Environmental Accounting and Firm Performance: Empirical Evidence

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Introduction

Mankind misuse natural resources that is gifted to us by God and handed over by previous generations, human activities associated with industrialization generates wastes that harm air, water, and land leading to a deterioration of the health of our planet and many environmental issues such as resource depletion, global warming, and others. These environmental problems reached a serious level as it also affects the health and life of the present generation and results in spreading of many diseases and it will affect future generations as well. Therefore, humans started to realize the importance of a clean and healthy environment, trying to protect it and reduce such issues. As the protection of the environment has become a matter of great concern and an international issue, organizations and managers ask for environmental-related information such as costs and revenues that's why Environmental Accounting (EA) was created.[1]

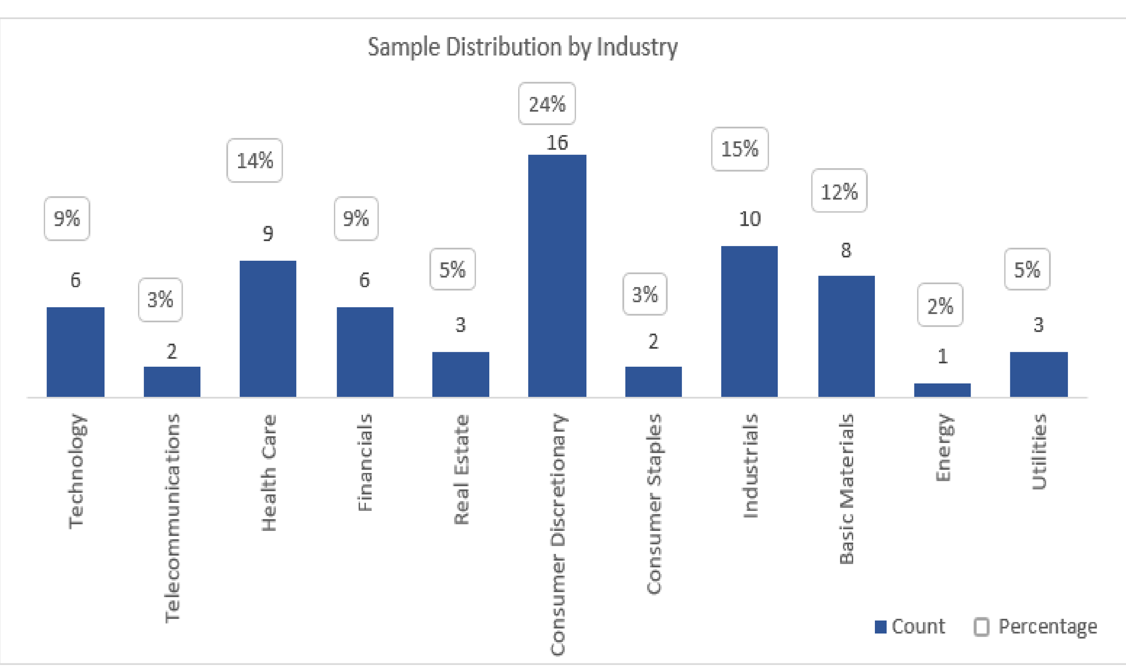
Literature Review

Environmental Accounting was used for the first time by Professor Peter Wood in the 1980s [2], it is defined as a management tool that measures environmental performance, as it is used to determine environmental information and present this information to management in which it could affect their decision, for example using more environmentally friendly processes, and machines.[3] It has Internal functions that are made within an organization that works analyzing any environmental activities and external functions that deal with communicating information related to an organization's environmental activities through reports and statements to stakeholders.[4]

Environmental accounting has two branches; Environmental Management Accounting which is a tool used to evaluate and manage the environmental performance of an organization and provide information to internal users. While Environmental Financial Accounting targets external users as its main purpose is to prepare reports and statements to communicate an organizations' overall performance especially financial information associated with environmental-related practices. [3]

Environmental costs are costs associated with the usage of any natural resources such as water, forests, and costs related to any waste or damage resulting from an organization's activity; these costs should also be considered with other costs that exist in conventional accounting.[6] International Federation of Accountants distinguishes four types of environmental; costs related to conventional accounting such as material and labor costs, environmental activity type costs that include prevention costs, environmental domain type costs that are associated with natural resources such as air, water, and land, finally, costs incurred to clearly represent data in the records such as hidden and obvious costs.[7]

Environmental Accounting is discussed from different theoretical perspectives. According to agency theory, implementing EA and disclosing environmental data is a way to combat agency problem or conflict resulting from information asymmetry.[8] Adapting techniques of EA is as well essential from the point of view of Stakeholder theory, as stakeholder groups whether place pressure on organizations to disclose environmental information in their statements.[9] In addition, gaining support from society is important to legitimize an organization's actions and activities. That's why legitimacy theory emphasises the adaptation of EA to gain social support.[10] Institutional theory states that organizations are trying to comply with norms, values, and rules of the institutional environment that can put pressure on them to adapt specific practices such as adapting EA in order to legitimize their activities, be socially accepted.[11]



Methodology

The objective of this research is to investigate the nature of corporate sustainable performance and how it affects corporate profitability among companies in various industries listed in Germany. The data for this study is collected from Thomson Reuters Eikon database. The sample of this study is 66 classified into 11 industrial groups according to Industry Classification Benchmark (ICB) companies in Germany for the period 2016 till 2020 resulting in (575) firm-year-observation. Moreover the following research hypothesis are formulated:

H1: There is a significant relationship between corporate environmental performance and profitability.

H2: There is a significant relationship between corporate social performance and profitability.

H3: There is a significant relationship between corporate governance performance and profitability.

Descriptive, regression and robustness analysis is performed on the data by using Stata version 14, in addition, Hausman Test is performed to determine the best fil regression model that indicate fixed effect regression model. The regression models are provided below:

$$ROA = \alpha + \beta 1\ Env + \beta 2\ Soc + \beta 3\ Gov + \beta 4\ Firm\ Size + \beta 5\ lvg + \varepsilon \ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ (1)$$

$$ROE = \alpha + \beta 1\ Env + \beta 2\ Soc + \beta 3\ Gov + \beta 4\ Firm\ Size + \beta 5\ lvg + \varepsilon \ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ (2)$$

Results

ROA			
	Coef.	t	P
Environment Pillar Score	-0.061574	-2.09	0.037
Social Pillar score	0.0588567	1.89	0.060
Governance Pillar Score	0.0124776	0.60	0.546
Firm Size	-0.5774382	-0.53	0.559
Lvg	-10.09781	-2.67	0.008
_Cons	21.55422	1.26	0.210
R^2 [between]	0.4690		
Number of obs	494		
F (4, 424)	2.72		
Prob > F	0.0195		

ROE			
	Coef.	t	P
Environment Pillar Score	-0.2173773	-1.76	0.079
Social Pillar score	0.2889382	2.21	0.028
Governance Pillar Score	0.0878898	1.01	0.311
Firm Size	-13.73448	-2.99	0.003
Lvg	58.43859	3.68	0.000
_Cons	200.5308	2.79	0.006
R^2 [between]	0.2266		
Number of obs	494		
F (5, 423)	5.73		
Prob > F	0.0000		

Conclusion

The main aim of the study is to determine the influence that the environmental account or the corporate sustainable performance on the firm performance and profitability.

According to the findings, the environmental pillar score has a negative significant influence on both ROA and ROE which supports the first hypothesis that there is a significant relationship between corporate environmental performance and corporate profitability, however, it is a negative relationship.

As for the social pillar score, it exhibits a positive significant effect on both ROA and ROE and that approves the second hypothesis presented that there is a significant relationship between corporate social performance and corporate profitability. However, the third hypothesis states that there is a significant relationship between corporate governance performance and corporate profitability, the results indicate that there is no significant relationship between corporate governance performance and corporate profitability.

Moreover, it is found that there is no significant relationship between firm size and ROA, however, it has a negative significant influence on ROE. Also, the firm's leverage is found to have a negative significant effect on ROA and a positive significant effect on ROE.

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