i.e. Alumnus (Male Alumni), Alumna (Female Alumni), Student, Research Scholar (M. Phil), Research Scholar (Ph. D.), JRF, Research Assistant, Assistant Lecturer, Lecturer, Senior Lecturer, Junior Assistant Professor, Assistant Professor, Senior Assistant Professor, Co-ordinator, Reader, Associate Professor, Professor, Head, Vice-Principal, Dy. Director, Principal, Director, Dean, President, Vice Chancellor, Industry Designation **etc**. ***The qualification of author is not acceptable for the purpose***.

NOTES:

a) The whole manuscript has to be in ***ONE MS WORD FILE*** only, which will start from the covering letter, inside the manuscript. ***pdf. version is liable to be rejected without any consideration***.

b) The sender is required to mention the following in the **SUBJECT COLUMN of the mail**:

New Manuscript for Review in the area of (e.g. Finance/Marketing/HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

c) There is no need to give any text in the body of the mail, except the cases where the author wishes to give any **specific message** w.r.t. to the manuscript.

d) The total size of the file containing the manuscript is expected to be below **1000 KB**.

e) Only the **Abstract will not be considered for review** and the author is required to submit the **complete manuscript** in the first instance.

f) ***The journal gives acknowledgement w.r.t. the receipt of every email within twenty-four hours*** and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of the manuscript, within two days of its submission, the corresponding author is required to demand for the same by sending a separate mail to the journal.

g) The author (s) name or details should not appear anywhere on the body of the manuscript, except on the covering letter and the cover page of the manuscript, in the manner as mentioned in the guidelines.

2. **MANUSCRIPT TITLE: The title of the paper should be typed in **bold letters**, **centered** and **fully capitalised**.

3. **AUTHOR NAME (S) & AFFILIATIONS: Author (s) **name**, **designation**, **affiliation** (s), **address**, **mobile/landline number** (s), and **email/alternate email address** should be given underneath the title.

4. **ACKNOWLEDGMENTS: Acknowledgements can be given to reviewers, guides, funding institutions, etc., if any.

5. **ABSTRACT: Abstract should be in **fully Italic printing**, ranging between **150** to **300 words**. The abstract must be informative and elucidating the background, aims, methods, results & conclusion in a **SINGLE PARA**. ***Abbreviations must be mentioned in full***.

6. **KEYWORDS: Abstract must be followed by a list of keywords, subject to the maximum of **five**. These should be arranged in alphabetic order separated by commas and full stop at the end. All words of the keywords, including the first one should be in small letters, except special words e.g. name of the Countries, abbreviations etc.

7. **JEL CODE: Provide the appropriate Journal of Economic Literature Classification System code (s). JEL codes are available at www.aeaweb.org/econlit/jelCodes.php. However, mentioning of JEL Code is not mandatory.

8. **MANUSCRIPT: Manuscript must be in ***BRITISH ENGLISH*** prepared on a standard A4 size ***PORTRAIT SETTING PAPER***. *It should be free from any errors i.e.* ***grammatical, spelling*** *or* ***punctuation.*** *It must be thoroughly edited at your end*.

9. **HEADINGS: All the headings must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.

10. **SUB-HEADINGS: All the sub-headings must be bold-faced, aligned left and fully capitalised.

11. **MAIN TEXT:**

THE MAIN TEXT SHOULD FOLLOW THE FOLLOWING SEQUENCE:

INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESIS (ES)

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

LIMITATIONS

SCOPE FOR FURTHER RESEARCH

REFERENCES

APPENDIX/ANNEXURE

The manuscript should preferably be in ***2000 to 5000 WORDS***, But the limits can vary depending on the nature of the manuscript.

12. **FIGURES & TABLES:** These should be simple, crystal **CLEAR**, **centered**, **separately numbered** & self-explained, and the **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. *It should be ensured that the tables/figures are referred to from the main text*.

13. **EQUATIONS/FORMULAE:** These should be consecutively numbered in parenthesis, left aligned with equation/formulae number placed at the right. The equation editor provided with standard versions of Microsoft Word may be utilised. If any other equation editor is utilised, author must confirm that these equations may be viewed and edited in versions of Microsoft Office that does not have the editor.

14. **ACRONYMS:** These should not be used in the abstract. The use of acronyms is elsewhere is acceptable. Acronyms should be defined on its first use in each section e.g. Reserve Bank of India (RBI). Acronyms should be redefined on first use in subsequent sections.

15. **REFERENCES:** The list of all references should be alphabetically arranged. ***The author (s) should mention only the actually utilised references in the preparation of manuscript*** and they may follow Harvard Style of Referencing. **Also check to ensure that everything that you are including in the reference section is duly cited in the paper**. The author (s) are supposed to follow the references as per the following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc., in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italic printing. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parenthesis.
- ***Headers, footers, endnotes*** *and* ***footnotes*** *should* ***not be used*** *in the document****.*** However, **you can mention short notes to elucidate some specific point**, which may be placed in number orders before the references.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

UNPUBLISHED DISSERTATIONS

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

FIRMS FINANCIAL PERFORMANCE AND ENVIRONMENTAL IMPACT: EVIDENCE FROM NIGERIA

ERETAN, GBENGA O.
LECTURER
DEPARTMENT OF MANAGEMENT SCIENCE
DISTANCE LEARNING INSTITUTE
UNIVERSITY OF LAGOS
AKOKA

ATOYEBI KEHINDE
LECTURER
DEPARTMENT OF ECONOMICS
FACULTY OF SOCIAL SCIENCE
LAGOS STATE UNIVERSITY
OJO

ABSTRACT

The paper examines the impact of environmental performance on financial performance in Nigeria. The data spanned from 2016 to 2022. This study considered two dimensions of firms' environmental performance namely environmental management performance and environmental operational performance. A pre-estimated test was conducted using descriptive statistics and multivariate analysis. Result emanated from the study revealed an inverted u-shaped relationship between carbon performance and Tobin's Q, and a positive association exist between environmental management practice and Tobin's Q. The study findings corroborate the evidence of moderating effect of environmental management practice on financial performance. The study incorporates different dimension of firm financial performance. It therefore the need to considered the relationship between outcome and process based environmental performance using a more complex model with substantial conclusion.

KEYWORDS
environmental performance, financial performance, multivariate analysis.

JEL CODES
O44, Q56.

1. INTRODUCTION

Historical validation has provided comprehensive empirical evidence on the linkage between firm's environmental performance and its financial performance of form (Eromez-mejis, 2016, Guenther, 2015). Prominent among the existing studies on the constitution of corporate economic performance include (Kassinis and Afeas, 2006, Vasvari, 2008). The complex nature of and controversial theoretical arguments on the corporate economic performance and corporate financial performance gives rise to greater depth of understanding on the theoretical foundation for the construct of corporate economic performances of the firm (Trumpp and Guenther, 2015, Trumpp *et al*, 2015; Walls, Phan and Berrone, 2011).

Existing studies acknowledged that corporate environmental performance as a multidimensional construct can be viewed from two angles namely environmental management performance and environmental operational performance (Busch and Hoffmann, 2011; Clemens and Bakstran, 2010; Frist and Khetriowal, 2010). Moreover, a firm's economic performance manifests itself not only in financial returns but also in terms of risk. Though, quite a number of studies has been conducted on corporate social responsibility (CSR) and firm risk e.g., Oikonomon, Brooks, and Pavelin, 2009; Orlitzky and Benjamin, 2001; Salama, Anderson, and Toms, 2011). These studies found out that a negative relationship exists between corporate social responsibility and firm risk, but only a few dwell particularly on the firm's environmental performance (e.g. Cai, Cuix Jo, 2015). Another strand of literature investigated the impact of environmental performance information on the banks risk assessment and lending decision (compel and Slack; 2011; Thompson and Cowton, 2004).

Also, the traditional economic proposition was that the benefits of environmental investment by firms will be allotted to the firm in part themselves and that, the aftermath of this scenario is that firms have an incentive to under – invest in the environment. Putting it in another way round, government intervention to enforce standards will lead to a trade – off between benefits to the society and costs to the firms. The earlier empirical studies such as Porter (1991) and Porter and Vanderlinde (1995 a, b) posited that more stringent regulation can seldom provide long run boost to firm's profitability by forcing firms to reduce production costs and increasing consumer satisfaction and sales. In another way round, environmental investment may be a ''win-win' solution for society.

In the light of this background, the relationship between environmental performance and firm's financial performance have been underexplored in the literature. Though, previous studies in both areas have provided contradictory results, many of these studies were hindered by misspecification of data. On this note, this study intends to dig deep into the connectivity between environmental impacts on financial Performance of Firm in Nigeria.

The study will be conducted to achieve the **OBJECTIVE** to examine the impact of environmental performance on financial performance in Nigeria based on the data spanned from 2016 to 2022.

2. SELECTED EXISTING LITERATURE

Quite a number of studies have been conducted on the relationship between firm financial performance and either corporate social performance or firm environmental performance. Notable among these studies include Cochran and Wood (1984), MC Guire *et al.* (1988 and Waddok and Grasses (1997). These studies found evidence of positive relationship between firm financial performance and environmental performance. Studies from the environmental literature include Hamilton, 1995; Classmen and McLaughlin, 1996). These studies found out that there is a positive relationship between firm environmental performance and firm's financial performance, as measured by the Franklin Research and Development Corporations (FRDC) ratings for (1991 and 1992), and financial performance, measured by return on assets.

A more recent studies on the linkage between firm operational performance and environmental performance includes (Fujii, Iwata, Kaneko and Managi, 2013; Misamig Poqutz, 2015; Trumpeted., 2015). The study by trumpeted (2015) conduct factor – analysis using a two-dimension framework incorporating environmental multidimensional performance and environmental operational performance as well the firm performance. They concluded that based on the elements of firm's environmental system, the environmental multidimensional performance could be measured by indicators such as environmental policy, environmental objectives, environmental processes, organization structure and environmental monitoring. Fujii etal, 2013; Preston and O'Bannon, 1997), King and Lenox (2002) conducted a study on the conflict between the firm's primary target of maximizing the shareholder value, and managers choice of reducing environmental investment when their remuneration schemes are linked to short term shareholder value.

In another study conducted by Cheng, Loannou aid Seraphim (2014) on firm's performance and environmental performance. They argued that firms with better, Corporate Social Responsibility always by financial constraints; and in this regard financial performance of a firm play a vital role in reducing capital constraints. Some other studies were of the opinion that reduced cost of capital might reduce firm risk. (Dhalieval, li, Tsang and Yang, 2011; El Ghous; Gresham, Kwok and Mishra; 2011; Goss and Roberts; 2011; Oikonomou; Brooks and Pavelin, 2014a).

Having reviewed the literature so far, it can be deduced that most of the existing studies do not provide reliable, conventional, and effective definition of both environmental performance and financial performance. (Griffin and Wahon, 1997). It was also observed that conflicting result emanated from different empirical studies while some of these studies showed positive association between environmental performance and firm financial performance, however, this may be subjected to question due to model misspecification as a result of the omission of relevant variable as an important determinant of firm's profitability For instance McWilliams and Graves (1997) make no attempt to incorporate investment in research and development (R and D), even though R and D is potentially a very important variable of firm financial performance.

A final issue with most of the existing studies was their reliance on small samples that may not be representative (for example, spacer; 1978; chew and Meal; 1980). More generally previous studies like Russo and Fouts (2017) focus more on cross sectional or pooled data sets. However, the problem that is normally emanated from inferences from cross sectional analysis is subject to invalidation due to the presence of significant heterogeneity. However, Panel data will be adopted in this study as a result of its capability to control for un – observed firm specific effects and as a consequence, has the potential to provide a much more powerful evidence base (Dowell *et al*, 2000).

3. RESEARCH METHODOLOGY

3.1 VARIABLES

3.1.1 INDEPENDENTS VARIABLES

Corporate environmental performance is considered as a multi-dimensional construct (Ensdrikat *et al*., 2014 Trumpp *et al*., 2015). Existing literature (e.g. Blush and Hoffmann, 2011l; Endrikat *et al*., 2014; Trumpp *et al*., 2015; Xie and Hayase, 2007), Corporate environmental performance opined consists of two main dimensions namely a process dimension (Environmental Management Practice) and Environmental Outcome Dimension (EOP). This study, then incorporate two independent variables to represent the EMP and EOP dimensions.

It also used the ASSET4 database to construct a measure of Corporate Environmental Performance. The environmental score in ASSET4 ''measures a company's impact on living and non-living natural systems, reflects how well a company uses best management practice to avoid environmental risks and capitalize on environmental opportunities'' (Thomson-Reuters, 2015), thus, it covers the management processes and activities as well as the environmental outcomes.

With regard to the multi-dimensional environmental performance, this study identified the relevant KPIs in the ASSET4 database that related to environmental management process, activities, policy and reporting and create a sophisticated new score by calculating the equal-weighted average of the relevant indicator scores (MEP) to represent the scope and intensity of a firm's environmental management performance. In doing so, it excludes the KPIs that present the environmental outcomes and non-management-related activities; thus, the study believes that the new EMP score is valid as a proxy of the firm's environmental process. The EOP dimension is considered as the outcome of environmental management activities. Based on this definition, the study following previous research (Fujii et al., 2013) and use environmental efficiency (EE) as our EOP indicator. According to Fujii et al. (2013), EE is defined as the desirable output per environmental input, and this represents the ''production scale-adjusted environmental pollution'' (p. 193). This study, used Green House Gesemissional emission to calculate EE. The GHG emissions data were obtained from the ASSET4 database measured as ''total CO2 and CO2 equivalents emission in tones divided by net sales'' (Thomson-Reuters, 2015). Hence the inverse ratio of GHG emissions per net sales was employed as our EE measurement; that is, higher sales per GHG emissions imply higher environment performance.

3.1.2 DEPENDENT VARIABLES

Corporate Financial Performance. The study's main financial performance measurement is Tobin's Q, which is calculated by dividing the sum of the firm's market capitalization, the book value of its long-term debt, and its net current liabilities by the book value of its total assets (King and Lenox, 2002; Misani and Pogutz, 2015). Tobin's Q reflects the firm's financial performance from the market perspective and measures the market valuation of a firm compared with the replacement costs of tangible assets (King and Lenox, 2002).

3.1.3 CONTROL VARIABLES

To further control for other firm characteristics in the study, the study follows previous studies (Fujii *et al*., 2013; Misani and Ogutz, 2015; Nollet, Fills, and Mitrokostas, 2015; Trumpp and Guenther, 2015) and Corporate Social Responsibility-risk studies (Cai et al., 2015; Jo and Na, 2012; Kim, Li, and Li, 2014) to add all list of control variables to our models.

It adds ASSET4's corporate governance score (CGSCORE) as a control to measures the company's corporate governance systems and processes since it could influence the shareholders' and investors' views of the firm, hence the firm's financial performance is added as dummy variable to represent firms that join the United Nations' Global Compact Program (UNGC). This program is the largest voluntary Corporate Responsibility Initiative in the world (Rasher, Wad dock, and Macintosh, 2012), and the participants are encouraged to follow environmental, social and governance related principles. Hence, participation in the program could be considered as a proxy for a firm's Environmental Performance (Misani and Pogutz, 2015; Suleiman, Schemer, and Newbury, 2014). In addition. This study also includes research and development intensity measures as R and D expenses divided by sales (RandD) to represent a firm's innovation capability, as prior research suggests it has an impact on the firm's financial performance and risk (ai et al., 2015, Fujii et al., 2013; Hart and Ahuja, 1996; Oikonomou etal., 2009, Trumpp and Guenther, 2015).

This study also includes the natural logarithm of the firm's total assets (SIZE) to control for firm size since existing research suggests that firm size has an impact on the firm's responses to environmental issues (Cai et al., 2015; King and Lenox, 2001, King and Lenox, 2002; Lu, Wang, and Lee, 2013l; Wang, Li, and Gao, 2014). It also includes cash flow return on sales measured by the firm's net cash flow divided by sales, capital intensity by capital expenditures divided by beginning–of-the-year Total Assets (CAPITAL), and leverage by total debts divided by total assets (LEVERAGE), and firm growth by change in total assets divided by beginning-of-period total assets (GROWTH).

3.2 EMPIRICAL MODELS

This section presents the econometric models that are used to examine the intertemporal effect of Environmental Performance on financial performance. It adopted Ordinary Least Squares (OLS) Regression to test our hypotheses. To solve for the endogeneity issue and test the causal inferences relationships, it used a time-lagged measure of FP. This procedure also allows us to test the long-term effect of Environmental Performance on the firm's financial performance, as the improvement of Corporate Environmental Performance is considered by the investors and capital market after a certain time period (Fujii et al., 2013; Hart and Ahuja, 1996; Horvath ova, 2012; Trumpp and Guenther, 2015). This study, used one-year time lag as the main analysis (n=1) and incorporate a two-year time lag (n=2) as the robustness tests of the results. Furthermore, we centralize the component variables of the integration terms to reduce potential multicollinearity. The model is specified as follows:

Environmental Performance on Firm Financial performance.

$$FP_{it} = \beta_0 + \beta_2 * EE_{it} + \beta_2 * EE^2_{(t-n)} + \delta Z_{it} + E_{it} \quad (1)$$

$$FP_{it} = \beta_0 + \beta_2 * EE_{it} + \beta_2 * EE^2_{it} + \beta_3 * EMP_{it} + \delta Z_{it} + E_{it} \quad (2)$$

$$FP_{it} = \beta_0 + \beta_2 * EE_{it} + \beta_2 * EE^2_{it} + \beta_3 * EMP_{it} + \delta E_{it} + \beta_4 * EE^2\, EMP_{it} + \delta Z_{it} + \beta_5 * EE^2_{it}\, EMP_{it} + \delta Z_{it} + E_{it} \quad (3)$$

Here, i denotes the firm and t the periods. Subscript (t) denotes the year time lag of EP (n=1, 2). FP is the financial performance measure, EE is the environmental efficiency, and EMP is the environmental management performance. E is a vector or parameters, and Z represents a vector of control variables including firm size, UN Global Compact, corporate governance score, R and D intensity, capital intensity, leverage, cash flow and growth, industry dummies, and year dummies.

The study examines the relationship between Environmental Performance and Financial Performance where the relationship is assumed to be quadratic. To further examine the impact of EMP, it uses the model shown in Eq. (1). We then add the interactions between carbon performance and environmental management performance, Environmental Performance on Firm Risk.

4. EMPIRICAL RESULTS AND DISCUSSION

4.1 DESCRIPTIVE STATISTICS AND UNIVARIATE RESULTS

TABLE 4.1: DESCRIPTIVE STATISTICS

Variable	Mean	Median	Std dev.	Minimum	Maximum	N
Tobin's Q	1.118	1.153	2.031	0.112	9.778	1318
CAPM_BETA	0.892	0.842	0.403	-0.366	2.917	1652
FF4_BETA	l0.082	1.021	0.383	0.367	3.251	1652
EE	0.812	0.182	3.015	0.001	22.239	1619
EMP	56.199	54.295	11.991	23.952	86.494	1666
SIZE	15.192	14.844	1.843	11.402	21.471	1666
UNGC	0.193	0.000	0.395	0.000	1.000	1666
CGSCORE	81.783	81.565	13.971	5.070	97.330	1666
RandD	1.262	0.000	41.471	0.000	47.990	1666
CAPITAL	0.047	0.032	0.061	0.000	0.522	1666
LEVERAGE	0.241	0.229	0.179	0.000	1.672	1666
CASHFLOW	18.572	13.090	160.56	-43.613	78.660	1788
GROWTH	0.087	0.051	0.331	-0.519	1.619	1788

Table 4.1 presents an overview of our sample distributed by year and industry, and indicates that the sample size increases for both manufacturing and service industries during the sample period, which might due to the expanding coverage of the ASSET4 database.

Table 3 provides descriptive statistics for the variables used in our analysis. To mitigate the impact of extreme values, we winterized all the continuous variables at the 1% level. The average Tobin's Q in our sample is 1.418 with the median of 1.15. In terms of the firm risk measures used in this study, the average of CAPM beta is 0.992 and the median volatility is 0.942; the alternative measure, the Fama-French market beta has slightly higher value of which the mean (median) is 1.062 (1.021) in this study.

Two distinctive measures for the two dimensions of Corporate Environmental Performance were employed. The EOP's measure Energy Efficiency has the average of 0.712 and ranges from 0.001 to 20l.239, and the EMP score in the sample ranges from 23.952 to 97.330 with the average of 55.199. The wide range of these two measures indicates that the sample consists of a broad cross section of firms with various levels of environmental performance. Regarding the control variables used in the study, 193 percent of the sample companies are members of the UN Global Compact Program. The average corporate governance score of the sample companies is 78.783 with a median of 82.565, indicating that most of the firms have good corporate governance practice and structure. The average research and development intensity in the sample is 1.262, suggesting that the investment in R and D from the sample companies is relatively low. The statistics of all the other control variables are also reported in Table 4.2, which presents the sample companies' characteristics.

MULTIVARIATE ANALYSIS

TABLE 4.2: RELATIONSHIP BETWEEN MULTI-DIMENSION ENVIRONMENTAL PERFORMANCE AND CORPORATE FINANCIAL PERFORMANCE

	Tobin's Q (t+1)			Tobin's Q (t+2)		
	(1)	(2)	(3)	(4)	(5)	(6)
EE	0.307'''	0.231'''	0.232'''	0.465'''	0.391'''	0.381'''
	(4.16)	(3.47)	(3.98)	(4.60)	(3.93)	(3.87)
Quad.EE	-0.010''	-0.0111'''	-0.010'''	- 0.052'''	-0.054'''	-0.046'''
EMP	(4.07)	(-5.37)	(-2.72)	(l-2.8)	(-3.03)	(-3.42)
	0.010'''	0.008''	0.008''	0.004		
EMP * EE	(2,28)	(2.32)	(1.06)	-0.006*	-0.009''	
EMP * Quad EE	(-l.67)	(-2.30)	0.002*	0.004'''		
SIZE	-0.286''	-0.325'''	-0.324'''	-0.281'''	-0.312'''	0.308'''
	(-11.48)	(-11.67)	(-11.56)	(11.57)	(-10.82)	(-10.65)
UNGC	0.158'''	0.421'''	0.414'''	0.555'''	0.421'''	0.412'''
	(1.04)	(4.62)	(4.60)	(4.54)	(4.14)	(4.07)
CGSCORE	0.000	-0.002	-0.002	0.002	0.000	0.000
	(0.14)	(-0.73)	(-0.72)	(0.83)	0.028'''	0.028'''
RandD	0.019''	0.019''	0.019''	0.028''	0.028''	0.28'''
	(2.00)	(4.05)	(2.02)	(2.21)	(2.24)	(2.21)
CAPITAL	0.366	0.302	0.349	0.635	0.656	0.765
	(0.38)	(0.32)	(0.37)	(0.67)	(0.70)	(0.83)
LEVERAGE	-0.078 -	0.065	-0.071	0.169	0.191	0.165
	(-0.35)	(-0.25)	(-0.33)	(0.89)	(0.98)	(0.85)
CASHFLOW	0.024'''	0.025'''	0.025'''	0.018'''	0.019'''	0.025'''
	(7.34)	(7.50)	(7.51)	(0.70)	(7.00)	(7.09)
GROWTH	-0.142	-0.129	-0.131	0.075	0.062	0.077
	(-0.74)	(--.57)	(-0.68)	(0.51)	(0.40)	(0.49)
Constant	5.104'''	5.320'''	6.438'''	6.68'''	5.328'''	5.508'''
	(11l.78)	(11.94)	(11.93)	(11.69)	(11.76)	(11.98)
Industry Effects	ves	YES	YES	YES	YES	YES
Year Effects	YES	YES	YES	YES	YES	
Observations	1043	1043	1043	872	872	872
Ad) Squared	0.348	0.361	0.382	0.367	0.370	0.374

(Note: Dependent variable – Tobin's Q. Environmental performance is defined in Table 4.2 and is constructed in the way that the higher firms' sales generate higher scores for environmental performance. Year and industry dummies are included to control for year industry effects. The numbers in parentheses are the heteroskedasticity-robust standard errors. *,** and *** indicate significance level at 0.10, 0.05, and 0.01 (2-tail), respectively. The definitions of variables are presented in Table 4.2.

Table 4.2 reports the results of regression analysis of the relationship between the two firm's environmental performance dimensions and Tobin's Q after controlling for other potential determinants of financial performance. Model 1 tests the relations between carbon performance and Tobin's Q: in order to examine the curvilinear relationship, it showed a quadratic term of EE in the model. The coefficients of both the linear and the quadratic term of EE are statistically significant but the directions are opposite. The positive linear coefficient and negative quadratic coefficient suggest that carbon performance and Tobin's Q has a negative relationship, which supports the first Hypothesis.

In Model 2, the study adds the EMP score to test its impact on CFP and find a significant positive coefficient with Tobin's Q, which supports Hypothesis 2 that EMP itself has a direct positive impact on firms' financial performance. To test Hypothesis 3, in Model 3, the study observed the interactions between EMP and the linear and quadratic EE terms. Both interactions are statistically significant and the signs of the interactions suggest a positive U-shape which is opposite to the EE-Tobin's Q relationship. This result supports the argument of Hypothesis 3 that EMP has a moderation effect on the relationship between carbon performance and Tobin's Q, and provides evidence of an interdependent relationship between EOP and EMP. This suggests that when assessing the firm's environmental performance, the investors and other stakeholders simultaneously consider its carbon performance and efforts and activities it devotes to solve the environmental issues. For the robustness test with a two-year time lag (Model 4, 5, 6), the results are fairly consistent.

The inverse U-shaped relationship between carbon performance and CFP which we found in this study is consistent with Misaim and Pogutz (2015) and Tallow (2010), but opposite to the findings in some literature, most notably in Trumpp and Anther (2015). The inverse U-shaped relationship suggests a TMT effect, implying that efforts and investments to improve carbon performance are beneficial for firms' market value at the onset, but beyond a certain point, it is difficult to cover the costs of further improvement of carbon performance by the potential benefits; hence this leads to a trade-off.

The study makes an inference based on significantly positive impact of EMP directly on Tobin's Q which corroborate the findings of Misaim and Perutz (2015) that stakeholders – particularly investors – would consider firms with better EMP, regardless of EOP, as having better reputation and thus reward the investment on improving environmental management with a potential positive estimation of firms' performance. The study also observed moderation effect of EMP, which further elucidates and confirms the findings of Misaim and Perutz (2015). Their study found the moderation effect of EMP within a full sample. This might because in their sample, there are only 51 firms from the UK and the US, and all those firms are from industries with intensive carbon emissions. The study however deviates from the existing studies by expanding sample size to 57 across various industries.

The possible explanation for the inter related carbon performance, EMP and CFP relationship is that when, initially, the carbon performance is low, the firm could choose to invest in cost-effective options to improve the carbon performance. This, in the meantime increases its financial performance. While after reaching a certain level, in order to further improve the carbon performance, the firm needs to invest in more expensive approaches and increase the cost significantly, which will result in a negative relationship with environmental performance (Fuji *et al.,* 2013). Hence a firm does not have strong incentives to incessantly improve its carbon performances it has already met the environmental requirement, unless other stakeholders demand so. This demand forms the stakeholders provide a firm strong incentive to promote environmental management, and these stakeholders will value the efforts expended by a firm input to improve environment management.

Following Trump are Guenther (2015), the study distinctly test the relationship between multi-dimensions CEP and Tobin's Q in manufacturing and service industries. The descriptive statistics (see Appendix 2) indicate that manufacturing industries have a relatively lower carbon performance with an average of 0.286 compared with the service industries (with a mean of 1.268); while the EMP scores of the manufacturing and service industries do not reveal significant difference in the meantime, 22 percent of the companies in manufacturing industries have joined the UN Global Compact program, with only 1l5.8 percent of the firms in service industries. Moreover, the manufacturing industries are more likely to have higher R and D investment, more capital intensity and higher growth opportunity.

TABLE 4.3: RELATIONSHIP BETWEEN MULTI-DIMENSION ENVIRONMENTAL PERFORMANCE AND CORPORATE FINANCIAL PERFORMANCE

	Tobin's Q (t+1)			Tobin's Q (t+2)		
	(1)	(2)	(3)	(4)	(5)	(6)
EE	0.313'''	0.340'''	0.311'''	0.432'''	0.435'''	0.579'''
	(2.25)	(2.48)	(2.22)	(2.54)	(2.53)	(3.56)
Quad.EE	-0.061''	-0.066'''	-0.062'''	- 0.022'''	-0.022'''	-0.033'''
	(-1.85)	(-2.03)	(-1.91)	(-2.65)	(-2.54)	(-3.66)
EMP		(0.003)	(0.29)		0.015''	0.-23'''
	0.010'''	0.008''	0.008''	0.004		
EMP * EE	(2,28)	(2.32)	(1.06)	-0.006*	-0.009''	
EMP * Quad EE	(-l.67)	(-2.30)	0.002*	0.004'''		
SIZE	-0.286''	-0.325'''	-0.324'''	-0.281'''	-0.312'''	0.308'''
	(-12.48)	(-11.67)	(-11.56)	(11.57)	(-10.82)	(-10.65)
UNGC	0.458'''	0.421'''	0.414'''	0.455'''	0.421'''	0.412'''
	(5.04)	(4.62)	(4.60)	(4.54)	(4.14)	(4.07)
CGSCORE	0.000	-0.002	-0.002	0.002	0.000	0.000
	(0.14)	(-0.73)	(-0.72)	(0.83)	0.028'''	0.028'''
R and D	0.019''	0.019''	0.019''	0.028''	0.028''	0.28'''
	(2.00)	(2.05)	(2.02)	(2.21)	(2.24)	(2.21)
CAPITAL	0.366	0.302	0.349	0.635	0.656	0.765
	(0.39)	(0.32)	(0.37)	(0.67)	(0.70)	(0.83)
LEVERAGE	-0.079 -	0.065	-0.071	0.169	0.191	0.165
	(-0.37)	(-0.25)	(-0.33)	(0.89)	(0.98)	(0.85)
CASHFLOW	0.024'''	0.025'''	0.025'''	0.018'''	0.019'''	0.025'''
	(7.34)	(7.50)	(7.51)	(0.463)	(7.00)	(7.09)
GROWTH	-0.086	-0.079	-0.088	(0.77)	0.449	0.0520
	(-0.69)	(0.63)	(-0.69)	(0.51)	(-0.75)	(0.87)
Constant	4,845'''	4.917'''	5.136'''	6.303'''	6.639'''	6.364'''
	(1.76)	(10.73)	(10.89)	(6.66)	(6.69)	(6.53)
Industry Effects	YES	YES	YES	YES	YES	YES
Year Effects	YES	YES	YES	YES	YES	YES
Observations	752	752	752	391	291	291
Ad) Squared	0.303	0.383	0.385	0.404	0.411	0.425

(Note: Dependent variable – Tobin's Q. Environmental performance is defined in Table 4.3 and is constructed in the way that the higher firms' sales/emissions generate higher scores for environmental performance. Year and industry dummies are included to control for year industry effects. The numbers in parentheses are the heteroskedasticity-robust standard errors. *,** and *** indicate significance level at 0.10, 0.05, and 0.01 (2-tail), respectively. The definitions of variables are presented in Table 2.

Table 4.3 reports the results of regression analysis of the relationship

Table 4.3 presents the results of a comparison between the manufacturing and service industries in terms of the relationship between multi-dimensional environmental performance and Tobin's Q, Results in models 1, 2, and 3 indicate that, for manufacturing industries, the inverse U-shaped relationship between the carbon

performance and Tobin's Q exists; while EMP shows no significant direct impact on Tobin's Q, but only a moderation effect when including the interaction of EE and EMP.

CONCLUSION

The study seeks to examine the impact of firm's environmental performance on firm financial performance. The study observed that since corporate environmental performance is a multi-dimensional construct, this study used different measures for the Environmental performance and Environmental Management Practice. it unconnectedly examines the impact of each dimension as well as their interactional effect on firm's financial performance. The study observed that an inverted U – shaped relationship exists between carbon performance and financial performance while positive association exists between environmental performances and financial performance.

REFERENCES

1. Baird, P. L., Geylani, P. C., & Roberts, J. A. (2012). Corporate Social and Financial Performance Re-Examined: Industry Effects in a Linear Mixed Model Analysis. Journal of Business Ethics, 109(3), 367–388.
2. Bedeian, A. G. (2014). "More Than Meets the Eye": A Guide to Interpreting the Descriptive Statistics and Correlation Matrices Reported in Management Research. Academy of Management Learning & Education, 13(1), 121–135.
3. Berrone, P., & Gomez-mejia, L. R. (2009). Environmental Performance and Executive Compensation: An Integrated Agency- Institutional Perspective. The Academy of Management Journal, 52(1), 103–126.
4. Busch, T., & Hoffmann, V. H. (2011). How Hot Is Your Bottom Line? Linking Carbon and Financial Performance. Business & Society, 50(2), 233–265.
5. Cai, L., Cui, J., & Jo, H. (2015). Corporate Environmental Responsibility and Firm Risk. Journal of Business Ethics, (May 2014). http://doi.org/10.1007/s10551-015-2630-4.
6. Campbell, D. & Slack, R. (2011). Environmental Disclosure and Environmental Risk: Sceptical Attitudes of UK Sell-Side Bank Analysts. The British Accounting Review, 43, 54-64.
7. Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate Social Responsibility and Access to Finance. Strategic Management Journal, 35, 1–23.
8. 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(4-5), 303–327.
9. 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.
10. Clemens, B., & Bakstran, L. (2010). A Framework of Theoretical Lenses and Strategic Purposes to Describe Relationships Among Firm Environmental Strategy, Financial Performance, And Environmental Performance. Management Research Review, 33(4), 393–405.
11. Delmas, M. a, Etzion, D., & Nairn-Birch, N. (2013). Triangulating Environmental Performance: What Do Corporate Social Responsibility Ratings Really Capture? Academy of Management Perspectives, 27(3), 255–267.
12. Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, Y. G. (2011). Voluntary Nonfinancial Disclosure and The Cost of Equity Capital: The Initiation of Corporate Social Responsibility Reporting. Accounting Review, 86(1), 59–100.
13. 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.
14. El Ghoul, S., Guedhami, O., Kwok, C. C. Y., & Mishra, D. R. (2011). Does Corporate Social Responsibility Affect the Cost of Capital? Journal of Banking and Finance, 35(9), 2388–2406.
15. Endrikat, J., Guenther, E., & Hoppe, H. (2014). Making Sense of Conflicting Empirical Findings: A Meta-Analytic Review of The Relationship Between Corporate Environmental and Financial Performance. European Management Journal, 32(5), 735–751. 31
16. First, I., & Khetriwal, D. S. (2010). Exploring The Relationship Between Environmental Orientation and Brand Value: Is There Fire or Only Smoke? Business Strategy and the Environment, 19(2), 90–103.
17. Fujii, H., Iwata, K., Kaneko, S., & Managi, S. (2013). Corporate Environmental and Economic Performance of Japanese Manufacturing Firms: Empirical Study for Sustainable Development. Business Strategy and the Environment, 22(3), 187–201.
18. Godfrey, P. C. (2005). The Relationship Between Corporate Philanthropy and Shareholder Wealth: A Risk Management Perspective. The Academy of Management Review, 30(December 2008), 777–798.
19. Godfrey, P. C., Merrill, C. B., & Hansen, J. M. (2009). The Relationship Between Corporate Social Responsibility and Shareholder Value: An Empirical Test Of The Risk Management Hypothesis. Strategic Management Journal, 30(4), 425–445.
20. Goss, A., & Roberts, G. S. (2011). The Impact of Corporate Social Responsibility on The Cost of Bank Loans. Journal of Banking and Finance, 35(7), 1794–1810.
21. Guenther, E. M., & Hoppe, H. (2014). Merging Limited Perspectives: A Synopsis of Measurement Approaches and Theories of The Relationship Between Corporate Environmental and Financial Performance. Journal of Industrial Ecology, 18(5), 689–707.
22. Hart, S. L. (1995). A Resource-Based View of the Firm. The Academy of Management Review, 20(4), 986–1014.
23. Hart, S. L., & Ahuja, G. (1996). Does It Pay to Be Green? An empirical examination of the relationship between emission reduction and firm performance. Business Strategy and the Environment, 5, 30–37.
24. Horváthová, E. (2010). Does Environmental Performance Affect Financial Performance? A Meta: Analysis. Ecological Economics, 70(1), 52–59.
25. Horváthová, E. (2012). The Impact of Environmental Performance on Firm Performance: Short-Term Costs and Long-Term Benefits? Ecological Economics, 84, 91–97. International Organization for Standardization (ISO). (2013).
26. ISO 14031:2013. Environmental Management -- Environmental Performance Evaluation -- Guidelines. ISO: Geneva. Available on the internet at http://www.iso.org/iso/catalogue_detail.htm?csnumber=52297. Accessed 16.05.2023.
27. Jo, H., & Na, H. (2012). Does CSR Reduce Firm Risk? Evidence from Controversial Industry Sectors. Journal of Business Ethics, 110(4), 441–456.
28. Jones, T. M. (1995). Instrumental Stakeholder Theory: A Synthesis of Ethics and Economics. The Academy of Management Perspectives, 20(2), 404–437.
29. Jung, E., Kim, J., & Rhee, S. (2001). The Measurement of Corporate Environmental Performance and Its Application to The Analysis of Efficiency in Oil Industry. Journal of Cleaner Production, 9(6), 551–563.
30. Kassinis, G., & Vafeas, N. (2006). Stakeholder Pressures and Environmental Performance. Academy of Management Journal, 49(1), 145–159.
31. Kim, Y., Li, H., & Li, S. (2014). Corporate Social Responsibility and Stock Price Crash Risk. Journal of Banking and Finance, 43(1), 1–13.
32. King, A. A., & Lenox, M. J. (2001). Does It Really Pay to Be Green? An Empirical Study of Firm 32 Environmental and Financial Performance. Journal of Industrial Ecology, 5(1), 105–116.
33. King, A., & Lenox, M. (2002). Exploring the Locus of Profitable Pollution Reduction. Management Science, 48(2), 289–299.
34. Lu, W.-M., Wang, W.-K., & Lee, H.-L. (2013). The Relationship Between Corporate Social Responsibility and Corporate Performance: Evidence from The US Semiconductor Industry. International Journal of Production Research, 51(19), 5683–5695.
35. Misani, N., & Pogutz, S. (2015). Unraveling The Effects of Environmental Outcomes and Processes on Financial Performance: A Non-Linear Approach. Ecological Economics, 109, 150–160.
36. Nollet, J., Filis, G., & Mitrokostas, E. (2015). Corporate Social Responsibility and Financial Performance: A Non-Linear and Disaggregated Approach. Economic Modelling, 52, 400–407.
37. Oikonomou, I., Brooks, C., & Pavelin, S. (2009). The Impact of Corporate Social Performance on Financial Risk and Utility: A Longitudinal Analysis. Financial Management, 41(2), 483–515.

38. Oikonomou, I., Brooks, C., & Pavelin, S. (2014a). The Effects of Corporate Social Performance on The Cost of Corporate Debt and Credit Ratings. Financial Review, 49(1), 49–75.
39. Oikonomou, I., Brooks, C., & Pavelin, S. (2014b). The Financial Effects of Uniform and Mixed Corporate Social Performance. Journal of Management Studies, 51(6), 898–925.
40. Orlitzky, M., & Benjamin, J. D. (2001). Corporate Social Performance and Firm Risk: A Meta-Analytic Review. Business & Society, 40(4), 369–396.
41. Porter, M. E., & van der Linde, C. (1995). Toward a New Conception of the Environment Competitiveness Relationship. Journal of Economic Perspectives, 9(4), 97–118.
42. Preston, L. L., & O'Bannon, D. P. (1997). The Corporate Social-Financial Performance Relationship: A Typology and Analysis. Business & Society, 36(4), 419–429.
43. Rasche, A., Waddock, S., & McIntosh, M. (2012). The United Nations Global Compact: Retrospect and Prospect. Business & Society, 52(1), 6–30.
44. Salama, A., Anderson, K., & Toms, J. S. (2011). Does Community and Environmental Responsibility Affect Firm Risk? Evidence From UK Panel Data 1994-2006. Business Ethics: A European Review, 20(2), 192–204. Sharma, S., & Vredenburg, H. (1998). Proactive Corporate Environmental Strategy and the Development of Competitively Valuable Organizational Capabilities. Strategic Management Journal, 19(8), 729–753.
45. Soleimani, A., Schneper, W. D., & Newburry, W. (2014). The Impact of Stakeholder Power on Corporate Reputation: A Cross-Country Corporate Governance Perspective. Organization Science, 25(4), 991–1008. Tatsuo, K. (2010). An Analysis of The Eco-Efficiency and Economic Performance of Japanese Companies. Asian Business & Management, 9(2), 209–222.
46. Thompson, P. & Cowton, C. J. (2004). Bringing The Environment into Bank Lending: Implications for Environmental Reporting. The British Accounting Review, 36, 197-218.
47. Thomson-Reuters. (2015). Research Data, available on the internet at http://financial.thomsonreuters.com/. Accessed 16. 04. 16. 33 Trumpp, C., Endrikat, J., Zopf, C., & Guenther, E. (2015). Definition, Conceptualization, and Measurement of Corporate Environmental Performance: A Critical Examination of a Multidimensional Construct. Journal of Business Ethics, 126(2), 185–204.
48. Trumpp, C., & Guenther, T. (2015). Too Little or too much? Exploring U-shaped Relationships between Corporate Environmental Performance and Corporate Financial Performance. Business Strategy and the Environment. http://doi.org/10.1002/bse.1900
49. Tyteca, D. (1997). Linear Programming Models for The Measurement of Environmental Performance of Firms - Concepts and Empirical Results. Journal of Productivity Analysis, 8(2), 183-197.
50. Waddock, S., & Graves, S. (1997). The Corporate Social Performance - Financial Performance Link. Strategic Management Journal, 18(4), 303–319.
51. Wagner, M., & Schaltegger, S. (2004). The Effect of Corporate Environmental Strategy Choice and Environmental Performance on Competitiveness and Economic Performance: An Empirical Study of EU Manufacturing. European Management Journal, 22(5), 557–572.
52. Wagner, M., Phu, N. Van, Azomahou, T., & Wehrmeyer, W. (2002). The Relationship Between the Environmental and Economic Performance of Firms: An Empirical Analysis of The European Paper Industry. Corporate Social Responsibility and Environmental Management, 146, 133–146.
53. Walls, J. L., Phan, P. H., & Berrone, P. (2011). Measuring Environmental Strategy: Construct Development, Reliability, and Validity. Business and Society, 50(1), 71-115.
54. Wang, L., Li, S., & Gao, S. (2014). Do Greenhouse Gas Emissions Affect Financial Performance? An Empirical Examination of Australian Public Firms. Business Strategy and the Environment, 23(8), 505–519.
55. Xie, S., & Hayase, K. (2007). Corporate Environmental Performance Evaluation: A Measurement Model and A New Concept. Business Strategy and the Environment, 16(2), 148–168.
56. Ziegler, A., Busch, T., & Hoffmann, V. H. (2011). Disclosed Corporate Responses to Climate Change and Stock Performance: An International Empirical Analysis. Energy Economics, 33(6), 1283– 1294.

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce & Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue, as well as on the journal as a whole, on our e-mail **infoijrcm@gmail.com** for further improvements in the interest of research.

If you have any queries, please feel free to contact us on our e-mail **infoijrcm@gmail.com**.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward to an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-
Co-ordinator

DISCLAIMER

The information and opinions presented in the Journal reflect the views of the authors and not of the Journal or its Editorial Board or the Publishers/Editors. Publication does not constitute endorsement by the journal. Neither the Journal nor its publishers/Editors/Editorial Board nor anyone else involved in creating, producing or delivering the journal or the materials contained therein, assumes any liability or responsibility for the accuracy, completeness, or usefulness of any information provided in the journal, nor shall they be liable for any direct, indirect, incidental, special, consequential or punitive damages arising out of the use of information/material contained in the journal. The journal, neither its publishers/Editors/ Editorial Board, nor any other party involved in the preparation of material contained in the journal represents or warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such material. Readers are encouraged to confirm the information contained herein with other sources. The responsibility of the contents and the opinions expressed in this journal are exclusively of the author (s) concerned.

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals