

Sustainability Reporting and Financial Performance of Quoted Consumer Goods Companies in Nigeria

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ABSTRACT

The broad objective of this study was to examine the effect of sustainability reporting on financial performance of quoted consumer goods companies in Nigeria. To achieve that objective, the study specifically sought to ascertain the extent to which environmental sustainability reporting, social sustainability reporting, employee health and safety sustainability reporting, and economic sustainability reporting affected accounting and market performance proxies (Gross Profit after Tax, Earnings before Interest and Tax and Return on Capital Employed). In this study, ex-post facto research design was employed on panel data which was sourced from related company annual financial reports. Pooled Ordinary Least Square (POLS) regression analysis was conducted, and diagnostic test conducted to ensure that there was no violation of a vital least square assumption while the formulated hypotheses were tested based on the uniqueness of the specified model. In this study the least square dummy variable regression was employed on Return on Capital Employed and Gross Profit after Tax Margin models while Robust Least Square Regression analyses technique was employed on Earnings before Interest and Tax model. The probability values, (p- values) of the regression results formed the basis for decision making. The findings revealed that environmental sustainability reporting had a positive and significant effect on the performance measure of earnings before interest and tax, but it revealed an insignificant effect on return on capital employed and gross profit after tax margin. That was seen to be consistent with the legitimacy theory which suggested that corporate duties did not end at reaping profit but that commitment to environmental support programme and activities would result in profit for shareholders. It was found that social sustainability reporting had both positive and negative effects on performance to the extent that while it was seen to be negative on return on capital employed and gross profit after tax, its effect on earnings before interest and tax was positive. Therefore, it was recommended that policies that would sustain reporting on environmental issues (such as mandatory disclosure on environmental issues) should be encouraged since it had been shown to be beneficial to the health and survival of the firms.

Keywords: Sustainability, Reporting, Corporate, Financial Consumer Goods

INTRODUCTION

The stakeholders in the quoted companies ranging from investors, shareholders and the policy makers have high agitation on the performance of quoted companies because of the risks inherent in not getting adequate returns on investment (Adegbe & Otitolaiye, 2020). Ashari and Krismiaji (2020) opine that financial performance has implications for the company's future.

Adapting organizations especially large firms, to their environments signifies a reciprocal or a symbiotic relationship between the duos as typified by systems model of viewing business, which is in line with the position taken by Dalal, and Thaker (2019) who noted that due to the current environmental crisis, businesses must give more to their environment. In 2011, the International Federation of Accountants (IFAC) developed a sustainability framework which enabled business organizations to incorporate sustainability issues in their business approach, process and reporting practices. The reporting aspect of

IFAC's sustainability framework involves providing audit and assurance on sustainability performance to enhance the credibility of sustainability reports, incorporating sustainability impacts in financial statements and employing narrative reporting to capture sustainability information not included in financial statements.

Furthermore, studies such as those of Baboukardos and Rimmel (2016) and Abdullah, Ashraf and Sarfraz (2017), have shown that there is continuing concern about nature fragmentation and loss of biodiversity, shortages in freshwater availability, over-fishing of the seas, global warming, extreme weather events, air pollution, water pollution, environmental noise and utter neglect of and disregard for the protection of the immediate environment, much more the future environment. This type of environmental unsustainability associated with continuously rising demand and a shrinking resource base now spills over into social and economic instability. Therefore, from the foregoing, it is seen that many businesses now look to be part of the solutions because of a business organization is central to the problem hence, it must be central to the solution (Choi & Lee, 2018). Indeed, the expectations of sustainability in areas such as environmental protection, human rights, human capital and product safety are rising rapidly. Key stakeholders such as shareholders, employees and financial institutions want business to be responsible, accountable, and transparent.

Unerman, Bebbington and O'Dwyer (2017) state that human activities taking which took place today were regarded by some people as having a detrimental impact on society, ecology and economy which future generations would experience. Indeed, this is a position ever more widely accepted by a growing number of people all over the world. For example, only a very small proportion of scientists including Choi and Lee (2018) argue that human activity is not a major contributory factor to the global warming which is causing wide scale environmental damage – and which is likely to cause even more damage to the ecosphere unless substantive action is taken to reduce the levels of many pollutants.

Even more, scholars argue that the growing social injustice being experienced and the growing damage to the ecosphere are a result of a dominant – and almost unquestioned – objective of maximizing economic growth characterized by energy and material-intensive production and exploitative social relations yielding socially and environmentally unsustainability (Unerman et al, 2017). In Du and Zhang (2020) opinion, the positive response of business leaders to these issues help companies mitigate risks, protect corporate brand, gain a competitive advantage, help reduce poverty and improve the quality of life for many. In some extreme cases, companies may see their licenses to operate threatened if their key stakeholders perceive significant discrepancies between their own values and the companies' values. Unerman, et al (2017) maintained that one way to look at these issues was in terms of the long-term need to ensure that economic activities were socially and environmentally sustainable. In the short-term, it may be possible to have economic growth while damaging society and the environment but, in the long-term, this is impossible (Abdullah, Ashraf & Sarfraz, 2017). Therefore, if businesses operate in a manner which causes damage to society thereby causing a break down in the social harmony necessary to provide a stable context for operation, then such business activities are neither economically nor socially sustainable. In the longer term, if business activities cause a level to damage to the ecosphere such that it cannot sustain human life, then it is clearly neither socially nor economically sustainable as there can be no economic activities let alone economic growth without human life to sustain it.

There is now increasing awareness that companies are made increasingly responsible for consequential environmental and social impact of their activities on host communities and other stakeholders. According to Ekwueme (2018), the big corporations once looked upon as the exclusive concern of its owners are now viewed as being responsible to society also. This implies that companies no longer pay attention to the maximization of shareholder's wealth alone but, as noted by Gupta and Gupta (2020), were embracing activities that tended to maximize the benefits accruable to all the stakeholders. This, to a larger extent means that companies respond positively to issues of sustainability. Thus, White (2009) maintained that the pressure on corporations to reassure the public of their good behaviour had increased organizations'

attention to their stakeholders and stockholders. Business managers are beginning to see that this approach to conducting business must become a part of their companies' strategy to prosper in the future. There is the increased expectation of all companies to be more transparent in how they treat the environment, handle their corporate governance issues, treat their employees and communities (Edwards, 2016). According to Epstein (2018), corporations have become more sensitive to social issues and stakeholder concerns, and are striving to become better corporate citizens. Whether the motivation is concern for society and environment, government regulation, stakeholder pressures or economic profit, the result is that managers must make significant changes to manage their social, economic and environmental impact more effectively.

Hart (2017) explained that corporations were the only organizations with resources, technology, global reach and ultimately, the motivation to achieve sustainability. In response to their sustainable development policies and practices, many companies claim that they recognize their social and environmental responsibilities in addition to their economic responsibilities and seek to manage and account for these activities in an appropriate manner (Hubbard, 2018). Statistics from the Global Reporting Initiative (GRI) reflect the trend in sustainability reporting and as noted by Peiyuan, Xubiao and Ningdi (2017), the number of enterprises writing sustainability reports based on GRI framework worldwide increased from 150 in 2002 to 750 in 2005. The number of sustainability reports registered on the GRI Reports list increased by 22 percent (GRI, 2021). Therefore, an understanding of the basis of this reporting system and how it affects corporate performance is very crucial in determining the essence of its application. It provided the justification for this study whether sustainability reporting reflected on the performance of quoted consumer goods companies in Nigeria.

People all over the world express considerable concern about the damage to the environment by companies and its effects on their lives. There have been calls for firms to engage in activities in a sustainable and responsible manner. Adegboyegun, Alade, Ben-Caleb, Ademola, Eluyela, and Oladipo (2020) observed that such calls were not really heard as information about sustainability was not being captured in the annual reports of some corporations and that made them not to be accountable to their immediate environment. Also, the increasing awareness that companies should be held responsible for the consequential social impact of their activities on the host communities and other stakeholders has put pressure on companies to reassure the public of their good behaviour. As a result, companies no longer lay all emphasis on the maximization of shareholders' wealth alone but now embrace activities that tend to maximize the benefits accruable to all stakeholders. Firms are now conscious that involvement in controversial events that may damage the company's credibility and reputation in the market, might negatively affect both the financial and market performance and the sustainable growth of the company (Oprean-Stan, Oncioiu, Iuga & Stan, 2020). This, to a larger extent, means that companies are made to respond positively to issues of sustainability, making it clear that sustainable development is an important concept to the future fortunes of nations and individuals (Edwards, 2015; White, 2019).

The realization that being socially and environmentally responsible can facilitate long-term growth goals, raise productivity and optimize shareholder value has made sustainability issue a major concern for businesses of all sizes to preserve capital for future generations (Oprean-Stan et al, 2020). This consciousness has led an increasing number of firms to provide sustainability reports in addition to the traditional reporting framework. It is worthy to note here that while some countries of the world have made regulations for sustainability reports others are providing information about sustainability issues on a voluntary basis (Hu, Du & Zhang 2020).

Some extant studies focused on the determinants which influenced sustainability disclosures in firms (Sharma, Panday & Dangwal, 2020; Vitolla, Raimo, Rubino & Garzoni, 2020; Dyduch & Krasodomska, 2017; Kuzey & Uyar, 2017; Giannarakis, 2014; Hahn & Kühnen, 2013). Others focused on the value relevance of sustainability disclosures (Aureli, Gigli, Medei & Supino, 2020; Cordazzo, Bini & Marzo, 2020; Baboukardos & Rimmel, 2016; Ntim, Opong & Danbolt, 2012) while some others examined the link between sustainability disclosures and firm performance which was closely related to this present study.

Furthermore, we found that existing studies on the effect of sustainability reporting on firm performance produced conflicting views. For instance, Albitar, Hussainey, Kolade and Gerged (2020), Hongming, Ahmed, Hussain, Rehman, Ullah and Khan (2020); Emeka-Nwokeji and Osisoma (2019), Amran and Siti-Nabiha (2017), Guthrie, Cuganesan and Ward (2016); Ifurueze, Lydon and Bingilar (2013) and Menassa (2010) documented the positive effect of different measures of sustainability and social and environmental disclosures on financial performance of firms. Ezejiofor, Rachael and Chigbo (2016), Dibua and Onwuchekwa (2015), Emeakponuzo and Udih (2015) and Bessong and Tapang (2016) established a negative insignificant effect of sustainability disclosures on firm performance. Specifically, the results by Nnamani, Onyekwelu and Ugwu (2017) and Usman and Amran (2015) showed that sustainability information disclosure led to a decrease in both accounting and market proxies for financial performance while Emeka-Nwokeji and Osisoma (2019), Amran and Siti-Nabiha (2017), Guthrie, Cuganesan and Ward (2016), Ifurueze, Lydon and Bingilar (2013) and Menassa (2010) documented a positive effect of sustainability information disclosure on both accounting and market base proxies for firm performance. In the light of those contradictory results obtained from existing literature conducted using Nigerian data, this study sought to find out the effect of sustainability reporting on corporate performance (accounting & market proxies) of listed companies in Nigeria. The study provided up to date knowledge of empirical evidence from samples collected from all industries embedded within the non-financial sector which most previous related studies in Nigeria did not consider.

Furthermore, several related studies had analysed the impact of environmental, social and governance sustainability information reporting on firm performance but only a handful studies (Ioannou & Serafeim 2019; Khavesh, Nikhashemi, Yousefi & Haque 2012; Mishra & Suar 2010) (considered economic sustainability disclosure (another proxy for social sustainability) effect on firm performance. Hence, this study was motivated by two key ideas: expanding sectoral coverage of prior related studies and introducing a rare measure of sustainability disclosure of evaluating the effect of sustainability reporting on financial performance of companies in Nigeria. It is against these backdrop mentioned above that this study therefore aims to find out the link between sustainability reporting and corporate financial performance among quoted consumer goods companies in Nigeria, hence the following research questions are

In line with the objectives of this study, the following research questions were set up to guide the study.

What is the effect of environmental sustainability reporting on the financial performance of quoted consumer goods companies in Nigeria?

How does social sustainability reporting affect the financial performance of quoted consumer goods companies in Nigeria?

To what extent does economic sustainability reporting affect the financial performance of quoted consumer goods companies in Nigeria?

How does employee health and safety sustainability reporting affect the financial performance of quoted consumer goods companies in Nigeria?

The main objectives of this study were to investigate the relationship between sustainability reporting and corporate financial performance of quoted consumer goods companies in Nigeria. Specifically, this study intended to:

Ascertain the relationship between environmental sustainability reporting and corporate financial performance of quoted consumer goods companies in Nigeria

Evaluate the relationship between social sustainability reporting and corporate financial performance of quoted consumer goods companies in Nigeria.

3. Analyse the relationship between economic sustainability reporting and corporate financial performance of quoted consumer goods companies in Nigeria.
4. Examine the relationship between employee health and safety sustainability reporting and corporate financial performance of quoted consumer goods companies in Nigeria.

LITERATURE REVIEW

A conceptual review could be described as a section set aside by the researcher in which various variables under investigation are discussed (Camp, 2001). In this study, the concepts of the variables under study are discussed as follows:

Concept of Sustainability Reporting

Sustainability which is also called “triple bottom line” was invented in the year 1994 by John Elkington, the founder of a British consultancy called sustainability (Ezeokafor & Amahalu, 2019). His stand was that every company ought to be producing three (3) different (and moderately detach) bottom lines. First is considered as the conventional computation of organizational profit, the “Bottom line” of the corporate profit and loss account. The second is the bottom line of an organization’s “people account”, this is considered as an evaluation in a number of shape, character or manner of the extent to which socially responsible of corporate establishment is been evaluated during corporate operations. The third is the bottom line of the company’s “planet” account; this simply looked at the extent to which corporate environmental responsibility has been. This sustainability reporting (triple bottom line) made up of three ‘Ps’ which are profit, people and planet. The purpose of the three ‘Ps’ is to access the financial, social as well as environmental performance of corporate organization for a given period (Ezeokafor, et al., 2019). For this reason, corporate organizations are required to present financial statements which contain both qualitative and quantitative accounting data about its operations as well as performance to their investors/ shareholders. The kind of information stakeholders requires of an organizations varies, such as corporate organizations should not disclose only financial performance data but disclose information related to environmental accounting disclosure, human resources accounting disclosure, good corporate governance disclosure, sustainability disclosure, among others (Jerry, Teru & Musa, 2015).

Aifuwa (2020) explained that the term “sustainability reporting” is a combination of two ideas: sustainability and reporting. According to Aifuwa (2020) sustainability is about meeting what this present generation wants without undermining the future generations in meeting what they also wanted, while reporting simply describe as revealing corporate accounting data partially or wholly to various users of stakeholders who may need corporate information for various purposes. For this reason, sustainability reporting is the bringing together (combination) of reporting and accounting for economic, environmental as well as social into corporate disclosure.

Erhirhie and Ekwueme (2019) described sustainability reporting as corporate disclosure make available by corporate organizations concerning company’s economic, environmental, and social effects instigated by daily operations of corporate organizations. Sustainability reporting also portrays corporate worth and control model and displays the connection between its approach, policy and its obligation to a sustainable worldwide market. This explanation points out that sustainability is not a one-time activity; corporate organizations must make it mandatory and make it part of corporate general philosophy, viewpoint and policy.

Syder, Ogbonna and Akani (2020) explained that “sustainability reporting as it contains in defining metrics or indicators both qualitative and quantitative, this express a fair representation or account for company’s performance on material sustainability topics.” This guarantees that sensible shareholders maintain right of entry to the “total mix” of accounting data in their decision making procedure. A critical examination of

sustainability accounting definition by Syder, et al., (2020), one would recognize fundamental substance as pointers of both qualitative and quantitative adequate production of significant sustainability data to shareholders for the purpose of investment decision marketing. Sustainability reporting data as contained in the monetary facts and figures from corporate annual report and account disclosure by corporate entity. In recent time, the tendency of sustainability performance has developed via disclosure arrangement in a number of different agendas overtime as; “Corporate Annual Report, Corporate Social responsibility, Triple Bottom Line Reporting, Global Reporting Initiative, International Integrated Reporting Framework, Sustainability Accounting Standards Board which all focused at Economic, Environmental, Social, Governance etc” (Syder, et al., 2020).

Theoretical Framework.

This study is anchored on the stakeholder’s theory to underpin the relationship between corporate performance and sustainability reporting of quoted consumer goods companies in Nigeria.

Stakeholders Theory

The stakeholder theory was propounded by Edward Freeman R. in 1984. The stakeholder theory argues that there is an organizational responsibility in the disclosure of corporate information for stakeholders concerning the most important activities, being the main source of disclosure through financial statements (Maria, Ana & Maria, 2011). In this respect, Rodrigues (2006) considers that, due to the complexity of the economic reality and to the increasing ownership of intangible assets by groups, these statements continually detour from the purpose of providing the external users with the picture of the business reality.

The content analysis of corporate reports by several stakeholders justifies the importance of this theory in our study (Guthrie, Perry & Riccert, 2006). Stakeholder theory suggests that all stakeholders have a right to be provided with information on how organizational activities impacted on them, even if they choose not to use it (Deegan, 2000). The various interest groups deemed to have an interest in controlling certain aspects of an organization can be efficiently communicated with via the annual report (Guthrie, et al., 2004). Also, companies will voluntarily disclose information such as human capital to meet the demands of stakeholders who have power to control resources required by the organization. Stakeholders should also be seen not just existing, but as making legitimate impacts on the firms. The relationship should be seen as a two-way relationship (Olajide, Olugbenga, Lateef & Ajayi, 2018). What stakeholder wants from the firm may vary. Some will actively seek to influence what the organization does and others may be concerned with limiting the effects of the organization’s activities on themselves. Relations with stakeholders can also vary; possible relationship can include conflicts, support, regular dialogue and joint enterprise.

EMPIRICAL REVIEW

Sustainability Reporting and Financial Performance

Ivan (2019) maintained that the release of the Brundtland Report in 1987 and the subsequent Summits in Rio and Johannesburg which were supported by the United Nations helped to bring about the development of share consciousness on the need to reflect on how society could contribute to social welfare without threatening the survival of biodiversity. This goes to show that companies now operate in a world where issues of sustainable development are increasingly on the agenda, in government, in the business community and in society in general. According to Bebbington (2017), the elements of the sustainable development agenda and specially, the need to embed environmental and social elements into decision making, have begun to affect the language used by companies which increasingly assert that they seek to act in accordance with the principles of sustainable development. One way in which the commitment to sustainable development is evidenced is by production of social, environmental, sustainable development and/or corporate social responsibility report by organizations.

The trend towards sustainability reporting is therefore, driven by two principal factors. First, an increasing recognition of the potential for sustainability related issues to materially affect a company's long term economic performances and second, the need for the business community (and individual companies) to appropriately respond to issues of sustainable development (KPMG, 2018; Ivan, 2019). Since sustainability reporting is directly tied to the concept and goal of sustainable development, its purpose is to provide information which holistically assesses company performance in a multi-stakeholder environment. Thus, to investors, sustainability reports are important in two aspects: First, the environmental performance and social performance are important bases for social and environmental analyses, as the current financial disclosure cannot comprehensively reveal the risk, debts, and returns of enterprises. Second, investors have gradually increased their regard for environmental and social risks as important indicators of enterprises' efforts to improve corporate governance and increase transparency. At the same time, sustainability reports also enhance the efficiency of corporate management as the process of reporting helps the company's collect information on sustainable efforts and achievements and acknowledging the value of such information. More than this, sustainability reporting helps companies find direction of innovation. It has been suggested that increased communication with stakeholders based on sustainability reports is more effective than any other means of fostering dialogue. A good report can comprehensively show stakeholders the ability of the companies to manage environmental and social duties and risks to display their ability to manage financial risks. Through reports, enterprises can find a benchmark in sustainable development performance.

Environmental Sustainability Reporting and Financial Performance

According to Makori and Jagongo (2018), green accounting is the practice of providing accurate information (in firms' annual reports and accounts) on the probable social costs which emanate from production externalities upon the environment and how many deliberate intervention costs have been incurred to bridge the gap between marginal social and private costs. But Huang and Kung (2018) described corporate environmental disclosure as a means for firms to exhibit their social responsibility and obligation to meet the demands of the various stakeholder groups. Hence it is imperative that for corporate firms to develop green cost responsiveness, they should disclose such green costs in their annual reports and accounts (Hoje, Kim & Park, 2017; Ezejiofor, Racheal & Chigbo, 2018). The disclosure of a firm's green costs is believed to make the firm responsive (Shelly, Fust & Lisa, 2017; Cortez & Cudia, 2018; Muller, Mendelsohn & Nordhaus, 2019); a firm is given a chance to minimize its costs in the medium- and long-term (Hasan & Hakan, 2018), and it is also the fundamental determinant of profitability/ performance (Lee, Pati & Roh, 2017; Okoye & Ezejiofor, 2018; Jeroh & Okoro, 2019).

Already, there has been an increased level of public awareness of and concern about the negative effects of firms' activities on the environment (Ahmad & Sulaiman, 2017). Hence, Wilmshurst and Frost (2020) stated that "if the members of the community are becoming more interested in the environmental impact of companies, it is likely that senior management will be called on to explain the company's activities affecting the environment. Such accessibility may be promoted through disclosure within the annual report". All such disclosures are fundamentally supposed to provide information to attract investors (Lang & Lundholm 2019). However, they may be used as a tool to lessen the firms' political risk and social pressure exposure. The same has also been used over time by firms as a tool to manage the stakeholders' impression about the firms (Guidry & Patten, 2018).

As noted by several authors, understanding the relationship between environmental sustainability and financial performance has been the focus of considerable research since the 1970s (Ambec & Lanoie, 2018; Barnett & Salomon 2018; Dixon-Fowler, Slater, Johnson, Ellstrand & Romi, 2018; Endrikat, 2018; Endrikat, Guenther & Hoppe, 2019; Margolis & Walsh, 2020; Orlitzky et al., 2020). Many scholars investigated whether firms were financially rewarded for improving environmental performance. One plausible argument is that any investment in the natural environment comes at a cost to firms and detracts from profit maximization (Friedman 2019).

Without clearly defined ownership rights to public goods such as air or water quality, society incurs the cost of a firm's pollution (Figge & Hahn, 2017; McWilliams, Siegel & Wright 2019). A firm that voluntarily internalizes these externalities incurs cost and does not maximize profit. On the other hand, proponents of a "win-win" argument like Porter and van der Linde (2019) claimed that environmental performance often constituted latent profit maximization opportunities.

Ambec and Lanoie (2018) presented arguments in support several opportunities for firms to increase revenue or reduce costs by reducing their environmental impact. Porter and van der Lindem (2018) in their study noted that research and development into greener production processes can lead to revenue-generating or cost-minimizing innovations that would otherwise be unexploited. Some researchers fuse the two approaches by proposing an inverted U-shaped or a Ushaped relationship between financial and environmental performance (Fujii, Iwata, Kaneko & Managi, 2017; Lankoski, 2018). Whether it is an inverted U or a U depends on whether the "additional cost" or the "win-win" argument prevails as environmental performance increases.

However, the balance of empirical studies suggests a positive relationship between improved environmental performance and financial performance. Indeed, if the returns from proactive environmental strategies were immediately tangible, then more firms would invest in such strategies. However, so far, studies observed more corporate resistance to the enthusiasm for investing in environmental proactive strategies (Boiral, 2016; Delmas & Pekovic, 2017; Jones & Levy, 2017; Kolk & Pinkse, 2018; Rivera, 2019). In summary, scholars have empirically investigated the relationship between environmental sustainability and financial performance for several decades with varying results, but recent studies predominantly supported a "win-win" relationship.

Social Sustainability Reporting and Financial Performance

Financial reporting is often criticized for its focus on historic, quantitative and short-term performance rather than on long-term value creation. Corporate reporting based only on accounting standards allows companies to externalize environmental and social costs since financial results are not placed within the context of the greater economy, society or the environment where the business operates (Terry, 2018). Traditional corporate reports are increasingly less relevant and less useful for analysts and investors as they are difficult for most sophisticated users to understand (Bayoud et al. 2018). The users of financial information today need the data that will allow them to assess whether the entity is socially and financially responsible. It is expected that businesses should do more than simply turn in financial statements in line with accounting standards. They are expected to operate in a manner that is socially and ethically responsible as well as minimize negative impacts on the environment. They should also contribute positively to the community where they operate by taking into consideration the varied needs of their stakeholders. Currently, in most jurisdictions around the world, the minimum requirement is the inclusion of significant nonfinancial information in company reporting.

The Global Reporting Initiative launched in 1997 has taken the lead in delineating a global disclosure framework for corporate social responsibility and sustainability. KPMG (2015) shows that Global Reporting Initiative remains the most popular voluntary reporting guideline worldwide, with 60 percent of all social responsibility reporters in 45 countries surveyed referencing the Global Reporting Initiative. This is roughly stable with the 2013 rate (61 percent). Of course, firms have been put under increasing pressure from a variety of stakeholders to integrate social and environmental considerations into their operations and to ensure higher standards of governance.

Only few countries have mandated the use of integrated reporting, but there has been evidence of voluntary participation worldwide. (Nigerian corporations inclusive) The largest companies in Denmark are now

obliged to report on non-financial information while South Africa has made significant progress in addressing the challenges of Integrated Reporting (IR) by mandating all listed entities to issue annual integrated reports instead of annual financial and sustainability reports.

Attempts to identify the relationship between corporate social sustainability and performance of firms were made by many scholars (Aupperle et al. 2018; Mittal, Sinha & Singh, 2018; Crisóstomo, Freire and deSouza Vasconcellos, 2018). The possible explanations for the lack of consensus and difficulties in measuring corporate social sustainability were given in previous studies (Waddock & Graves, 2019). One possibility is to attribute the inconsistency to the multidimensional corporate social sustainability concept and its interrelationship across many disciplines: varying concepts and issues from strategic perspectives to human resource management, culture and stakeholder/shareholder perspective. Another research group suggested that the unidentified and omitted explanatory variables made it difficult to understand the latent mechanisms. Meanwhile, several studies tested the existence of a relationship between a firm's corporate social sustainability and performance. However, the findings were rather inconclusive in answering the question as to whether a firm's performance in terms of its corporate social responsibility could be translated into a positive corporate performance. While such a relationship sounds appealing, the findings are still fragile since a range of other studies reported either negative (Mittal et al. 2008) or mixed results (Schreck, 2018).

Most prior studies relied heavily on the dataset provided by different data set providers and the shortfall (Margolis et al 2019) suggested the need to consider alternative measures of corporate social sustainability performance. Furthermore, prior studies only tested for a linear relationship between a firm's corporate social sustainability and its financial performance. However, recent developments in microeconomic theory suggested that a non-linear set-up should be considered (Manasakis; Mitrokostas & Petrakis 2017, 2018; García-Gallego & Georgantzis, 2019). A nonlinear relationship between corporate social sustainability and firm performance is therefore, in line with economic intuition but had rarely been tested, as pointed out in Barnett & Salomon (2017).

Economic Sustainability Reporting and Financial Performance

The main objective of businesses is to maximize and increase their market value on a long-term basis. Hence, economic sustainability performance encompasses financial costs and benefits, and reflects the long-term profitability and financial sustainability of a company. Economic sustainability performance is measured in terms of long-term operational effectiveness, efficiency, and productivity, and is normally disclosed by financial indicators in financial statements such as return on equity and economic value added. These key performance indicators (KPIs) help investors to better assess the risks and returns associated with their investments. Thus, a fair disclosure of economic sustainability performance assists investors and other stakeholders in properly assessing the long-term profitability, earnings quality and cash flows of companies (Jensen & Meckling, 1976; Ioannou & Serafeim, 2017).

The underlying principle behind environmental and social governance (ESG) disclosure–economic sustainability performance lies in identifying and quantifying the intangible value possessed by environmentally friendly, socially responsible firms with robust governance policies in place. In line with the stakeholder, the agency and the information asymmetry theories, managers that disclose their ESG practices can reduce the company's exposure to future risks, which, in turn, creates value for investors and other stakeholders with long-lasting business models. Therefore, incorporating ESG strategy and policies within a firm, the improved accountability and enhanced stakeholder trust (social reputation) will enhance the said firm's economic performance. In fact, a firm's economic sustainability performance is formed by means of investors' appreciation, as well as customers'/stakeholders trust which supports income.

Employee Health & Safety Sustainability Reporting and Financial Performance

Employees are major stakeholders whose welfare is paramount for enhanced organizational performance and, as such, workers' health and safety cannot be undermined. Hence, the need for the disclosure of healthy and safer work conditions is gaining wider recognition as an expansive idea influence as the quality of life of employees as well as its significant influence on the social/societal sphere. Employee health and safety encompasses the physical, mental and emotional welfare of an employee relative to the performance of his duties and, as a result impact positively on the achievement of organizational goals (Amponsah-Tawiah & Dartey Baah, 2018). In that light, the International Labour Organization (ILO) (1959) emphasized that employee health and safety should be part of organizations culture aimed at protecting workers against health hazards because of work schedules. Similarly, Cole (2021) noted that employees who were healthy and safe at work were more committed and utilized the best of their potential to work, thereby yielding better results.

Developing countries such as Nigeria which are endowed with mineral resources, but with less employee health and safety standards are prone to occupational, job and health related deaths, most of which are as a result of employees engaging in hazardous activities. This impedes employee performance adversely (Demba, Ceesay & Mendy, 2016; Amponsah-Tawiah & Mensah, 2016). Organizations environmental and social policies boast environmental sustainability and enhances firms' opportunity to gain increased market share and profitability.

METHODOLOGY

This study adopted ex-post facto and analytical research designs based on the secondary data collated from annual financial reports of selected listed non-financial companies in Nigeria. Specifically, this study employed ex-post facto research design since the event had already taken place therefore, the information already existed. Furthermore, the study used analytical research designs such as Pooled Ordinary Least Square (POLS) regression analysis, robust least square regression analysis, spearman rank correlation matrix result and the descriptive statistics to analyze the data.

The population of this study consists of the entire twenty-one (21) consumer goods companies quoted on the Nigerian Exchange Group (NGX) as at 31st December 2021 as evidenced in the Nigerian Exchange Group (NGX) (2021)

The study adopted census sampling which entails absorbing the entire population as the sample. 21 listed consumer goods companies was utilized as the sample of the study. Since the study adopts the entire population as its sample the study there will be no need for sampling technique. But in other not to have incomplete data the study shall employ two-point filter which are; that the companies must be quoted for entire period of the study 2013-2021, and the company should have required data needed to achieve the objectives of the study.

This study employed secondary source of data collection. Data were obtained from the annual report and accounts of consumer goods companies quoted on the Nigerian Exchange Group (NGX) for all the variables required. The data were sourced from annual reports/financial statements of selected companies for a period of nine (9) years i.e. (2013 – 2021).

The data set was first subjected to pre-regression analyses which included descriptive statistics analyses, correlation analyses and the test for normality of residua. The descriptive statistics was employed to examine the characteristics of the data: mean maximum, minimum, and standard deviation. The correlation

analysis was adopted to evaluate the association among the variables, and check for possible collinearity among the variables of interest. The regression analyses technique as a method of data analyses was employed to establish the effect of sustainability reporting and firm performance, and identify the direction of the effect, if any. However, the regression analysis was subjected to diagnostic checks involving the tests for multicollinearity, heteroscedasticity and fixed and random effect. Specifically, the need to control for heteroscedasticity and company fixed effect which were seen to be present in the fixed effect model as suggested by the Hausman specification test prompted the use of robust least square regression estimator and least square dummy variable regression estimator.

Model Specification

The study specified three econometric models to determine the effects of sustainability reporting on the financial performance of companies listed on the Nigerian Stock Exchange. This study modified the models of Hongming, Ahmed, Hussan, Rehman, Ullah and Khan (2020) and Nwokeji and Osisima’s (2019) to have the functional form for this study as:

$$\text{Financial Performance} = F(\text{Environmental Sustainability Reporting, Social Sustainability Reporting, Economic Sustainability Reporting, Employee Health \& Safety Sustainability Reporting}) \dots\dots\dots (1)$$

Where financial performance measures are; Return on Capital Employed, Gross Profit after Tax Margin and Earnings before Interest & Tax. Hence, we re-wrote the functional form of the equation as:

Model 1: Return on Capital Employed (ROCE)

$$\text{ROCE} = F(\text{Environmental Sustainability Reporting, Social Sustainability Reporting, Economic Sustainability Reporting, Employee Health \& Safety Sustainability Reporting, and Earnings Yield}) \dots\dots\dots (2)$$

Model 2: Gross Profit after Tax Margin (GPTM)

$$\text{GPTM} = F(\text{Environmental Sustainability Reporting, Social Sustainability Reporting, Economic Sustainability Reporting, Employee Health \& Safety Sustainability Reporting, and Earnings Yield}) \dots\dots\dots (3)$$

Model 3: Earnings before Interest & Tax (EBIT)

$$\text{EBIT} = F(\text{Environmental Sustainability Reporting, Social Sustainability Reporting, Economic Sustainability Reporting, Employee Health \& Safety Sustainability Reporting, and Earnings Yield}) \dots\dots\dots (4)$$

Furthermore, we specified three econometric models to test our stated hypotheses shown below as:

Model 1

$$\text{ROCE}_{it} = \beta_0 + \beta_1\text{ENSR}_{it} + \beta_2\text{CSRR}_{it} + \beta_3\text{EHSR}_{it} + \beta_4\text{ECSR}_{it} + \beta_5\text{EAYD}_{it} + \mu_{it} \dots\dots\dots 5$$

Model 2

$$\text{GPTM}_{it} = \beta_0 + \beta_1\text{ENSR}_{it} + \beta_2\text{CSRR}_{it} + \beta_3\text{EHSR}_{it} + \beta_4\text{ECSR}_{it} + \beta_5\text{EAYD}_{it} + \mu_{it} \dots\dots\dots 6$$

Model 3

$$EBIT_{it} = \beta_0 + \beta_1 ENSR_{it} + \beta_2 CSRR_{it} + \beta_3 EHSR_{it} + \beta_4 ECSR_{it} + \beta_5 EAYD_{it} + \mu_{it} \dots \dots \dots 5$$

Where:

ROCE = Return on Capital Employed

GPTM = Gross Profit after Tax Margin

EBIT = Earnings before Interest & Tax Margin

ENSR = Environmental Sustainability Reporting

CSRR = Corporate Social Responsibility Reporting

EHSR = Employee Health & Safety Reporting

ECSR = Economic Sustainability Reporting

EAYD = Earnings Yield

β_0 = Model intercept

$\beta_1 \dots \dots \beta_5$ = Coefficient to be estimated, where $\beta_1 \dots \dots \beta_5 > 0$

it = Cross Section of listed companies with time variant

μ = stochastic error term.

3.9 Operationalization of Variables

Definition and measurements of dependent, independent and control variable employed in the study is presented

Variable	Type	Measurement	Sources	Apriori
Return on Capital Employed (ROCE)	Dependent	Earnings before interest and tax divided total asset minus current liabilities.	Ioannou and Serafeim (2021)	
Gross Profit after Tax Margin (GPTM)	Dependent	Gross profit divided by revenue.	Ioannou and Serafeim (2021)	
Earnings before Interest and Tax (EBIT)	Dependent	Earnings before interest and taxes divided by revenue.	Daniel, Mogaka, Makori, Ambrose and Jagongo (2021)	
Environmental Sustainability Reporting (ENSR)	Independent	Content Analysis based on the Global Reporting Initiative (GRI, 2018)	Daniel, Mogaka, Makori, Ambrose and Jagongo (2021)	+

Corporate Social Sustainability Reporting (CSRR)	Independent	Content Analysis based on the Global Reporting Initiative (GRI, 2018)	Lo & Sheu, (2017)	+
Employee Health and Safety Sustainability Reporting (EHSR)	Independent	Content Analysis based on the Global Reporting Initiative (GRI, 2018)	Dobbs & Standa, (2016)	+
Economic Sustainability Reporting (ECSR)	Independent	Earnings per share based on the Global Reporting Initiative (GRI, 2018)	Dobbs & Standa, (2016)	+
Earnings Yield (EAYD)	Independent	Cash dividend paid divided by market capitalization	Hussain (2015)	+

Source: Researcher’s Compilation, 2022

Presentation of Results

Table 1: Descriptive Statistics

	Mean	Median	Max.	Min.	Std. Dev.	Skew	Kurt.	J-B	Prob.
ROCE	5.05	4.13	22.05	-1.25	3.25	2.55	10.25	364.16	0.00
GPTM	12.54	11.15	28.10	2.72	5.05	3.30	3.41	1126.06	0.00
EBIT	6.05	5.71	8.73	2.02	1.98	1.59	3.35	66.15	0.00
ENSR	4.19	4.05	6.26	2.06	1.58	1.41	4.36	28.78	0.00
CSRR	3.70	3.25	5.02	1.00	0.96	1.28	2.10	20.03	0.00
EHSR	0.53	0.52	0.87	0.38	0.25	0.67	0.70	78.10	0.00
ECSR	67.04	63.48	156.31	9.56	15.12	4.68	4.62	11848.1	0.00
EAYD	24.022	23.75	38.10	18.15	4.64	1.16	3.711	5.72	0.00

The mean roce is 5.05 percent. the median value of 4.13 is less than the mean value and suggests that theroce is not similar across the selected consumer goods companies; an indication of marked heterogeneity in return on capital employed (roce) performance over the period. this is further buttressed by the wide gap between the maximum and minimum values, which are 22.05 percent, and minimum -1.25 percent, respectively. the standard deviation of 3.25, which is relatively large shows considerable variability among the cross-sectional roces of the sampled consumer goods companies. invariably, many of the roces for the selected consumer goods companies do not follow the same pattern.

The mean gptm is 12.5 percent. the median value of 11.15 is less than the mean value and suggests that the gptm is not similar across the selected consumer goods companies; an indication of marked heterogeneity in gross profit after tax margin (gptm) performance over the period. this is further buttressed by the wide gap between the maximum and minimum values, which are 28.10 percent, and minimum 2.72 percent, respectively. the standard deviation of 5.05, which is relatively large shows considerable variability among the cross-sectional gptm of the sampled consumer goods companies. invariably, many of the gptms for the selected consumer goods companies do not follow the same pattern.

The mean ebit is 6.05 percent. the median value of 5.71 is less than the mean value and suggests that the ebit is not similar across the selected consumer goods companies; an indication of marked heterogeneity in earnings before interest and tax (ebit) performance over the period. this is further buttressed by the wide gap between the maximum and minimum values, which are 8.73 percent, and minimum 2.02 percent, respectively. the standard deviation of 1.98 shows less variability among the cross-sectional ebit of the sampled consumer goods companies. invariably, many of the ebits for the selected consumer goods companies follow the same pattern.

the corresponding average values for environmental sustainability reporting (ensr), corporate social responsibility reporting (csrr), employee health & safety reporting (ehsr), economic sustainability reporting (ecsr) and earnings yield (eayd) are 6.05, 4.19, 3.70, 0.53, 67.04 and 24.04 percent, respectively. the skewness of roce of 2.55 and kurtosis value of 10.25 shows a non-uniform and non-symmetric distribution. apparently, some of the selected consumer goods companies have high roce and sustainability reporting attributes (environmental sustainability reporting, corporate social responsibility reporting, employee health & safety reporting, economic sustainability reporting and earnings) that tended to offset the low values reported by others. the j-b value of 364.01 is highly significant and shows that the roce and sustainability reporting attributes are not normally distributed for the selected consumer goods companies.

similarly, the mean value of gptm is 12.54 percent, an indication of a robust gross profit after tax margin ratio of selected consumer goods companies in nigeria. this is because it shows how well consumer goods companies in nigeria control its costs. invariably, the sampled consumer goods companies in nigeria tend to have robust financial performance and relatively good ability to absolve losses. unlike in the case of the roce, there appears to be less dissimilarities among the reported gptms for the individual sampled consumer goods companies in nigeria due perhaps to monetary policy regulation on the required minimum gross profit after tax ratio of sampled consumer goods companies in nigeria.

The median value of 11.15 percent, which is less than the mean value shows that gptm are dissimilar across the sampled consumer goods companies in nigeria. the standard deviation value is also high and shows variability or rapid changes in gptm either over time for the respective sampled consumer goods companies in nigeria or across the sectional differences in the sampled consumer goods companies in nigeria. the skewness is quite positively high, and indicates that more of the sampled consumer goods companies in nigeria reported lower gptm values than the average across the companies. the j-b value of 1126.1 for the gptm is high and is highly significant; an indication that the gptm across the sampled consumer goods companies in nigeria are not normally distributed. the implication of this is that there is heterogeneity among the consumer goods companies in terms of financial performance either for the roce or the gptm.

The independent variables have similar characteristics, namely, high variability, given by the standard deviation values of 5.05 for gptm, 15.12 for ecscr and 4.64 for eayd; positive skewness, given by 2.55, 3.30, 1.59, 1.41, 1.28, 0.67, 4.68 and 1.16 and highly significant j-b values of 364.2, 1126.1, 66.2, 28.8, 20.03, 78.10 and 114848.1. apparently, individual sustainability reporting attributes of consumer goods companies are critical to the determination of the financial performance of consumer goods companies valuation used in the analysis. this, in addition to the significant j- b, statistic is a clear indication that the hypothesis of normality and uniformity in the distribution cannot be accepted. the values therefore points to the existence of a density function that is not symmetrically distributed. the implication of this is that there is heterogeneity (poolability) among the sampled consumer goods companies in terms of financial performance and the individual sustainability reporting attributes. ols estimation bias problem is therefore expected in the models if the ols technique is employed. this is the empirical justification for the adoption of the panel data analysis technique for the estimation of the relationships.

Correlation Analysis

Covariance Analysis: Ordinary								
Included observations: 144								
Correlation								
t-Statistic								
Probability	ROCE	GPTM	EBIT	ENSR	CSRR	EHSR	ECSR	EAYD
ROCE	1.000000							
	144							
	—							
GPTM	0.3163	1.000000						
	144	144						
	0.0000	—						
EBIT	0.7371	0.4923	1.000000					
	144	144	144					
	0.0000	0.0000	—					
ENSR	0.1931	0.1468	0.1571	1.000000				
	144	144	144	—				
	0.0000	0.0000	0.0000	—				
CSRR	0.2043	0.1920	0.2549	0.3040	1.000000			
	144	144	144	144	—			
	0.0000	0.0000	0.0000	0.0000	—			
EHSR	0.0209	0.1103	0.0878	0.0577	0.2703	1.0000		
	144	144	144	144	144	—		
	0.0000	0.0000	0.0000	0.0000	0.0000	—		
ECSR	0.7461	0.1268	0.5826	0.2494	0.2613	0.0765	1.0000	
	144	144	144	144	144	144	—	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	—	
EAYD	0.6951	0.1554	0.5746	0.0204	0.2076	0.0184	0.5949	1.0000
	144	144	144	144	144	144	144	—
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	—

Source: Eviews 9 (2022)

Correlation Analysis

Correlation is a bivariate analysis that measures the strength of association between two variables and the direction of the association. In terms of the strength of association, the value of the correlation coefficient varies between +1 and -1. A value of ± 1 indicates a perfect degree of association between the two variables such that as the correlation coefficient value goes towards 0, the association between the two variables will be weaker. The direction of the association is indicated by the sign of the coefficient; a plus sign indicates a positive association and a minus sign indicates a negative association. Most notably, we employed the Spearman Rank Correlation matrix technique because of non-normality of residua. In this study, we noted that non-normality could grow more common as data gathering techniques became more complex. Disciplines such as Behavioural Genetics, Computational Modeling, Cognitive Neuroscience and

Managerial Sciences often produce notably non-normal data (Bray, 2010; Allison et al., 1999; Bishara et al., 2009; Bullmore et al., 1999). Such non-normality may handicap the performance of traditional parametric statistics such as the Pearson product-moment correlation (Dunlap, Burke & Greer, 1995)

Nonlinear transformations away from normality usually reduce the absolute magnitude of the Pearson Correlation (Calkins, 1974; Dunlap, Burke & Greer, 1995; Lancaster, 1957). Hence, with non-normal data, the traditional t test for a significant Pearson correlation can be underpowered. Perhaps of even greater concern is that some types of non-normal distributions Pearson's correlation also inflate Type I error rates (Blair & Lawson, 1982; Hayes, 1996; Bishara & Hittner, 2012). Specifically, we noted that non-normal distribution produced *outlier* which was an observation with an abnormally large residual. With non-normal data, the traditional Pearson product-moment correlation may mischaracterize relationships in more noticeable ways. Hence, to cushion these problems, a researcher can choose from a variety of alternatives to the Pearson correlation technique. Consequently, we followed Anscombe's (1960) insurance policy analogy which noted that Spearman Rank coefficient (rs) yielded a slight loss of efficiency when bivariate normality assumptions were met, but it seemed a small premium given the impressive protection it provided against outliers.

Specifically, it was observed that all the independent variables had a positive association with the independent variables. However, a cursory look at the Table above suggested that there was no need to worry about the consequences of a perfect correlation since no rho coefficient (correlation coefficient) was greater than 80% at that point the problem of collinearity occurred. However, multicollinearity among the independent variables was further tested with an advanced econometric technique which was the Variance Inflation Factor (VIF) technique. It suggested that high multicollinearity among predictors indicated that one could predict one variable using a second predictor variable known as the problem of multicollinearity. That outcome produced unstable parameter estimates of regression which made it very difficult to assess the unique effect of the independent variables on the dependent variable. The standard error of such parameters became very high.

Diagnostic Tests

Regression

Analysis

McManus (2011) observed that General Linear Model is the foundation of linear panel model estimation. When the regressors are exogenous, the Ordinary Least Square (OLS) estimator is consistent with the best in the class of linear unbiased estimators when the errors are homoscedastic and serially uncorrelated. When the errors have finite variances, the least squares technique provides minimum-variance mean-unbiased estimate under these conditions. Following the above, we first conducted a Panel Ordinary Least Square regression analysis to check for regression errors.

Variance Inflation Factor (VIF) Test

Multicollinearity occurs in multiple regression models, and it applies to a situation where two or more independent variables are found to collinear. Multicollinearity occurs in a multiple regression analysis if some of the independent variables are highly inter-correlated. In a nutshell, if multicollinearity is found among the independent variables of interest, it means that they are perfectly correlated. When this happens, the parameter coefficients will be indeterminate, and the standard error of the estimated coefficients becomes bloated. According to Gujarati (2003), there is no consequence if the mean VIF is less than 10 or $1/VIF$ is less than 0.10.

Table 4.3: Variance Inflation Factors

Variance Inflation Factors			
Date: 05/07/22 Time: 10:15			
Sample: 1 144			
Included observations: 144			
	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
ENSR	0.908902	1.10	1.010738
CSRR	0.727009	1.38	1.259863
EHSR	0.782535	1.28	1.265897
ECSR	0.955742	1.05	1.009470
EAYD	0.983309	1.02	1.021048
C	0.096226	1.540089	NA

Source: E-views 9 (2022)

Test for Heteroscedasticity

Heteroscedasticity means the absence of homoscedasticity, the constant variance assumption of the panel least square estimator. Heteroscedasticity implies the absence of constant variance leading to the breakdown of the Best Linear Unbiased Estimator (BLUE) properties where the efficiency and consistency properties are lost. Using the Breusch Pagan-Godfrey test, the decision rule is to conclude that there is no heteroscedasticity if the probability value of the F statistics is not statistically significant at 5%. Otherwise, the assumption of homoscedasticity will be violated if the probability value of the F statistics is statistically significant at 5%

Heteroskedasticity Test: Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	2.029689	Prob. F(4,139)	0.0935
Obs*R-squared	7.946648	Prob. Chi-Square(4)	0.0936
Scaled explained SS	7.325631	Prob. Chi-Square(4)	0.1196

Source: Researcher's Compilation (2022)

The test for Heteroskedasticity is presented in Table 4.4. It checks for the presence of non-constant variable leading to the breakdown of the BLUE properties in which the efficiency and consistency property may be lost. The decision rule is to conclude that there is no Heteroskedasticity if the F-statistic values are respectively greater than the critical values at 5% level. In the absence of this (i.e. if the critical values at 5% is greater than the F-statistic and observed R-square value), we conclude that there is Heteroskedasticity. As shown in Table 4.4, the p-value (4.13%) of the corresponding observed chi-square value is greater than 5%. Hence, we accept the null hypothesis of heteroskedastic error term which is desirable. The implication of this is that the regression results can be applied reliably.

Hausman Test Result

Correlated Random Effects – Hausman Test				
Equation: Untitled				
Test period random effects				
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	
Period random	0.441189	4	0.9790	
** WARNING: estimated period random effects variance is zero.				
Period random effects test comparisons:				
Variable	Fixed	Random	Var (Diff.)	Prob.
ENSR	-0.580384	-0.572470	0.001913	0.8564
CSRR	0.383612	0.370643	0.000513	0.5668
EHSR	-0.038318	-0.037426	0.000033	0.8771
ECSR	0.001400	0.001143	0.000000	0.5403
EAYD	0.058830	0.063407	0.000000	0.5308

Source: Author’s Computation (2022)

Null Hypothesis: Random effect model is not desirable

Alternative Hypothesis: Random effect model is desirable.

Decision Rule: Accept null if product is greater than 5%.

Accept alternative if product is less than 5%.

From the result of the Hausman Test, the chi-square statistics has a value of 0.97 and the corresponding p-value is greater than 5%. Hence, the null hypothesis was accepted. This implies that the random effect model is most appropriate for the study, (see appendix) in order to provide a comprehensive overview of the results.

Regression (ROCE)

Dependent Variable: ROCE				
Method: Panel EGLS (Period random effects)				
Date: 05/07/22 Time: 09:44				
Sample: 2013 2021				
Periods included: 9				
Cross-sections included: 16				
Total panel (balanced) observations: 144				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ENSR	0.917386	5.128244	0.18	0.8580
CSRR	-5.130097	3.591317	-1.43	0.1532
EHSR	7.925075	4.181467	1.90	0.0581
ECSR	0.875564	0.117780	7.43	0.0000

EAYD	0.058830	0.003039	19.35	0.0000
C	-3.268876	3.981987	-0.82	0.4117
Effects Specification				
			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			3.083586	1.0000
Weighted Statistics				
R-squared	0.776283	Mean dependent var		7.472222
Adjusted R-squared	0.649701	S.D. dependent var		3.076972
S.E. of regression	2.999533	Sum squared resid		1250.611
F-statistic	2.869730	Durbin-Watson stat		1.637318
Prob(F-statistic)	0.005376			
Unweighted Statistics				
R-squared	0.4342937	Mean dependent var		7.472222
Sum squared resid	1250.611	Durbin-Watson stat		1.637318

Source: Researcher’s Computation via Eviews 9 (2022)

Regression (GPTM)

Dependent Variable: GPTM				
Method: Panel EGLS (Period random effects)				
Date: 05/07/23 Time: 09:44				
Sample: 2013 2021				
Periods included: 9				
Cross-sections included: 16				
Total panel (balanced) observations: 144				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ENSR	18.82135	13.72659	1.37	0.1703
CSRR	-15.92862	9.489555	-1.68	0.0932
EHSR	12.78144	11.03503	1.16	0.2468
ECSR	0.183137	0.313001	0.59	0.5585
EAYD	-0.015641	0.007946	-1.97	0.0490
C	24.35438	10.55926	2.31	0.0211
Effects Specification				
			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			3.083586	1.0000
Weighted Statistics				
R-squared	0.0271554	Mean dependent var		7.472222
Adjusted R-squared	0.649701	S.D. dependent var		3.076972

S.E. of regression	2.999533	Sum squared resid	1250.611
F-statistic	2.869730	Durbin-Watson stat	1.637318
Prob(F-statistic)	0.005376		
	Unweighted Statistics		
R-squared	0.776283	Mean dependent var	7.472222
Sum squared resid	1250.611	Durbin-Watson stat	1.637318

Source: Researcher’s Computation via Eviews 9 (2022)

Table 4.8: Regression (EBIT)

Dependent Variable: EBIT				
Method: Panel EGLS (Period random effects)				
Date: 05/07/23 Time: 09:44				
Sample: 2013 2021				
Periods included: 9				
Cross-sections included: 16				
Total panel (balanced) observations: 144				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ENSR	24.59978	78.19796	0.31	0.7531
CSRR	-56.59112	67.14303	-0.84	0.3993
EHSR	19.86852	79.77700	0.25	0.8033
ECSR	-0.690770	1.979350	-0.35	0.7271
EAYD	1.250968	0.074322	16.83	0.0000
C	34.618714	70.60944	0.49	0.6239
Effects Specification				
			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			3.083586	1.0000
	Weighted Statistics			
R-squared	0.296278	Mean dependent var	7.472222	
Adjusted R-squared	0.649701	S.D. dependent var	3.076972	
S.E. of regression	2.999533	Sum squared resid	1250.611	
F-statistic	2.869730	Durbin-Watson stat	1.637318	
Prob(F-statistic)	0.005376			
	Unweighted Statistics			
R-squared	0.776283	Mean dependent var	7.472222	
Adjusted R-squared	0.649701	S.D. dependent var	3.076972	
S.E. of regression	2.999533	Sum squared resid	1250.611	
F-statistic	2.869730	Durbin-Watson stat	1.637318	
Prob(F-statistic)	0.005376			

	Unweighted Statistics		
R-squared	0.776283	Mean dependent var	7.472222
Sum squared resid	1250.611	Durbin-Watson stat	1.637318

Source: Researcher’s Computation via Eviews 9 (2023)

A careful examination of the results depicts the absence of multicollinearity since the mean VIF (1.16) for all the three models return on capital employed gross profit after tax margin and earnings before interest and tax within the region of 10 against which the presence of multicollinearity could be suspected. Also, we found the absence of heteroscedasticity (0.0866) in return on capital employed model while there existed a strong presence of heteroscedasticity in both gross profit after tax (0.0000) and earnings before interest and tax (0.0000) models. Furthermore, a diagnostic test revealed the presence of fixed and random effects in both models of return on capital employed (0.0000) and gross profit after tax margin (0.0000) during the period under investigation. We explored the Hausman model selection criteria which revealed that fixed effect models should be adopted for both return on capital employed (0.0000) and gross profit after tax (0.0000) models.

However, due to the damaging effects which the presence of fixed effects could have on the standard errors, we resorted to the use of Least Square Dummy Variable (LSDV) regression estimator in obtaining the most efficient and consistent estimates as applied in previous studies by (Orazalin & Mahmood, 2019). Specifically, in examining the model of earnings before interest and tax, the result revealed a strong presence of heteroscedasticity (0.0000) but was void of both fixed (1.0000) and random (1.0000) effects. In that model, the need for Hausman selection criteria was not required but we employed robust least square regression in order to cushion the effect of heteroscedasticity. Hence, the resulting coefficients were employed for interpretation and policy recommendation.

Least Square Dummy Variable Estimator

In panel data models, dummy variables may be introduced to the least squares to explain the effect of each individual unit of a cross section which is unobserved but correctly specifies the model of relation. Just like the Ordinary Least Square (OLS), the Least Square Dummy Variable (LSDV) estimator is also applied to the equations in a level form and all the cross sections are applied in the actual estimation (Islam, 1994; Greene, 2003). It can give estimates of variances of ϵ_{it} and η_{it} separately. In the Least Square Dummy Variable estimation, the individual effect is assumed to be fixed over time in each cross section. The fixed effects model is a useful specification for explaining cross section heterogeneity in panel data. The LSDV is generally implemented by the insertion of relevant dummies but is mindful of the dummy variable trap and the application of OLS on the enlarged model. From the foregoing, this study adopted the LSDV to control for the fixed effect that was present in the ROCE & GPTM models as presented in the table 4.6 The Table provided a summary of regression estimates employed for the study’s hypotheses testing and consequent interpretation of result and policy recommendation.

Least Square Dummy Variable and Robust Least Square Regression Estimates

Variance Inflation Factors			
Date: 05/07/23 Time: 10:15			
Sample: 1 144			
Included observations: 144			
Variable	LSDV_ROCE	LSDV_GPTM	LSDV_EBIT
ENSR	-7.623679	8.4330197	10.545225

	7.462720	19.57322	2.604509
	-1.02	0.43	4.05
	0.3068	0.6667	0.0001
CSRR	-13.99754	-39.484888	7.5418804
	4.12434	10.817316	2.2363641
	-3.39	-3.65	3.37
	0.0007	0.0003	0.008
EHSR	13.804984	16.306313	-2.6175369
	4.7075517	12.346964	2.6640356
	2.93	1.32	-0.98
	0.0035	0.1871	0.3262
ECSR	0.95330534	0.40724516	0.35071606
	0.14791398	0.38794868	0.06620844
	6.44	1.05	5.30
	0.0000	0.2942	0.0000
EAYD	0.05740725	-0.01803757	0.22643471
	0.00303865	0.00796977	0.00429958
	18.89	-2.26	52.66
	0.0000	0.0240	0.0000

Source: E-views 9 (2023)

Specifically, the study provided interpretation and made policy recommendation with LSDV and the Robust Panel Least Square models. The ROCE model goodness of fit as captured by the Fisher statistics (12.85) and the corresponding probability value (0.0000) showed a 1% statistically significant level suggesting that the entire model was fit and could be employed for interpretation and policy implication. An R^2 value of 0.6084 indicated that about 61% of the variation in the dependent variable was explained by all the independent variables plus the control variables and company dummies in the model. It also proved that about 39% of the variation in the dependent variable was left unexplained but had been captured by the error term. Also, the GPTM model goodness of fit as captured by the Fisher statistics (4.94) and the corresponding probability value (0.0000) showed a 1% statistically significant level suggesting that the entire model was fit and could be employed for interpretation and policy implication. An R^2 value of 0.3742 indicated that about 37% of the variation in the dependent variable was explained by all the independent variables plus the control variables and company dummies in the model. It also proved that about 63% of the variation in the dependent variable was left unexplained but had been captured in the error term.

For EBIT model, the goodness of fit as captured by the Fisher statistics (609.30) and the corresponding probability value (0.0000) showed a 1% statistically significant level suggesting that the entire model was fit and could be employed for interpretation and policy implication. An R^2 value of 0.809 indicates that about 81% of the variation in the dependent variable was explained by all the independent variables plus the control variable in the model. It also proved that about 19% of the variation in the dependent variable was left unexplained but have been captured in the error term.

DISCUSSION OF FINDINGS

Environmental Sustainability Reporting

Notably, the result obtained from this study on the effect of environmental sustainability reporting on firm performance was mixed. While the effect was significant for earnings before interest and tax, it showed an insignificant effect on both performance measures of return on capital employed and gross profit after tax margin. The result suggested that reporting environmental sustainability activities did significantly improve firm performance during the period under consideration. The result contradicted the findings of Ali (2015) whose study revealed a negative significant effect which he linked to high costs associated with environmental sustainability reporting activities that would invariably lower the performance of the firm. Furthermore, we found that the outcome of this study was inconsistent with the findings of Plumlee, Brown Hayes and Marshall (2021) which revealed that companies which provided environmental sustainability performance incurred more expenses hence, would financially perform below expectation in the long run. The findings supported those of Malik, Al Mamun and Amin (2018) which revealed that the effect of environmental sustainability disclosure differed across different measures of firm performance.

However, our result was in support of the argument that firms which did not carry out environmental sustainability responsibilities were likely to be surrounded with demonstrations and protests (like those prevalent in the Niger Delta Area of Nigeria) and that would go a long way in hindering a free work environment which could consequently affect performance. In our view, we considered that the motives for reporting on environmental information by managers were to respond to stakeholders expectations, contribute to the welfare of society, manage their own legitimacy, aim long run profitability and reduce information asymmetry within the system. That was supported by the Morsing and Schultz, (2020) Merkl-Davies and Brennan, (2020) and Du, et al., (2020) and specifically, our results which supported those obtained by Markori and Jagongo (2021), Bassey Effiok and Efon (2021), Latridis (2021), Oti, Effiong and Tafang (2021) and Asuquo (2021).

Social Sustainability Reporting

Similarly, the analysis revealed that the effect of social sustainability disclosure of quoted consumer goods companies in Nigeria was statistically negative and significant on performance measures of return on capital employed and gross profit after tax margin. The result was inconsistent with the one by Asuquo (2021) which showed that although social sustainability practices appeared to be in their its formation stage in Nigeria, some firms had been recognized as being pro-active in the endeavor while others were not. Asuquo (2021) argued for a negative outcome on performance which was preempted when managers engaged in social responsibility activities such as financial donations or charitable or hospitable provisions of public facilities. Furthermore, that particular outcome also supported the studies by Ndukwe Dibia and Nwakanma Nwaigwe (2018) which documented a negative outcome suggesting that additional expenses in the form of employee welfare and training, occupational health and safety, pollution prevention, energy saving practices, and community support programmes incurred by companies in pursuance of sustainable business practices eroded profit and place them in an economic disadvantage position relative to less sustainability friendly firms, at least in the short term. According to Yoon et al. (2006), social sustainability activities may hurt the company's image when motives behind such engagements are perceived to be insincere, i.e., the consumers suspect that the company's engagement is only to improve their corporate image. The authors noted that a single mistake leading to bad publicity would affect such a company's reputation more negatively than those companies which did not engage in social sustainability practices at all, thus producing costs that were social sustainability risk-related (Yoon et al., 2020, Bhattacharya and Sen, 2020).

On the other hand, we found that the result obtained for the model of earnings before interest and tax was consistent with that by Odetayo Adeyemi and Sajujigbe (2021) which affirmed that corporate social activities would increase long-term profits or the survival of a firm through positive public relations and high ethical standards. It ensured a reduced business and legal risk which also built shareholders trust.

Employee Health and Safety Sustainability Reporting

In the context of employee health and safety sustainability disclosure, we documented a positive significant effect on firm performance although it was evident just for the performance measure of return on capital employed. The outcome is consistent with that of Cooper and Cooper (2020) who posited that such policies played a significant role in supporting firms' going concern hence, work environment should be safe and workable. Also the result is seen to be consistent with that of Owen (2020) who asserted that workplace environmental issues included health and safety, working conditions, training, bursaries and workers satisfaction contributes to increased performance.

Further, the outcome is in line with those of Micah, Ofurum and Ihendinihu (2021), who posited that the relationship between firms' profitability and employee health and safety information disclosure is positive which implied that there was a high demand for human capital information from stakeholders. Consequently, Micah, Ofurum and Ihendinihu (2021) noted that a good association with employees could result in better productivity, thereby reducing lawsuits expenses which would ultimately increase profitability. Our findings in this regard gave credence to similar outcomes by Callan and Thomas (2020).

Economic Sustainability Reporting

Furthermore, we documented a statistically significant positive effect of economic sustainability on performance measures of return on capital employed and earnings before interest and tax margin which agrees with the position of Azhagaiah & Priya (2020), who noted that managements' primary goal was shareholders' wealth maximization which translates to maximizing the value of the company as measured by the price of its common stocks. Shareholders' wealth is represented in the market price of the company's common stock which, in turn, is the function of the company's investment, financing and dividend decisions. The outcome of this study was in line with the views maintained by Arif and Akbar (2021) and Barthet et., al. (2020) who posited that shareholders preferred cash dividends but would also enjoy growth in earnings per share which was obtained from earnings that had been ploughed back into business. However, the result was inconsistent with the studies by Daske et al (2020) and Mwangi et., al (2021) which documented that securing higher earnings per share did not significantly translate to a higher firm performance. But in this study, we provided evidence which suggested that improving earnings per share would attract the investor to invest in the firm as it indicated that the firm had more ability to earn the investor more profits or earnings.

CONCLUSION

This study evaluated the effect of sustainability reporting on the performance of consumer goods companies listed on the Nigerian Exchange Group for the period 2013 and 2021. In this study, we employed three accounting performance measures (Return on Capital Employed, Gross Profit after Tax and Earnings before Interest and Tax) as dependent variables. Specifically, we observed from the results that social sustainability reporting negatively affected return on capital employed and gross profit after tax margin. It implied that the cost of carrying out social sustainability outweighed its benefits. However, the result obtained from the effect of environmental sustainability reporting on earnings before interest and tax was seen to be positive and significant. The findings indicated a boost of investors' confidence and stakeholders' benefits. By

extension, we noted that the results obtained from the effect of environmental reporting on earnings before interest and tax supported the agency theory which posited that the problem of information asymmetry would significantly reduce when appropriate policies on environmental sustainability were put in place. The feud between managers and owners will reduce. Furthermore, economic sustainability is seen to positively impact on two performance measures (Return on Capital Employed and Earnings before Interest and Tax) which indicated that the main objective of a businesses which is to maximize and increase their market value on a long-term basis was achieved. We could fairly say that due to such outcomes obtained in this study, investors and customers/stakeholders of this selected firms employed in this study would appreciate and trust the goods and services rendered by the management which ultimately resulted in larger incomes.

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