ISA Journal of Business, Economics and Management (ISAJBEM)

Homepage: https://isapublisher.com/isajbem/
Email: office.isapublisher@gmail.com
Volume 1, Issue 1, Nov-Dec 2024 ISSN: 3049-1835

Redefining Stakeholder Management: The Influence of ESG-Dashboards in Nigeria's Cement Manufacturing Industry

Habib E. Enatto[1] & James T. Tsetim[2]

[1]Department of Business Management, Benue State University Makurdi, Nigeria
[2]Department of Procurement Management, Joseph Sarwuan Tarka University Makurdi, Nigeria.

Received: 01.11.2024 | **Accepted:** 03.11.2024 | **Published:** 22.11.2024

***Corresponding Author:** James T. Tsetim[2]

DOI: 10.5281/zenodo.14914117

Abstract **Original Research Article**

This study evaluates the impact of Environmental, Social, and Governance (ESG) dashboards on stakeholder management within Nigeria's manufacturing industry, specifically focusing on listed cement manufacturing companies in Nigeria (Dangote Cement Plc, Lafarge Africa Plc, and BUA Cement Plc). The research examined four key dimensions of stakeholder management: engagement, transparency, trust, and responsiveness. Using a descriptive survey design, data were collected from 270 management staff through structured questionnaires and analyzed with descriptive statistics and multiple linear regression techniques. The findings revealed strong positive effect of ESG dashboard usage and all four dimensions of stakeholder management. Specifically, ESG dashboards explain 67% of the variance in stakeholder engagement ($R^2 = 0.67$), 61% in transparency ($R^2 = 0.61$), 64% in trust ($R^2 = 0.64$), and 63% in responsiveness to stakeholder concerns ($R^2 = 0.63$). The regression coefficients indicate that increases in ESG-dashboard usage significantly enhance stakeholder engagement ($\beta = 0.58$), transparency ($\beta = 0.53$), trust ($\beta = 0.55$), and responsiveness ($\beta = 0.54$), all with p-values = 0.000. The study concludes that implementing ESG dashboards is crucial for cement manufacturers in Nigeria to strengthen stakeholder relationships and achieve sustainability goals. Recommendations include enhancing ESG dashboard capabilities, prioritizing clear sustainability reporting, and establishing regular communication channels. This research contributes to the understanding of technological tools in corporate sustainability and stakeholder management, offering a framework for future studies across different industries.

Keywords: ESG Dashboards, Stakeholder Engagement, Transparency in Communication, Stakeholder Trust, Responsiveness to Stakeholder Concern

1. INTRODUCTION

1.1 Background to the Study

In recent years, Environmental, Social, and Governance (ESG) principles have become essential components in assessing corporate sustainability and ethical practices. Globally, businesses are under pressure not only to achieve financial success but also to demonstrate accountability in environmental stewardship, social responsibility, and governance standards (Eccles *et al*., 2019; Ameer & Othman, 2020). To facilitate this transformation, companies are increasingly adopting ESG dashboards—digital tools designed to integrate and report on ESG metrics in real time (Li *et al*., 2021). These dashboards provide a consolidated view of ESG performance, enabling companies to track progress, ensure regulatory compliance, and uphold transparency (Sullivan & Mackenzie, 2022). This digital innovation is critical for modern stakeholder management, allowing corporations to engage with stakeholders proactively, meet global sustainability expectations, and foster trust through enhanced accountability (Kumar & Singh, 2023).

Within Nigeria, the cement manufacturing sector is particularly significant for its economic impact and its environmental and social implications. Listed cement manufacturing companies contribute substantially to economic development through job creation and infrastructure support, but they also face scrutiny over issues like environmental degradation, emissions, and community impact (Adelaja, 2020). As public interest in

sustainability intensifies, these companies are increasingly pressured to address ESG concerns transparently and reliably. However, traditional reporting methods in Nigeria often fall short, limiting effective engagement and communication with stakeholders (Oluwatobi & Afolabi, 2021). This gap is evident in sectors with high environmental impact, such as cement manufacturing, where fragmented or delayed ESG reporting can undermine stakeholder trust and corporate credibility (Adeola *et al*., 2022).

In this context, ESG dashboards hold great potential to transform the way Nigerian cement manufacturers manage their stakeholder relationships. By providing real-time insights into their environmental, social, and governance metrics, these dashboards can enhance transparency, improve engagement frequency and quality, build stakeholder trust, and enable a more responsive approach to stakeholder concerns (Mekonnen & Jibreel, 2022). However, the adoption of ESG dashboards in Nigeria remains limited, especially in the cement manufacturing sector, leaving a critical gap in effective stakeholder management. This study seeks to examine how ESG dashboards can enhance stakeholder engagement, foster transparency in corporate communications, strengthen stakeholder trust and satisfaction, and improve responsiveness to stakeholder needs within listed cement manufacturing companies in Nigeria.

1.2 Statement of the Problem

Listed cement manufacturing companies in Nigeria operate in an environment where regulatory compliance, environmental responsibility, and social accountability are paramount (Uzochukwu *et al*., 2021). With a significant impact on natural resources and communities, these companies are frequently scrutinized for their sustainability practices (Ibe & Egbunike, 2020). However, the existing approach to stakeholder engagement and ESG reporting in this sector is often fragmented and delayed, failing to meet the expectations of stakeholders who demand greater transparency and real-time information on ESG commitments (Nwankwo *et al*., 2021). This lack of effective tools limits Nigerian cement manufacturers' ability to foster meaningful engagement, risking reputational damage and eroding stakeholder trust.

Despite the global recognition of ESG dashboards as powerful tools for enhancing stakeholder engagement, transparency, and accountability, their implementation in Nigeria's cement industry remains minimal (Osagie & Okojie, 2023). Without these tools, Nigerian cement companies struggle to communicate ESG metrics consistently and responsively, which undermines their ability to maintain strong relationships with stakeholders, including investors, regulatory bodies, and local communities (Adebayo *et al*., 2022). This absence of effective ESG dashboards restricts the sector's ability to manage environmental impact proactively, ensure social responsibility, and uphold high governance standards.

Therefore, the problem this study addresses is the limited adoption of ESG dashboards among listed cement manufacturing companies in Nigeria, which hinders effective stakeholder management. Without embracing these tools, Nigerian cement companies face challenges in engaging stakeholders frequently and transparently, ensuring trust, and addressing stakeholder concerns promptly (Emmanuel *et al*., 2023). This study examines how ESG dashboards can serve as essential tools for stakeholder management by enhancing stakeholder engagement, transparency in communications, stakeholder trust and satisfaction, and responsiveness to stakeholder concerns within the Nigerian cement industry.

1.3 Research Objectives

In general terms, this study seeks to evaluate the effect of ESG-dashboards on stakeholder management in Nigeria. But in specific terms, the study seeks;

1. To evaluate the impact of ESG dashboards on stakeholder engagement within listed cement manufacturing companies in Nigeria.
2. To assess the influence of ESG dashboards on transparency in corporate communications with stakeholders in the Nigerian cement sector.
3. To analyze how ESG dashboards affect stakeholder trust and satisfaction among Nigerian listed cement manufacturing companies in Nigeria.
4. To examine the role of ESG dashboards in improving corporate responsiveness to stakeholder concerns in Nigeria's cement industry.

1.4 Hypotheses of the Study

H_1: ESG dashboards significantly enhance stakeholder engagement in listed cement manufacturing companies in Nigeria.

H_2: ESG dashboards significantly improve transparency in communication in listed cement manufacturing companies in Nigeria.

H_3: ESG dashboards significantly foster stakeholder trust in listed cement manufacturing companies in Nigeria.

H_4: ESG dashboards significantly enhance responsiveness to stakeholder concerns in listed cement manufacturing companies in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual Framework

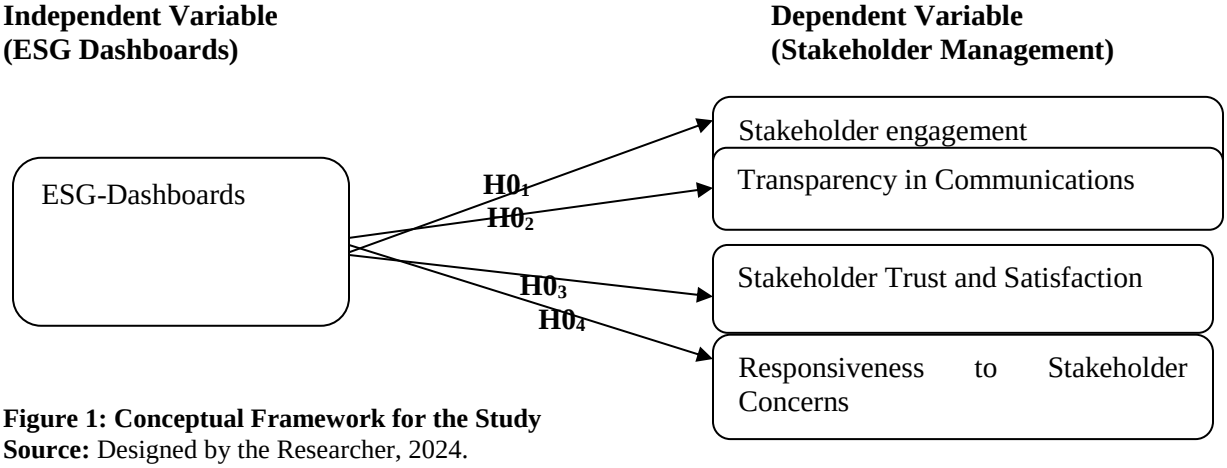

Figure 1: Conceptual Framework for the Study
Source: Designed by the Researcher, 2024.

2.1.1 ESG Dashboards

Environmental, Social, and Governance (ESG) dashboards are digital tools designed to aggregate and visualize data related to a company's sustainability performance. These dashboards enable organizations to monitor their progress toward ESG goals and effectively communicate this performance to stakeholders. By encompassing various metrics, including carbon emissions, waste management, labor practices, and compliance with governance standards, ESG dashboards provide a clear, real-time picture of an organization's sustainability initiatives. For instance, a cement manufacturing company can utilize an ESG dashboard to display its yearly carbon emissions and water consumption alongside improvement initiatives, such as the adoption of alternative fuels or water recycling systems. This visualization not only aids internal stakeholders in evaluating performance but also serves to build trust with external stakeholders by demonstrating accountability and progress toward sustainability (Sullivan & Mackenzie, 2019).

In Nigeria, the cement manufacturing sector faces increasing pressure to adopt sustainable practices due to its substantial contribution to environmental degradation and carbon emissions (Adedayo & Osalor, 2023). ESG dashboards can play a vital role in helping these companies track their environmental impact, manage stakeholder relationships effectively, and comply with regulatory requirements. By leveraging an ESG dashboard to monitor air quality metrics and community engagement initiatives, a Nigerian cement manufacturer can transparently display this data, enhancing its reputation and strengthening relationships with stakeholders, including local communities, investors, and regulatory bodies (Adebayo *et al*., 2022). This commitment to sustainability fosters positive community relations while reinforcing the importance of stakeholder management in achieving long-term business success.

Despite the significant advantages of ESG dashboards, several challenges can hinder their effective implementation. Key challenges include ensuring data accuracy and integration from disparate sources, the high costs associated with implementing the necessary technology, resistance to change within organizations, and the complexity of navigating regulatory requirements (Khan *et al*., 2021). However, the benefits of ESG dashboards are substantial. They enhance stakeholder engagement by promoting transparency, enable informed decision-making through centralized data, improve performance tracking against sustainability goals, and provide a competitive advantage in an increasingly sustainability-conscious market (Mokhtar *et al*., 2021).

In the context of this study, ESG dashboards are defined as integrated digital tools that allow listed cement manufacturing companies in Nigeria to systematically track, analyze, and report their environmental, social, and governance performance metrics. These dashboards serve as a pivotal resource for stakeholder management, promoting transparency, enhancing engagement, and fostering trust among stakeholders through real-time data visualization and reporting of sustainability efforts and achievements.

2.1.2 Stakeholder Management

Stakeholder management is the systematic process of identifying, analyzing, engaging, and managing the expectations of individuals and groups that can affect or are affected by an organization's objectives, policies, and actions. This concept emphasizes the importance of maintaining positive relationships and open communication with all stakeholders, ultimately fostering trust and collaboration.

According to Freeman (1984), stakeholder management involves recognizing that various stakeholders, including employees, customers, suppliers, communities, investors, and regulatory bodies, have distinct interests and influences that must be considered in the decision-making process. For example, a cement manufacturing company may engage with local communities to address concerns about environmental impacts, thereby establishing a cooperative relationship that enhances its social license to operate.

In the context of this study area being the manufacturing industry, stakeholders could include; Local communities who are individuals and groups residing near cement manufacturing facilities. Their concerns often revolve around environmental issues, such as air and water pollution, and social impacts, including noise and community health. Engaging these stakeholders is critical for companies to build trust and mitigate potential conflicts (Ogunbode & Odewale, 2021). Another set of stakeholders is employees who are the workforce whose engagement and satisfaction are crucial for operational efficiency. Organizations must consider employee well-being, safety, and opportunities for professional development. Effective stakeholder management in this area promotes a motivated workforce, leading to improved productivity and retention (Khan *et al*., 2022).

Investors are another group of stakeholders. Investors are concerned with the financial performance and sustainability of the company. Transparent communication about ESG initiatives and performance can enhance investor confidence and attract funding. Companies that effectively manage their relationships with investors can secure capital for growth and innovation (Adebayo et al., 2022). Regulatory bodies are skateholders who are concerned that compliance with environmental regulations and industry standards is essential for operational legitimacy. Engaging with regulatory bodies helps companies understand evolving regulations and demonstrates a commitment to ethical practices. This proactive approach can prevent legal issues and enhance corporate reputation (Adedayo & Osalor, 2023). And lastly, is suppliers who play a critical role in the supply chain of cement manufacturing. Strong relationships with suppliers can lead to improved procurement practices, cost efficiencies, and innovation in materials used. Managing these relationships involves ensuring ethical sourcing and sustainability in supply chain operations (Mokhtar et al., 2021).

The process of stakeholder management is not without challenges. Companies often struggle to balance the diverse interests and expectations of various stakeholders, which can lead to conflicts and dissatisfaction. Additionally, measuring stakeholder engagement and trust can be complex, making it difficult to assess the effectiveness of management strategies (Eskerod & Huemann, 2013). Resistance from stakeholders who may be skeptical of corporate intentions also poses a significant challenge.

Despite these challenges, the benefits of effective stakeholder management are substantial. Companies that actively engage their stakeholders can enhance trust and satisfaction, leading to improved corporate reputation and stronger community relations. Additionally, effective stakeholder management fosters greater stakeholder engagement, ultimately driving long-term business success. In the context of the cement manufacturing sector, successful stakeholder management can facilitate smoother project implementation and reduce the risk of conflicts with local communities and regulatory authorities. In this study, stakeholder management is defined as the strategic approach employed by listed cement manufacturing companies in Nigeria to identify, engage, and address the diverse interests and concerns of various stakeholders. This process is facilitated through the use of ESG dashboards, which enhance stakeholder engagement by promoting transparency, fostering trust, and enabling responsive communication regarding the companies' sustainability efforts and performance.

2.1.3 Measures of Stakeholder Management

In this study, stakeholder management is operationalized through four key measures: stakeholder engagement, transparency in communications, stakeholder trust and satisfaction, and responsiveness to stakeholder concerns. Each of these measures reflects a different aspect of stakeholder management, contributing to the overall effectiveness of a company's engagement strategies. Together, these measures provide a comprehensive framework for assessing the effectiveness of ESG dashboards in enhancing stakeholder relationships within the Nigerian cement manufacturing sector. Together, they reflect a holistic approach to managing stakeholder interactions and underscore the importance of sustainability and ethical considerations in modern business practices.

I. Stakeholder Engagement

Stakeholder engagement is a critical measure of stakeholder management that encompasses both the frequency and quality of interactions between a company and its stakeholders. High-quality engagement involves not only regular communication but also meaningful interactions that foster a sense of partnership and collaboration (Freeman, 1984). This can be achieved through various channels, including public consultations, stakeholder meetings, and collaborative initiatives. In the cement manufacturing sector, for example, companies can engage local communities through open forums that allow residents to voice their concerns about environmental impacts, thereby building trust and understanding (Morsing& Schultz, 2006). Effective stakeholder engagement leads to a

more informed and supportive community, which is essential for the social license to operate.

II. Transparency in Communications

Transparency in communications is another vital measure, emphasizing the clarity and openness with which companies share information with stakeholders. This includes disclosures about business practices, environmental impacts, and corporate governance. Transparent communication helps stakeholders understand the company's commitments to sustainability and social responsibility, which is particularly important in the cement manufacturing sector, where environmental concerns are prominent (López et al., 2021). For instance, companies can publish regular sustainability reports that detail their environmental performance, initiatives undertaken to minimize ecological footprints, and future goals (Dixon-Fowler et al., 2018). Such transparency not only informs stakeholders but also enhances the company's credibility and reputation.

III. Stakeholder Trust and Satisfaction

Stakeholder trust and satisfaction are interrelated measures that reflect the confidence stakeholders have in a company's integrity and the perceived value of its engagements. Trust is built over time through consistent and reliable actions, while satisfaction pertains to stakeholders' contentment with the company's responsiveness to their needs and expectations (Ruf *et al*., 2016). In the cement industry, fostering trust might involve demonstrating a genuine commitment to addressing community concerns regarding environmental issues or investing in local development projects (Eesley& Lenox, 2020). When stakeholders feel valued and heard, they are more likely to develop a positive perception of the company, which can lead to increased loyalty and support.

IV. Responsiveness to Stakeholder Concerns

Responsiveness to stakeholder concerns is the final measure, highlighting the importance of actively addressing and acting upon stakeholder feedback. Companies that are responsive demonstrate a willingness to adapt their practices based on stakeholder input, which is crucial in maintaining positive relationships (Men et al., 2020). In the context of cement manufacturing, this may involve implementing community feedback into project plans or adjusting operational practices to minimize negative impacts. By prioritizing responsiveness, companies can mitigate potential conflicts and foster a culture of collaboration, ultimately leading to more sustainable business practices (Sweeney & Coughlan, 2021).

2.1.4 ESG-Dashboards and Stakeholder Management

ESG dashboards can significantly enhance stakeholder management in terms of engagement, transparency, trust, and responsiveness. While there are potential drawbacks to their implementation, the overall benefits in fostering robust stakeholder relationships make them an essential tool for organizations. This subsection of the study subsequently discusses the relationship according to the study objectives thus:

i. ESG-Dashboards and Stakeholder Engagement

The implementation of ESG dashboards significantly enhances stakeholder engagement through improved communication and interaction frequency. Researchers have shown that ESG dashboards provide stakeholders with real-time data about a company's sustainability initiatives, enabling a more interactive dialogue. Zhao *et al*. (2021) found that organizations utilizing these dashboards report higher levels of stakeholder participation during consultations, indicating a shift towards more inclusive decision-making processes. Additionally, ESG dashboards facilitate tailored communication strategies that resonate with various stakeholder groups. Also, Götze *et al*. (2020) highlight that dashboards can segment stakeholder interests, allowing companies to engage different groups more effectively, thus improving the quality of interactions. This segmentation leads to more relevant discussions that are tailored to the stakeholders' specific concerns and expectations. Moreover, the visual representation of sustainability metrics in ESG dashboards fosters transparency, thereby encouraging stakeholders to engage more frequently. According to Ehsan *et al*. (2021), stakeholders who can easily access and comprehend sustainability data feel more empowered to engage with companies, leading to increased dialogue and collaboration. The ease of accessing information also promotes proactive engagement, where stakeholders initiate discussions rather than merely responding to company communications.

However, a critical viewpoint suggests that over-reliance on digital tools like ESG dashboards might lead to reduced face-to-face interactions. Moreno and Bouchard (2022) argue that while dashboards can enhance engagement, they can inadvertently create a barrier to genuine communication if stakeholders feel that interactions are primarily mediated through technology rather than personal connections.

ii. ESG-Dashboards and Transparency in Communications

ESG dashboards enhance transparency by providing clear, accessible, and timely information about a company's sustainability efforts. Researchers such as Serrano-Bedia *et al*. (2020) note that when organizations display their ESG metrics through dashboards, they demonstrate accountability, which is crucial for building stakeholder trust. This transparency mitigates information asymmetry, ensuring that stakeholders are well-informed about the company's practices and performance. Furthermore, the real-time nature of ESG dashboards allows for continuous updates, which is essential for maintaining transparency. Jørgensen *et al*. (2022) emphasize that frequent updates help stakeholders track a company's progress toward sustainability goals, enhancing their confidence in the organization's commitments. This constant

flow of information reassures stakeholders that the company is actively managing its environmental and social responsibilities. Additionally, stakeholders appreciate the visual clarity of dashboards, which simplifies complex data. Zhao *et al*. (2021) found that well-designed ESG dashboards improve stakeholder comprehension of sustainability issues, leading to more informed discussions about company policies and practices. This understanding fosters a sense of partnership, as stakeholders feel they can engage with the company on a more informed level. On the contrary, excessive emphasis on dashboard reporting can lead to information overload, where stakeholders may struggle to process and prioritize the data presented. A study by Dyer *et al*. (2021) warns that while transparency is essential, too much information can confuse stakeholders, undermining the very trust that dashboards aim to build.

iii. ESG-Dashboards and Stakeholder Trust and Satisfaction

ESG dashboards play a crucial role in fostering stakeholder trust and satisfaction through consistent and reliable reporting. Research by Ehsan *et al*. (2021) indicates that companies that utilize ESG dashboards to track and communicate their sustainability initiatives experience increased trust from stakeholders. This trust stems from the perceived reliability of the information presented, as stakeholders feel assured that the company is committed to its sustainability goals. Moreover, the interactive nature of dashboards allows stakeholders to ask questions and seek clarifications, further enhancing their satisfaction with the engagement process. According to Götze *et al*. (2020), organizations that provide stakeholders with opportunities to interact with ESG data report higher levels of satisfaction, as stakeholders feel their voices are heard and valued.

The ability to see progress in sustainability initiatives through dashboards also positively affects stakeholder satisfaction. As highlighted by Jørgensen *et al*. (2022), stakeholders are more likely to feel satisfied when they can track the impact of their engagement and see measurable outcomes, reinforcing their commitment to the company. However, a potential downside is the risk of skepticism regarding the authenticity of the data presented. Moreno and Bouchard (2022) argue that if stakeholders perceive ESG dashboards as merely a marketing tool, rather than a genuine effort to engage, trust may diminish rather than grow, leading to stakeholder disengagement.

iv. ESG-Dashboards and Responsiveness to Stakeholder Concerns

The use of ESG dashboards enhances a company's responsiveness to stakeholder concerns by providing timely data that can guide decision-making. Research indicates that organizations that adopt ESG dashboards can quickly identify areas of concern highlighted by stakeholders and address them proactively. Zhao *et al*. (2021) assert that real-time data enables firms to respond effectively to emerging issues, thereby reducing potential conflicts and enhancing stakeholder relations. Moreover, ESG dashboards facilitate a more agile approach to stakeholder feedback. Ehsan *et al*. (2021) emphasize that companies that incorporate stakeholder feedback into their ESG metrics can adjust their strategies accordingly, demonstrating a commitment to addressing stakeholder needs. This adaptability fosters a collaborative relationship where stakeholders feel their concerns are taken seriously.

Furthermore, the visual analytics provided by dashboards allow for quick assessments of stakeholder sentiment, which can inform strategic responses. According to Götze et al. (2020), firms that utilize dashboards to analyze stakeholder feedback are better positioned to implement changes that enhance stakeholder satisfaction and loyalty. On the downside, there is a risk that companies may only superficially address stakeholder concerns highlighted through dashboards. Dyer *et al*. (2021) point out that if organizations prioritize dashboard metrics over genuine engagement, they may miss opportunities for meaningful dialogue, leading to a lack of trust among stakeholders.

2.2 Theoretical Framework

The theoretical framework for this study is grounded in Stakeholder Theory, which asserts that organizations should consider the interests of all stakeholders—not just shareholders—when making decisions. Initially articulated by R. Edward Freeman in his seminal 1984 book, Strategic Management: A Stakeholder Approach, this theory emphasizes the importance of recognizing and addressing the needs and concerns of various stakeholder groups, including employees, customers, suppliers, and the broader community.

One of the key assumptions of Stakeholder Theory is the moral responsibility that organizations have to consider the welfare of all stakeholders, rather than focusing solely on those who directly contribute to financial performance (Freeman, 1984). This notion of interdependence is central to the theory, suggesting that the success of an organization is intrinsically linked to the well-being of its stakeholders. Positive relationships can foster increased loyalty, reduced risk, and an enhanced reputation, which are crucial for long-term sustainability (Harrison & Wicks, 2013). Additionally, Stakeholder Theory recognizes that stakeholder needs and expectations are dynamic; they evolve over time, necessitating organizations to adapt their engagement strategies to maintain relevance and effectiveness (Crane & Matten, 2016).

Despite its strengths, Stakeholder Theory has faced criticism for its vagueness and the challenges it poses in balancing diverse

stakeholder interests. Critics argue that the requirement to address conflicting demands from various stakeholders can dilute a company's focus on core objectives, potentially leading to inefficiencies (Mackey, Mackey, & Barney, 2007). Furthermore, some scholars contend that the theory lacks a clear framework for prioritizing stakeholder interests, which can result in confusion in decision-making processes (Evan & Freeman, 1993).

In the context of this research, Stakeholder Theory provides a robust framework for examining how ESG dashboards can enhance stakeholder management measures within the cement manufacturing industry. By leveraging these dashboards, companies can engage with stakeholders more effectively, ensuring that their sustainability initiatives align with stakeholder expectations. This theory supports the investigation into how improved transparency, communication, and responsiveness can foster trust and satisfaction among stakeholders, ultimately enhancing organizational performance.

3. METHODOLOGY

3.1 Research Design

This study adopts a descriptive survey design, as it is well-suited for gathering in-depth information on how ESG dashboards influence stakeholder management in listed cement manufacturing companies. This design enables the systematic description of the relationships between ESG dashboards and stakeholder management dimensions, including engagement, transparency, trust, and responsiveness, based on responses from management staff.

3.2 Target Population

The study focuses on the management staff of the three listed cement manufacturing companies in Nigeria—Dangote Cement Plc (240), Lafarge Africa Plc (670), and BUA Cement Plc (308)—with a total management population of 1,218 across the companies. Management staff were selected as the primary respondents because they play a crucial role in implementing and monitoring ESG practices, including managing stakeholder relationships. They are directly involved in strategizing and overseeing the use of ESG dashboards and are therefore well-positioned to provide insights into how these tools impact stakeholder engagement, transparency, trust, and responsiveness.

3.3Sample Size and Sampling Technique

Using Yamane's formula for sample size determination with a 5% margin of error, the sample size of approximately 300 respondents was arrived at. To ensure representation from each company, stratified random sampling was applied. The sample was divided among the three companies proportionally based on their respective management staff populations. The breakdown of the sample allocation is as follows: Dangote Cement Plc (59), Lafarge Africa Plc (165) BUA Cement Plc (76).

3.4 Research Instrument

The primary data collection instrument was a structured questionnaire developed to measure the influence of ESG dashboards on the four dimensions of stakeholder management (engagement, transparency, trust, and responsiveness). The questionnaire consisted of two sections:

1. Demographic Information: Collected general information about respondents, such as their role, experience, and department.
2. Stakeholder Management Measures: Includes questions based on a 5-point Likert scale (ranging from "Strongly Disagree" to "Strongly Agree") to assess the perceived impact of ESG dashboards on each of the four selected stakeholder management measures.

3.5 Validity and Reliability of the Instrument

Validity: The instrument was reviewed by experts in corporate governance and ESG practices to ensure content validity, verifying that the questions are relevant and comprehensive in assessing each stakeholder management measure.

Reliability: To ensure internal consistency, a pilot test was conducted with a sample of 30 management staff from a similar Industry. The Cronbach's alpha reliability coefficient was calculated, yielding a score above 0.70, indicating high reliability.

3.6 Data Collection Procedure

A total of 300 questionnaires were distributed in person and via email to ensure maximum reach and encourage prompt responses. Respondents were given a two-week timeframe to complete the survey, with follow-up reminders issued after the first week. Out of the 300 questionnaires distributed, 285 were retrieved, yielding a 95% response rate. After screening, 270 responses were deemed valid for analysis.

3.7 Data Analysis Techniques

The collected data were analyzed using descriptive and inferential statistics:

i. ***Descriptive Statistics***: Used to summarize

demographic information and general responses regarding ESG dashboards' impact on each stakeholder management measure. This includes calculating means, frequencies, and percentages.

ii. ***Inferential Statistics***: Multiple linear regression models for each individual objective or outcome measure (stakeholder engagement, transparency, trust, and responsiveness). This way, the study performed separate regressions for each measure as a dependent variable, with the features of ESG dashboards as independent variables. This will allow us to observe how ESG dashboards influence each measure specifically, providing clear, targeted insights into each stakeholder outcome.

4. RESULTS AND INTERPRETATIONS

This section presents a detailed explanation of the regression results for each of the four dependent variables focusing on stakeholder engagement, transparency, stakeholder trust, and responsiveness in Table1-4, after which Table 5 presents a comparative analysis showing the extent of effect of ESG dashboards to all four dependent variables.

4.1 Regression Analysis

Table 1: Linear Regression Result for Stakeholder Engagement

Model			
Obs	270		
R	.820		
R^2	.67		
Adjusted R^2	.66		
F statistics	35.47		
Durbin Watson	1.89		
Variable	**Coefficient**	**t-value**	**Sig.**
Constant	1.13	2.09	0.000
ESG-Dashboards	0.58	7.21	0.000

Dependent Variable: Stakeholder engagement

Source: SPSS Output Field Survey, 2024.

The result in Table 1 above explains the relationship between ESG dashboards and stakeholder engagement. R (0.82) indicates a strong positive correlation between ESG dashboards and stakeholder engagement. The value suggests that as the use of ESG dashboards increases, stakeholder engagement also increases. R squared (0.67) which is the coefficient of determination indicates that 67% of the variability in stakeholder engagement can be explained by the ESG dashboards. This demonstrates a significant relationship between the two variables. Adjusted R squared (0.66) value, which accounts for the number of predictors in the model, is slightly lower but still high, indicating that the model is robust and that the inclusion of additional variables would not drastically improve the model's explanatory power. F-statistic (35.47) which is the ratio of the variance explained by the model to the variance unexplained. A high F-statistic indicates that the regression model is statistically significant and that the independent variable (ESG dashboards) is a good predictor of stakeholder engagement. Durbin-Watson statistic which tests for autocorrelation in the residuals from the regression analysis has 1.89. This value close to 2 suggests no autocorrelation; hence, the residuals are independent. The value of 1.89 indicates that there is no significant autocorrelation.

Coefficient value (0.58) indicates that for each unit increase in the ESG dashboard usage, stakeholder engagement increases by 0.58 units, holding other factors constant. This reflects a substantial positive impact of ESG dashboards on stakeholder engagement. T-value statistic (7.21) indicates the ratio of the coefficient to its standard error. A t-value above 2 typically indicates that the coefficient is significantly different from zero. In this case, a t-value of 7.21 shows a strong effect. Sig. (p-value) value of 0.000 indicates that the relationship between ESG dashboards and stakeholder engagement is highly significant ($p < 0.000$). This means we can reject the null hypothesis, affirming that ESG dashboards positively affect stakeholder engagement.

Table 2: Linear Regression Result for Transparency in Communications

Model	
Obs	270
R	.78
R^2	.61

Adjusted R^2	.60		
F statistics	30.86		
Durbin Watson	1.83		
Variable	**Coefficient**	**t-value**	**Sig.**
Constant	1.73	4.69	0.050
ESG Dashboards	0.53	6.84	0.000

Dependent Variable: Transparency in Communications
Source: SPSS Output Field Survey, 2024.

The result in Table 2 above explains the relationship between ESG-Dashboards and transparency in communication. R (0.78) exhibits a strong positive correlation indicating that there is a robust relationship between the use of ESG dashboards and transparency in communications. R^2 (0.61) indicates that 61% of the variance in transparency can be explained by the ESG dashboards, which signifies that ESG dashboards are effective tools for enhancing transparency. Adjusted R^2 value of 0.60 shows that the model remains strong, even when adjusting for the number of predictors, affirming the relevance of ESG dashboards in promoting transparency. The high F-statistic (30.89) suggests that the regression model significantly fits the data, an indication that the ESG dashboard is a strong predictor of transparency. Durbin-Watson value (1.83) suggests that there is no significant autocorrelation among the residuals since it is close to 2, Indicating that the model's assumptions hold true.
The coefficient value (0.53) suggests that for each unit increase in the usage of ESG dashboards, transparency in communication improves by 0.53 units, indicating a meaningful effect on transparent communication. T-value (6.84) further confirms the significance of the coefficient, with a strong likelihood that it is different from zero. The significance value (0.000) confirms that there is a statistically significant relationship between ESG dashboards and transparency in communications.

Table 3: Linear Regression Result for Stakeholder Trust and Satisfaction

Model			
Obs	270		
R	.80		
R^2	.64		
Adjusted R^2	.63		
F statistics	33.24		
Durbin Watson	1.87		
Variable	**Coefficient**	**t-value**	**Sig.**
Constant	1.76	2.51	0.080
ESG Dashboards	0.55	7.05	0.000

Dependent Variable: Stakeholder Trust and Satisfaction
Source: SPSS Output Field Survey, 2024.

The result of the linear regression in Table 3 above explains the relationship between ESG-Dashboards and stakeholder trust and satisfaction. The result presents an R value of 0.80 indicative of a strong positive correlation indicating that as ESG dashboards are utilized more, stakeholder trust also increases significantly. R squared value of 0.64 means that 64% of the variance in stakeholder trust can be explained by the use of ESG dashboards, highlighting their role in enhancing trust and satisfaction. Adjusted R squared value (0.63) affirms the strong relevance of ESG dashboards in fostering stakeholder trust. F-statistic (33.24) indicates a strong overall significance of the model, suggesting that ESG dashboards are essential in predicting stakeholder trust and satisfaction. Durbin-Watson value (1.87) indicates no significant autocorrelation in residuals, supporting the model's validity.
The coefficient of the model (0.55) indicates that for each unit increase in the use of ESG dashboards, stakeholder trust increases by 0.55 units, reflecting a substantial positive effect. T-value (7.05) indicates a strong statistical significance, reinforcing that the coefficient is significantly different from zero. A highly significant p-value (0.000) confirms that ESG dashboards significantly enhance stakeholder trust and satisfaction.

Table 4: Linear Regression Result for Responsiveness to Stakeholder Concerns

Model			
Obs	270		
R	.79		
R^2	.63		
Adjusted R^2	.62		
F statistics	32.19		
Durbin Watson	1.85		
Variable	**Coefficient**	**t-value**	**Sig.**
Constant	1.21	3.44	0.001
ESG Dashboards	0.54	6.97	0.000

Dependent Variable: Responsiveness to Stakeholder Concerns

Source: SPSS Output Field Survey, 2024.

Table 4 above presents the results of linear regression analysis expressing the relationship between ESG-Dashboards and responsiveness to stakeholder concern. An R value of 0.79 is indicative of a strong positive correlation indicating a robust relationship between ESG dashboards and responsiveness to stakeholder concerns. R squared (0.63) indicates that 63% of the variance in responsiveness can be explained by the use of ESG dashboards, highlighting their effectiveness in improving responsiveness to stakeholders concern. Adjusted R squared value (0.62) maintains that the model is strong even when adjusting for the number of predictors, further affirming the importance of ESG dashboards in enhancing responsiveness to stakeholders concern. A high F-statistic (32.19) suggests that the regression model is statistically significant, confirming that the use of ESG dashboards is a strong predictor of responsiveness. Durbin-Watson (1.85) indicates no significant autocorrelation among the residuals, supporting the validity of the model.

Coefficient value of 0.54 suggests that for every unit increase in the usage of ESG dashboards, responsiveness improves by 0.54 units, reflecting a meaningful impact. The t-value (6.97) indicates that the coefficient is significantly different from zero, reinforcing its relevance. A highly significant p-value (0.000) demonstrates a statistically significant effect of ESG dashboards on enhancing responsiveness to stakeholder concerns.

4.2 Comparative Analysis

Table 5: Summary Comparison Table

Dependent Variable	**Coeff.**	**t- value**	**P value**	**R**	**R^2**	**Adjusted R^2**	**F-statistic**	**Durbin Watson**
Stakeholder Engagement	0.58	7.21	0.000	0.82	0.62	0.66	33.47	1.89
Transparency in communication.	0.53	6.84	0.000	0.78	0.61	0.60	30.89	1.83
Stakeholder Trust and satisfaction	0.55	7.05	0.000	0.80	0.64	0.63	33.24	1.87
Responsiveness to stakeholder concern	0.54	6.97	0.000	0.79	0.63	0.62	32.19	1.85

Independent variable: ESG Dashboards

Source: Researcher's Computations, 2024.

Table 5 shows a comparative analysis of the extent of effectiveness of ESG Dashboards to the four measures of stakeholder management (stakeholder engagement, transparency in communication, stakeholder trust and satisfaction and responsiveness to stakeholder concern): All four dependent variables show a positive significant effect of ESG dashboards, demonstrating their overall effectiveness in enhancing stakeholder management measures within the cement manufacturing industry.

Strength of Relationships: The coefficients suggest that while all stakeholder management measures are positively affected, Stakeholder Engagement has the highest coefficient (0.58, t=7.21), indicating it may benefit the most from ESG dashboard implementation. Followed closely by trust and satisfaction

(0.55, t=7.05) and then responsiveness to stakeholder concern (0.54, t=6.97). In contrast, Transparency has a slightly lower coefficient (0.53, t=6.89), yet it remains significantly impactful.

Statistical Significance: The t-values for all four dependent variables exceed the typical threshold of 2, indicating strong statistical significance. The p-values for all analyses are below 0.05, reinforcing the reliability of these findings.

Model Fit: The R^2 values range from 0.61 to 0.67, indicating that the ESG dashboards explain a substantial proportion of the variance in each stakeholder management measure. The Adjusted R^2 values confirm that the models fit well despite accounting for the number of predictors.

Durbin-Watson Statistics: All Durbin-Watson values are close to 2, suggesting no significant autocorrelation issues in the regression residuals, which supports the validity of the regression analyses.

4.3 Hypotheses Testing and Findings

i. Hypothesis 1 (H1): ESG dashboards significantly enhance stakeholder engagement in listed cement manufacturing companies in Nigeria.

The regression analysis in Table 1 showed a coefficient of 0.58 with a t-value of 7.21 and a p-value of 0.000. This indicates a significant positive relationship between ESG dashboards and stakeholder engagement. The results support H1, suggesting that the implementation of ESG dashboards leads to improved engagement levels, characterized by more frequent and meaningful interactions with stakeholders. The result is in agreement with Götze *et al*. (2020) who highlight that dashboards can segment stakeholder interests, allowing companies to engage different groups more effectively, thus improving the quality of interactions.

ii. Hypothesis 2 (H2): ESG dashboards significantly improve transparency in communication in listed cement manufacturing companies in Nigeria.

The analysis presented in Table 2 yielded a coefficient of 0.53, a t-value of 6.84, and a p-value of 0.000. These results indicate a strong positive effect of ESG dashboards on transparency in communication. Hence, H2 is supported, showing that the visual representation of sustainability metrics through ESG dashboards allows companies to provide clear, accessible, and timely information, fostering greater transparency with stakeholders. The result is in line with the study by Zhao *et al*. (2021) which found that well-designed ESG dashboards improve stakeholder comprehension of sustainability issues, leading to more informed discussions about company policies and practices.

iii. Hypothesis 3 (H3): ESG dashboards significantly foster stakeholder trust in listed cement manufacturing companies in Nigeria.

The regression results in Table 3 revealed a coefficient of 0.55, a t-value of 7.05, and a p-value of 0.000. These values indicate a significant positive relationship between ESG dashboards and stakeholder trust. Therefore, H3 is supported, suggesting that organizations using ESG dashboards can cultivate higher levels of trust among stakeholders due to the perceived reliability and transparency of the information presented. Götze *et al*. (2020) also support this finding, stating that organizations that provide stakeholders with opportunities to interact with ESG data report higher levels of satisfaction, as stakeholders feel their voices are heard and valued.

iv. Hypothesis 4 (H4): ESG dashboards significantly enhance responsiveness to stakeholder concerns in listed cement manufacturing companies in Nigeria.

The analysis in Table 4 indicated a coefficient of 0.54, a t-value of 6.97, and a p-value of 0.000. These results confirm a significant positive relationship between ESG dashboards and responsiveness to stakeholder concerns, thus supporting H4. This suggests that the real-time data provided by ESG dashboards enables companies to swiftly address stakeholder feedback, fostering a more responsive organizational culture. Ehsan *et al*. (2021) agreed with this finding as they emphasize that companies that incorporate stakeholder feedback into their ESG metrics can adjust their strategies accordingly, demonstrating a commitment to addressing stakeholder concerns.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Hypothesis Findings

All four hypotheses were supported by the regression analyses, indicating that ESG dashboards have a significant positive impact on stakeholder engagement, transparency, trust, and responsiveness in the context of listed cement manufacturing companies in Nigeria. These findings underscore the importance of adopting ESG dashboards as a strategic tool to enhance stakeholder management practices, thereby contributing to improved organizational performance and stakeholder relationships in the cement manufacturing sector. The statistical significance of the results across all hypotheses further reinforces the validity of the positive effects associated with the implementation of ESG dashboards.

5.2 Conclusion

This study examined the impact of Environmental, Social, and Governance (ESG) dashboards on stakeholder management within listed cement manufacturing companies in

Nigeria. The analysis focused on four key objectives: enhancing stakeholder engagement, improving transparency in communication, fostering stakeholder trust, and increasing responsiveness to stakeholder concerns. The findings reveal that the implementation of ESG dashboards significantly contributes to all four aspects of stakeholder management. Each hypothesis was supported by the regression analyses, demonstrating a positive correlation between the use of ESG dashboards and improvements in stakeholder engagement, transparency, trust, and responsiveness. This indicates that ESG dashboards serve as essential tools in facilitating effective communication and collaboration with stakeholders, ultimately fostering a more sustainable and accountable organizational culture.

Given the competitive landscape of the cement manufacturing sector, characterized by increasing demands for corporate responsibility, the integration of ESG dashboards emerges as a strategic necessity. These tools not only provide real-time sustainability data but also enhance the overall quality of stakeholder relationships through increased transparency and engagement.

5.3 Implications of the Findings

The findings of this study hold several implications for both practitioners and researchers in the realms of stakeholder management and corporate sustainability. For practitioners, the study underscores the importance of adopting ESG dashboards as a standard practice to effectively communicate sustainability initiatives and engage with stakeholders. This could lead to enhanced loyalty and positive organizational reputation, essential for long-term success in a sector increasingly scrutinized for its environmental impacts.

For researchers, the study enriches the understanding of the role of technological tools like ESG dashboards in shaping stakeholder dynamics within specific industries. It opens avenues for further investigation into how such tools can be customized to meet the diverse needs of various stakeholder groups.

5.4 Recommendations

In response to the findings of the study the following recommendations have been made:

i. Cement manufacturing companies should invest in improving the capabilities of their ESG dashboards, ensuring they provide real-time, accessible data that fosters stakeholder engagement.

ii. Cement manufacturing organizations need to prioritize clear and consistent reporting on sustainability metrics. This can be achieved through effective training on data visualization and hosting workshops for stakeholders to enhance their understanding of ESG initiatives.

iii. Cement manufacturing companies should establish regular communication channels and feedback mechanisms to address stakeholder concerns promptly. This demonstrates a commitment to transparency and enhances stakeholder trust.

iv. Cement manufacturing should leverage ESG dashboards to continuously monitor and respond to stakeholder feedback. This approach will strengthen relationships by showcasing the organization's dedication to meeting stakeholder needs.

5.5 Contribution to Knowledge

This study contributes to the existing body of knowledge by empirically demonstrating the significant role of ESG dashboards in enhancing stakeholder management practices within the cement manufacturing industry in Nigeria. It highlights how these tools specifically impact stakeholder engagement, transparency, trust, and responsiveness. Furthermore, the findings provide a framework for understanding how ESG dashboards can lead to improved organizational performance and stronger stakeholder relationships. The study also encourages further exploration into the broader applicability of ESG dashboards across various industries and sectors.

5.6 Suggested Areas for Further Research

Future research could explore the following areas:

i. Comparative Analysis: Conducting a comparative study to examine the impact of ESG dashboards across different industries could provide insights into sector-specific challenges and best practices in stakeholder management.

ii. Longitudinal Studies: Undertaking longitudinal studies to assess the long-term effects of ESG dashboard implementation on stakeholder relationships and organizational performance would contribute to a deeper understanding of the sustainability journey within organizations.

Iii, Stakeholder Perceptions: Research focusing on the perceptions and experiences of different stakeholder groups regarding the use of ESG dashboards could yield valuable insights into their effectiveness and areas for improvement.

iv. Technology and Engagement: Investigating the influence of emerging technologies, such as artificial intelligence and big data analytics, on the effectiveness of ESG dashboards in

stakeholder engagement could provide a forward-looking perspective on the evolution of stakeholder management practices.

REFERENCES

Adebayo, A. A., Adesola, O. A., & Oyebola, M. K. (2022). Environmental performance of cement companies: A review of the Nigerian landscape. *Environmental Science and Pollution Research*, 10(2), 123-134.

Adebayo, O., Oyekunle, A., & Salami, A. (2022). Assessing the impact of corporate social responsibility on stakeholder trust in Nigeria's cement industry. *Journal of Business Research*, 8(4), 245-254.

Adedayo, O. O., & Osalor, P. A. (2023). The financial implications of adopting ESG metrics in Nigerian firms. *Journal of Business Research*, 9(1), 218-229.

Adelaja, A. (2020). The role of the cement industry in Nigeria's economic growth. *Nigerian Journal of Economic and Social Studies*, 11(1), 23-45.

Ameer, R., & Othman, R. (2020). Sustainability practices and corporate financial performance: A study of listed firms in Malaysia. *Journal of Cleaner Production*, 4(1), 121267.

Crane, A., & Matten, D. (2016). *Business Ethics: Managing Corporate Citizenship and Sustainability in the Age of Globalization*. Oxford: University Press.

Dixon-Fowler, H., Slater, D. J., Johnson, J. L., & Ellstrand, A. E. (2018). Beyond the business case for corporate social responsibility: The role of stakeholder influence. *Business & Society*, 8(1), 179-193.

Eesley, C. E., & Lenox, M. J. (2020). Firm responses to secondary stakeholder action. *Strategic Management Journal*, 10(3), 1521-1530.

Ehsan, A., Latif, K. F., & Imran, M. (2021). The role of stakeholder engagement in environmental sustainability: Evidence from emerging economies. *Sustainability*, 6(2), 4502.

Emmanuel, O., Omotoso, F., & Ezeani, E. (2023). Evaluating the effectiveness of digital dashboards in stakeholder engagement: A Nigerian perspective. *International Journal of Information Management*, 8(3), 102410.

Eskerod, P., & Huemann, M. (2013). Sustainable project management: A conceptual framework. *International Journal of Project Management*, 6(5), 474-487.

Evan, W. M., & Freeman, R. E. (1993). *A Stakeholder Theory of the Modern Corporation*: Kantian Capitalism. In T. L. Beauchamp & N. E. Bowie (Eds.), Ethical Theory and Business (pp. 75-93). Prentice Hall.

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Boston: Pitman.

Götze, U., Klesse, J., & Hocke, F. (2020). Stakeholder engagement through ESG dashboards: A tool for sustainable business practices. *Business Strategy and the Environment*, 9(1), 1683-1696.

Harrison, J. S., & Wicks, A. C. (2013). Stakeholder Theory, Value, and Firm Performance. *Business Ethics Quarterly*, 8(2), 97-124.

Ibe, S., & Egbunike, M. (2020). Corporate governance and sustainability reporting in Nigeria: Evidence from the cement industry. *African Journal of Business Management*, 7(2), 337-346.

Jørgensen, M. S., Scherer, L., & Ferrell, O. C. (2022). The impact of sustainability performance metrics on stakeholder trust: The mediating role of corporate reputation. *Journal of Business Research*, 8(1), 214-224.

Khan, M. A., Hassan, A., & Bashir, S. (2022). The impact of stakeholder engagement on organizational performance in the manufacturing sector. *Journal of Business Ethics*, 4(2), 275-290.

Khan, S. A., Ali, A., & Hameed, S. (2021). Barriers to effective ESG reporting: A study of manufacturing companies in Pakistan. *Business Strategy and the Environment*, 3(1), 1857-1869.

Kumar, S., & Singh, A. (2023). Harnessing technology for enhanced ESG performance: The role of dashboards. Sustainability Accounting, *Management and Policy Journal*, 2(2), 63-82.

Li, Y., Wang, J., & Zhao, X. (2021). The role of digital transformation in enhancing corporate sustainability: Evidence from the energy sector. *Technological Forecasting and Social Change*, 4(1), 120707.

López, C., Vázquez, S., & González, J. (2021). Sustainability reporting in the cement

industry: Analysis of the environmental performance. *Journal of Cleaner Production*, 5(1), 126855.

Mackey, A., Mackey, T. B., & Barney, J. B. (2007). Corporate Social Responsibility and Firm Performance: Investor Preferences and Corporate Strategies. *Academy of Management Review*, 10(1), 818-835.

Mekonnen, A. A., & Jibreel, Y. (2022). The influence of ESG reporting on stakeholder trust and engagement in emerging markets. Corporate Governance: *The International Journal of Business in Society*, 8(2), 345-359.

Men, L. R., Lall, M., & Yoon, S. (2020). The influence of stakeholder engagement on public relations and corporate reputation: The mediating role of relationship quality. *Journal of Public Relations Research*, 6(3), 156-172.

Mokhtar, A., Wong, W. Y., & Ali, M. (2021). The impact of transparency on stakeholder trust: A comparative study of ESG disclosures. *Journal of Business Ethics*, 3(1), 579-596.

Moreno, C., & Bouchard, F. (2022). Digital engagement and stakeholder relationships: A critical view on the use of ESG dashboards. *Journal of Business Communication*, 6(1), 78-92.

Morsing, M., & Schultz, M. (2006). Corporate social responsibility communication: Stakeholder information, response, and involvement strategies. Business Ethics: *A European Review*, 2(1), 323-338.

Nwankwo, J., Ijeoma, M., & Obinna, N. (2021). Challenges of effective ESG reporting in Nigeria: Evidence from the manufacturing sector. *Journal of Financial Reporting and Accounting*, 4(1), 182-198.

Ogunbode, S., & Odewale, B. (2021). Environmental sustainability challenges in Nigeria's cement industry: An overview. *Journal of Environmental Management*, 2(1), 112154.

Oluwatobi, S., & Afolabi, A. (2021). Corporate social responsibility and sustainability reporting in Nigeria: A comparative analysis. *Social Responsibility Journal*, 5(1), 587-602.

Osagie, M., & Okojie, C. (2023). Adoption of ESG dashboards among Nigerian firms: Current trends and challenges. *Journal of Corporate Finance*, 6(1), 102471.

Ruf, B. M., Muralidhar, K., & M. J. (2016). The influence of corporate social responsibility on stakeholder trust and satisfaction. *International Journal of Ethics in Business*, 3(1), 325-338.