Tuijin Jishu/Journal of Propulsion Technology
ISSN: 1001-4055
Vol. 47 No. 03 (2026)

Corporate Economic Sustainability and Competitiveness of Selected Banks in Nigeria: The Role of Female Leadership

[1] **Bukola Temitayo Ologbon**[2] **Cecilia Osoka**

[1&2] DBA Rome Business School

Abstract:- Corporate sustainability has become a central driver of long-term competitiveness, yet the role of female leadership in shaping sustainable outcomes within developing economies remains insufficiently explored. Prior research has emphasized the environmental, social, and economic dimensions of sustainability but has often overlooked how gender diversity in leadership may strengthen these sustainability and competitiveness linkages. This study addresses this gap by examining the mediating role of corporate sustainability, measured through economic, social, and environmental dimensions, in the relationship between female leadership and competitiveness among selected Nigerian banks. Using a cross-sectional survey design, data were collected from 247 respondents across top, middle, and lower management levels in five leading banks. Employing PROCESS Macro (Model 4, parallel mediation), both direct and indirect relationships were analyzed. The findings reveal that female leadership positively influences all dimensions of corporate sustainability, each of which significantly enhances bank competitiveness. Mediation results indicate that female leadership partially transmits the effect of corporate sustainability on competitiveness, with social sustainability exerting the strongest mediating influence. The study concludes that while female leadership directly contributes to competitiveness, its full potential is realized when integrated with sustainability-driven strategies. Practically, the study underscores the need for gender-inclusive governance and sustainability-oriented leadership development in Nigeria's banking sector.

Keywords: Female Leadership, Corporate Sustainability, Competitiveness, Banking Sector, Nigeria

1. Introduction

Over the past two decades, corporate sustainability has moved from being a peripheral concern to a central strategic imperative. As firms confront environmental degradation, social inequalities, and shifting regulatory and stakeholder expectations, the capacity to embed sustainability into strategic management has become not only an ethical mandate but a source of competitive advantage (Engert, Rauter & Baumgartner, 2016; Lopez-Torres, Montejano-García, Alvarez-Torres & Perez-Ramos, 2022). In banking industries in emerging economies such as Nigeria, where environmental risk, social pressures, and governance deficits are especially pronounced, the stakes are particularly high for corporate sustainability. Yet while there are many literatures on how sustainability practices, eco-innovation, Environmental, Social, and Governance (ESG) criteria, green dynamic capabilities, and other related constructs enhance performance and competitiveness (Zhu, Zhang, Siddik, Zheng & Sobhani, 2023; Erbetta, Bruno & Pirovano, 2023; Frempong, Mu, Adu-Yeboah, Hossin & Adu-Gyamfi, 2021), less well understood is the role of female leadership in mediating or moderating this relationship.

Female leaders, whether in board roles, executive management, or senior leadership, are increasingly visible in many sectors and countries, including banking. The Nigerian banking sector, recognized as a key driver of national economic development, has come under increasing regulatory pressure to promote gender diversity within senior leadership positions. Regulatory bodies, particularly the Central Bank of Nigeria (CBN), have emphasized that greater female representation in executive roles can enhance Corporate Social Responsibility (CSR) outcomes, foster innovation, strengthen risk governance, and support financial stability (Hoang, Vu & Duong, 2021; Olufemi, 2021; Galletta, Mazzù, Naciti & Vermiglio, 2022). These regulatory expectations suggest that advancing gender inclusion in leadership not only encourages the adoption of gender equality policies but also promotes environmental stewardship and broader social responsibility within the banking industry. In Nigeria in particular, studies such as Igbekoyi, Adegbayibi and Adesina (2021) show that female directors contribute positively to corporate social performance among listed deposit money banks, though questions remain concerning the depth of impact, the mechanisms, and how competitiveness is influenced.

Within this context, female leadership appears to have an increasingly vital role in shaping sustainability-oriented cultures and enhancing competitiveness. Studies have shown that women in leadership positions often bring distinctive management styles characterized by inclusivity, ethical sensitivity, and long-term value orientation, qualities that align closely with the tenets of corporate sustainability (Nwakoby, Ifeanyi & Eze, 2023). Female leaders are also more likely to champion diversity and equitable workplace policies, which improve employee engagement, innovation, and stakeholder trust (Ogunyomi & Uche, 2021). In Nigeria's banking sector, institutions such as Fidelity Bank, GTBank, Access Bank, First Bank, and Zenith Bank have benefited from female executives who have strategically embedded sustainability into corporate governance frameworks, resulting in improved brand equity and competitive advantage (Akinbami, 2022).

Several important theoretical and empirical gaps motivate this study. While there is extensive work exploring how firms integrate sustainability into strategy (Engert, Rauter & Baumgartner, 2016; Lloret, 2016), less is known about how leadership gender composition or female leadership traits contribute to that integration, particularly in the banking sector in Nigeria. Many studies examine sustainability's effect on financial performance, eco-innovation, ESG disclosure, etc., but fewer investigate more holistic measures of competitiveness (reputation, innovation capabilities, market share) in relation to female leadership (Olaleye, 2023; Zhu et al., 2023). Agha (2023) highlights how corporate governance and liquidity risk affect sustainable growth in the Nigerian banking industry. Oyewo, Tawiah and Hussain (2023) discuss drivers of environmental and social sustainability accounting in Nigeria, emphasizing the role of governance. Still, how female leadership intersects with these governance and sustainability accounting practices to shape competitive outcomes remains under-explored.

This study seeks to bridge existing gaps by examining the extent to which female leadership influences corporate sustainability practices in selected Nigerian banks, and how these practices, in turn, drive organizational competitiveness. To achieve this, the research will integrate theoretical and empirical perspectives on corporate sustainability and competitiveness within the banking sector. Female leadership will be assessed through Board representation, executive leadership, and leadership traits, and analyzed in relation to sustainability dimensions encompassing environmental, social, governance, and innovation practices. The study will also evaluate key indicators of competitiveness, including financial performance, innovation capacity, and corporate reputation. By doing so, the paper contributes to theory by deepening understanding of the interplay between sustainability practices, gender diversity, and organizational competitiveness, and to practice by providing evidence-based insights that can inform policy, governance, and strategic leadership in Nigerian banks where female leadership is gaining prominence (e.g., GTBank, FCMB, Fidelity, and Zenith).

Literature Review

2. Theoretical Framework

The intersection of gender, leadership, and corporate sustainability has gained increasing attention in organizational research, particularly as firms worldwide recognize the strategic value of diversity and inclusion for sustainable growth. To explain how female leadership contributes to corporate sustainability and competitiveness within Nigerian banks, this study integrates Gender Role Congruity Theory (GRCT) (Eagly & Karau, 2002) and the Resource-Based View (RBV) of the firm. The combination of these theories provides a comprehensive understanding of how gendered leadership dynamics influence the development of firm-specific resources, sustainability-oriented capabilities, and ultimately, competitive advantage.

GRCT, developed by Eagly and Karau (2002), posits that societal expectations about gender roles shape how individuals perceive men and women in leadership positions. According to the theory, leadership roles are typically associated with agentic traits such as assertiveness and decisiveness, while women are stereotypically associated with communal traits like empathy, collaboration, and nurturance. This perceived incongruity can lead to prejudice against female leaders and hinder their advancement within male-dominated sectors, including banking (Garcia-Retamero & López-Zafra, 2006; Koburtay, Syed & Haloub, 2019). However, emerging evidence suggests that when women attain leadership positions, their relational and ethical orientations can enhance corporate sustainability and social performance (Masade-Olowola, 2023; Martinez-Leon et al., 2020).

GRCT also highlights that the congruence between gender roles and leadership roles is context-dependent (Ritter & Yoder, 2004). In settings such as Nigeria's banking sector, historically dominated by men, female leaders often face heightened scrutiny and role conflict (Jiang, Cheng & Xie, 2024). Nonetheless, when female executives align their leadership behavior with values consistent with sustainability, such as inclusivity, long-term orientation, and ethical responsibility, they may redefine role expectations and foster new norms of leadership effectiveness (Khushk, Zengtian & Hui, 2023; Chiao et al., 2025). This shift enables female leaders to leverage communal traits in ways that enhance ESG integration, CSR, and organizational transparency.

Empirical evidence increasingly supports the proposition that female leadership contributes positively to sustainable corporate practices. For example, Guo et al. (2025) found that female CEOs in family firms tend to promote green innovation, aligning with the communal and ethical dimensions of GRCT. Similarly, Lemoine and Blum (2021) observed that servant leadership styles, often more prevalent among women, positively influence team performance and cohesion through cascading relational mechanisms. In entrepreneurship, studies by Nguyen, Lin and Vu (2023) and Anglin, Courtney and Allison (2022) show that women's leadership is often associated with stronger environmental commitments and social value creation. Collectively, these findings demonstrate that the gendered leadership traits traditionally viewed as incongruent with corporate power structures can, in fact, be strategic enablers of sustainability-oriented competitiveness in contemporary organizations.

While GRCT explains the social and psychological dynamics underlying female leadership, the RBV complements it by illustrating how gender-diverse leadership teams create and utilize internal resources that enhance corporate competitiveness. The RBV, originally proposed by Barney, argues that firms achieve sustainable competitive advantage by developing Valuable, Rare, Inimitable, and Non-Substitutable (VRIN) resources. In modern sustainability research, this perspective has evolved to encompass intangible assets such as knowledge, innovation, and leadership capabilities as sources of enduring advantage (Razzaque, Lee & Mangalaraj, 2024; Arda et al., 2023).

From an RBV standpoint, female leadership contributes to the development of unique organizational resources that promote sustainability performance. The relational, ethical, and inclusive orientations commonly associated with women leaders can foster stronger stakeholder engagement, enhance reputation capital, and stimulate green innovation, all of which are difficult for competitors to replicate (Atobishi & Podruzsik, 2025; He et al., 2023). Furthermore, as Hu and Kee (2022) note, strategic sustainability initiatives often require dynamic capabilities, the ability to reconfigure resources and processes, which are enhanced by diverse leadership perspectives. Female executives, through their emphasis on collaboration and long-term thinking, are well-positioned to cultivate these capabilities in the banking sector.

Research within the RBV tradition has demonstrated that leadership diversity strengthens innovation and sustainability outcomes by enabling firms to integrate diverse knowledge bases and manage complex stakeholder expectations (Ercantan, Eyupoglu & Ercantan, 2024; Chaudhuri et al., 2024). For instance, Hossain et al. (2022) and El Nemar et al. (2025) argue that gender-diverse leadership enhances firms' ability to mobilize and deploy intangible resources for competitive advantage, particularly in service-oriented industries like banking where reputation, trust, and social legitimacy are critical. Similarly, Adam et al. (2022) contend that female entrepreneurs and leaders contribute to business sustainability by leveraging community-based social capital, an often overlooked but potent intangible resource under the RBV framework.

The integration of GRCT and RBV provides a multidimensional theoretical foundation for this study. GRCT explains the gender-based challenges and advantages in leadership perception and behavior, while RBV elucidates how these leadership qualities translate into tangible organizational outcomes such as competitiveness and sustainability performance. This combined framework suggests that when female leaders overcome societal role incongruence and attain leadership positions, they contribute distinct cognitive, relational, and ethical resources that enhance firms' strategic sustainability capabilities. In the context of Nigerian banks, these leadership-driven capabilities may include improved ESG reporting, innovative customer-centric sustainability products, and a stronger reputation for ethical governance, all of which reinforce long-term competitiveness.

Moreover, this integration aligns with the emerging scholarship emphasizing that sustainability performance itself can become a source of competitive advantage (Wibisono & Supoyo, 2023; Alkaraan et al., 2024). When banks embed sustainability into their strategic and operational frameworks, the value generated through enhanced stakeholder trust, operational efficiency, and innovation capacity becomes a unique organizational resource. Thus, gender-diverse leadership, informed by GRCT, acts as a catalyst that enables firms to unlock and strategically deploy these sustainability-oriented resources in line with RBV logic.

This study argues that GRCT can provide insight into the social-psychological underpinnings of female leadership in male-dominated environments, while RBV can clarify how these leadership attributes can be transformed into firm-level competitive resources. The theoretical synergy between these frameworks supports the proposition that female leadership contributes to corporate sustainability and competitiveness not only by challenging gender stereotypes but also by fostering unique organizational capabilities and resources. This integration is especially relevant for Nigerian banks, where institutional and cultural constraints on women's leadership persist, yet sustainability and competitiveness imperatives continue to intensify in the globalized financial environment.

2.2 Conceptual Framework and Hypothesis Development

2.2.1 Corporate Sustainability and Competitiveness

Corporate sustainability represents a multidimensional approach through which organizations align economic growth, social responsibility, and environmental protection with long-term strategic goals (Hockerts, 2015; Baumgartner & Rauter, 2017; Erbetta et al., 2023; Le & Ikram, 2022). It emphasizes a company's capacity to create value for diverse stakeholders while safeguarding the ecological and social systems on which it depends (Erbetta, Bruno, & Pirovano, 2023). According to Lloret (2016), corporate sustainability requires firms to embed sustainability principles into their strategic management systems, thereby achieving a balance between profitability and ethical responsibility. This view is supported by Engert, Rauter and Baumgartner (2016), who note that sustainability integration enhances strategic orientation, organizational resilience, and stakeholder trust, core components of competitiveness.

In the Nigerian context, Olayinka (2022) and Oyewo, Tawiah and Hussain (2023) observe that sustainability in corporate governance is becoming an essential requirement for competitiveness, particularly in sectors such as banking, manufacturing, and industrial goods. Nwaobia and Akintoye (2024) similarly affirm that Nigerian firms increasingly link sustainability practices with competitive advantage as stakeholder expectations, regulatory pressures, and market demands evolve. Thus, corporate sustainability is not only a moral or regulatory imperative but also a strategic pathway to enhance long-term competitiveness in dynamic business environments.

Corporate competitiveness reflects a firm's ability to sustain superior performance through innovation, differentiation, and efficiency (Welford, 2014; Lenssen, 2006). Research indicates that sustainability and competitiveness are deeply intertwined, sustainability practices strengthen organizational reputation, drive innovation, and improve efficiency, all of which lead to competitive advantage (Padilla-Lozano & Collazzo, 2022; Lopez-Torres et al., 2022). Doyle and Perez Alaniz (2021) find that the competitiveness-sustainability relationship varies across development levels, but firms in both developed and emerging economies increasingly use sustainability as a strategic asset.

In the Nigerian context, Nwaobia and Akintoye (2024) and Olayinka (2022) note that sustainability-driven competitiveness is gaining prominence as regulatory reforms and stakeholder expectations evolve. Firms adopting sustainability-oriented strategies, such as green innovation and transparent governance, report improved brand reputation, market share, and investor confidence (Olaleye, 2023). Furthermore, the integration of sustainability into business models enhances resilience to market shocks, promoting long-term competitiveness and survival (Bhuiyan et al., 2023; Bari, Chimhundu & Chan, 2022).

Corporate sustainability is generally structured around three interrelated dimensions, economic, social, and environmental sustainability (Al-Emran, 2023; Teixeira et al., 2022). Together, these dimensions form the "triple bottom line," emphasizing Profit, People, and the Planet as mutually reinforcing priorities.

Economic Sustainability

Economic sustainability refers to a firm's ability to ensure long-term profitability, operational efficiency, and value creation without compromising environmental or social welfare (Tomšič, Bojnec, & Simčič, 2015). It involves maintaining profitability, financial stability, and long-term growth while ensuring responsible value creation (Fry & Egel, 2021). According to Nwaobia and Akintoye (2024), economic sustainability reflects the capacity of a business to maintain competitiveness through innovation, cost efficiency, and responsible governance. From a global standpoint, Teixeira et al. (2022) demonstrate that integrating lean and green management practices enhances operational efficiency and cost savings, resulting in improved firm performance and competitiveness. Similarly, Le and Ikram (2022) find that sustainability-oriented innovation in Vietnam's SME sector significantly contributes to competitive advantage through enhanced product quality and brand reputation.

In Nigeria, economic sustainability has gained strategic importance as firms face challenges related to fluctuating energy costs, inflation, and limited infrastructure. Oyewo et al. (2023) argue that Nigerian organizations view sustainable accounting practices as a key mechanism for cost transparency and financial accountability, both of which enhance corporate competitiveness. Nwaobia and Akintoye (2024) further highlight that firms implementing strong sustainability measures achieve superior market positioning and profitability, underscoring economic sustainability as a vital competitive resource. Female leaders are increasingly recognized for their financial prudence, ethical accountability, and strategic inclusivity, which enhance firms' economic performance (Afolabi & Aghaunor, 2024).

H1: Economic sustainability has a significant positive effect on the competitiveness of selected banks in Nigeria.

Social Sustainability

Social sustainability focuses on the well-being of employees, customers, communities, and other stakeholders (Campos et al., 2023; Ahmad, Wu & Khattak, 2023). It includes equity, diversity, fair labor practices, human capital development, and ethical responsibility. Anaike, Nworie and Ochuka (2024) argue that firms pursuing social responsibility achieve wealth maximization by maintaining trust and legitimacy among stakeholders. Similarly, Hockerts (2015) emphasizes that a cognitive commitment to social sustainability strengthens organizational learning and stakeholder relations, thereby supporting long-term business success.

Globally, firms that prioritize social sustainability have been shown to enjoy stronger reputations, customer loyalty, and innovation capabilities (Ahmad et al., 2023; Bhuiyan, Rana, Baird & Munir, 2023). In emerging markets, Yasin, Huseynova and Atif (2023) note that social sustainability initiatives, such as green HRM practices and employee engagement, can serve as gateways to improved employer branding and competitive advantage. In the Nigerian context, Olayinka (2022) and Oyewo et al. (2023) emphasize that social sustainability is becoming a defining element of responsible governance, helping banks and manufacturing firms build stronger stakeholder relationships and maintain legitimacy amid socio-economic instability.

H2: Social sustainability has a significant positive effect on the competitiveness of selected banks in Nigeria.

Environmental Sustainability

Environmental sustainability entails minimizing negative ecological impacts, conserving natural resources, and developing green innovations that ensure long-term ecological balance (Le, Tran, Lam, Tra & Uyen, 2024; Rehman, Bresciani, Yahiaoui & Giacosa, 2022). As highlighted by Baumgartner and Rauter (2017), it involves strategic integration of environmental goals into corporate decision-making to enhance efficiency, innovation, and reputation. Studies by Lee and Ball (2003) and Alam and Islam (2021) show that firms demonstrating environmental responsibility not only enhance corporate image but also achieve a green competitive advantage through differentiation and innovation.

In Nigeria, environmental sustainability remains a growing priority due to increasing regulatory enforcement and stakeholder activism. Olubusola, Falaiye, Ajayi-Nifise, Daraojimba and Mhlongo (2024) emphasize the role of sustainable IT practices in reducing the carbon footprint of Nigerian banks. Similarly, Oyewo et al. (2023) identify corporate governance as a crucial enabler of environmental sustainability accounting in Nigerian firms. These findings suggest that environmental initiatives can improve competitiveness by fostering innovation, cost reduction, and brand trust among environmentally conscious stakeholders.

H3: Environmental sustainability has a significant positive effect on the competitiveness of selected banks in Nigeria.

2.2.2 Corporate Sustainability and Female Leadership

Corporate sustainability, as a multidimensional concept encompassing ESG pillars, has reshaped the way organizations structure their leadership and decision-making processes. Within this evolving paradigm, sustainability practices increasingly foster inclusivity, ethical governance, and diversity, which in turn create enabling conditions for female leadership to thrive. From a theoretical perspective, both the GRCT (Eagly & Karau, 2002) and the RBV offer important insights into how the sustainability agenda supports and legitimizes women's leadership roles in contemporary organizations.

The GRCT argues that prejudice arises when there is a perceived incongruity between the female gender role and leadership roles traditionally associated with masculine traits such as assertiveness and control (Eagly & Karau, 2002). However, the increasing prioritization of sustainability-oriented values, such as empathy, collaboration, ethical awareness, and social responsibility, reduces this incongruity. Corporate sustainability initiatives emphasize traits that align closely with communal and transformational leadership styles, often attributed to women (Khushk et al., 2023; Masade-Olowola, 2023). As sustainability becomes a strategic imperative, organizations increasingly seek leaders who embody inclusive and participatory decision-making, nurturing female representation at both executive and board levels. In this sense, the sustainability agenda acts as a normative and cultural shift that legitimizes women's leadership styles as assets rather than deviations from traditional leadership norms.

Furthermore, sustainability reporting frameworks and ESG disclosure mechanisms promote transparency, fairness, and accountability, principles that align with the ethical and participatory leadership approaches often demonstrated by women (Bakar & Adzmi, 2023). As sustainability becomes embedded in governance codes, regulatory frameworks, and institutional expectations, organizations are incentivized to diversify leadership structures to reflect their social responsibility commitments (Pucheta-Martínez & Bel-Oms, 2019). This structural integration of sustainability not only pressures firms to include more women in decision-making roles but also empowers them through enhanced visibility, stakeholder engagement, and trust. From the RBV perspective, corporate sustainability is itself a strategic resource that enhances a firm's internal capabilities, culture, and human capital development (Barney, 1991; Hart, 1995). When organizations integrate sustainability principles into their operations and governance, they cultivate a workplace culture that values diverse perspectives, long-term orientation, and innovation (Atobishi & Podruzsik, 2025; Razzaque et al., 2024). Such an environment becomes fertile ground for developing and promoting female leaders, as sustainability-oriented firms invest more in inclusive leadership training, gender-balanced talent pipelines, and stakeholder diversity management.

In sustainability-driven organizations, women are often seen as strategic assets whose leadership competencies contribute to the firm's relational and reputational capital (Arda et al., 2023; Goyal et al., 2022). The RBV thus frames female leadership not as a tokenistic inclusion but as part of a deliberate resource strategy that strengthens the firm's intangible assets, such as trust, innovation capacity, and stakeholder legitimacy, essential for sustainable competitiveness. In this regard, corporate sustainability transforms the organizational logic of leadership selection by emphasizing capabilities aligned with ethical stewardship, empathy, and collaboration, which are increasingly recognized as sources of strategic advantage. Moreover, as sustainability demands broader stakeholder engagement, ranging from communities and regulators to customers and investors, it fosters leadership that can manage diverse interests and values. This dynamic aligns closely with women's relational and participatory leadership traits (Masade-Olowola, 2023). In Nigerian and broader African contexts, where sustainability challenges intertwine with governance and social inclusion issues, the adoption of corporate sustainability frameworks creates institutional openings for women to ascend to strategic roles (Adeniji et al., 2024). The push toward ESG alignment among banks and multinational corporations in Nigeria reinforces the need for leadership diversity, with women increasingly positioned as credible agents of sustainable change.

H4: Economic sustainability has a significant positive effect on the female leadership of selected banks in Nigeria.

H5: Social sustainability has a significant positive effect on the female leadership of selected banks in Nigeria.

H6: Environmental sustainability has a significant positive effect on the female leadership of selected banks in Nigeria.

2.2.3 Mediating Role of Female Leadership

The growing recognition of women's participation in strategic decision-making has led to increased scholarly interest in their role as mediators between corporate sustainability practices and firm competitiveness. Female leadership refers to the participation of women in executive management, board positions, and other leadership roles where they contribute to strategic decision-making and organizational governance (Ni, 2025; Khushk, Zengtian & Hui, 2023). Leadership is widely recognized as the bridge between sustainability practices and firm competitiveness (Shahzad, Iqbal, Jan & Zahid, 2022). According to Elaigwu et al. (2024), female leaders enhance sustainability disclosure quality by fostering transparency and accountability, ethical values, stakeholder engagement, and long-term performance over short-term gains. These attributes position women leaders as essential mediators who facilitate the translation of sustainability initiatives into tangible competitiveness outcomes such as improved brand reputation, innovation capacity, and stakeholder trust (Ni, 2025; Galletta et al., 2022).

The GRCT (Eagly & Karau, 2002) offers a theoretical lens for understanding the mediating role of female leadership. The theory posits that women possess relational, ethical, and collaborative traits that align well with contemporary leadership demands emphasizing sustainability, inclusivity, and social responsibility. Female leaders are perceived as more empathetic and transformational, fostering cultures of trust, cooperation, and innovation that drive firms toward sustainable competitive advantage (Tremmel & Wahl, 2023; Pierli, Murmura & Palazzi, 2022). These gender-congruent traits make women leaders particularly effective in ensuring that sustainability efforts translate into organizational competitiveness through responsible governance and ethical leadership (Elaigwu et al., 2024). In parallel, the RBV underscores leadership diversity as a valuable and rare organizational resource that can yield sustained competitive advantage (Razzaque et al., 2024; Atobishi & Podruzsik, 2025). From this perspective, female leadership can constitute a strategic capability that enhances firms' abilities to integrate sustainability into their core operations and leverage it for competitive differentiation.

Female leaders, in particular, play an integrative role by embedding sustainability goals into business strategies, ensuring that ethical and environmental standards are upheld while simultaneously pursuing performance targets (Mansour et al., 2024; Olaleye, 2023). They promote inclusive decision-making and transparent governance systems, which enhance stakeholder confidence and organizational legitimacy (Elaigwu et al., 2024). Such legitimacy, in turn, strengthens firms' competitive positions in markets increasingly defined by social and environmental responsibility (Ni, 2025). Evidence from the banking sector shows that gender-diverse boards are associated with improved ESG performance and disclosure (De Masi et al., 2021; Galletta et al., 2022). Female leaders' orientation toward transparency and ethical accountability ensures that sustainability initiatives are not merely symbolic but strategically embedded within corporate culture and operations (Khushk et al., 2023). This not only enhances corporate reputation but also improves investor and consumer confidence, key indicators of competitiveness. As Nigerian banks continue to adopt sustainability frameworks in line with global ESG standards, the mediating influence of female leadership becomes increasingly critical for transforming sustainability commitments into strategic advantages.

A growing body of research confirms that female leadership serves as a mechanism that strengthens the link between sustainability and competitiveness. Ni (2025) empirically demonstrated that female executives play a mediating role between CSR and corporate brand competitiveness, emphasizing that women leaders effectively convert CSR investments into positive brand perceptions. Similarly, Korankye et al. (2024) highlighted the mediating roles of leadership and ESG performance in enhancing corporate reputation and competitive advantage, illustrating that leadership orientation, often characterized by inclusivity and ethics, acts as a key transmission channel between sustainability and firm success.

In emerging economies such as Nigeria, studies show that female leadership not only improves governance but also mitigates organizational risks associated with sustainability compliance (Bouteska & Mili, 2022; Olufemi, 2021). Elaigwu et al. (2024) found that female leadership improves the quality of sustainability disclosures, which can attract investors and enhance firms' competitiveness in capital markets. In the context of Nigerian banks, where corporate governance and gender inclusion are still developing, female leadership plays a significant role in shaping the effectiveness of sustainability strategies and translating them into competitive outcomes (Elaigwu et al., 2024; Mansour et al., 2024). This is supported by Khushk et al. (2023) who argued that female leadership promotes innovation by introducing diverse perspectives and problem-solving approaches, thereby increasing organizational adaptability and competitive resilience. This is particularly relevant in the Nigerian banking sector, where competitiveness depends on responsiveness to technological change, regulatory compliance, and stakeholder expectations. Thus, this study proposed that the mediating role of female leadership lies in transforming sustainability-driven policies into operational excellence, reputational strength, and innovation-based competitiveness.

H7: Female leadership mediates the relationship between economic sustainability and competitiveness of selected banks in Nigeria.

H8: Female leadership mediates the relationship between social sustainability and competitiveness of selected banks in Nigeria.

H9: Female leadership mediates the relationship between environmental sustainability and competitiveness of selected banks in Nigeria.

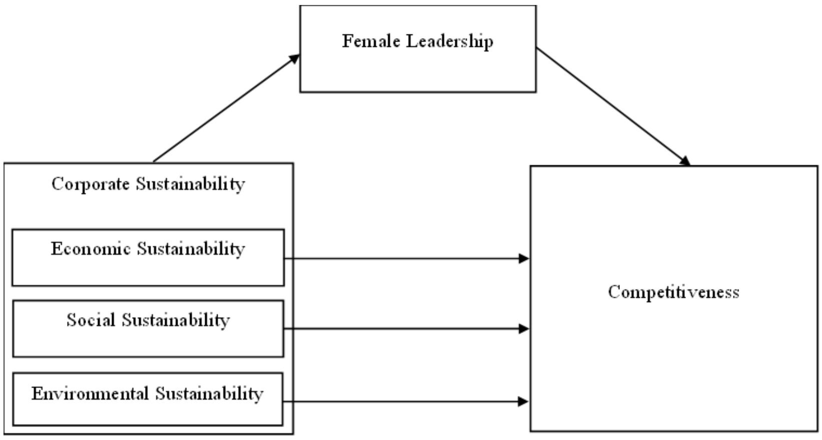

Figure 1. Conceptual Framework.

3. Methodology

3.1 Sample and Sampling Technique

This study adopts a quantitative research design with a cross-sectional survey approach to examine the relationship between corporate sustainability and competitiveness, with a focus on the moderating role of female leadership in

Nigerian banks. A structured questionnaire was employed to gather data from bank executives across top, middle, and lower management levels. This approach is appropriate as it enables statistical testing of hypothesized relationships and provides measurable insights into how sustainability dimensions (economic, social, and environmental) relate to leadership and competitive outcomes within the banking sector. The study's population comprised employees in leadership and managerial roles drawn from Tier 1 banks in Nigeria. These banks were selected because they represent the largest, most systemically important financial institutions in the country, with significant operational scale, sustainability disclosure obligations, and gender diversity initiatives (Elaigwu et al., 2024; Pepple et al., 2024; Adefare et al., 2024). Furthermore, these banks are key drivers of innovation and policy adoption in the Nigerian banking industry, making them suitable case examples for analyzing the intersection between sustainability and female leadership. A sample size of 226 respondents was used, which is considered statistically adequate for hypothesis testing and generalization within the study context. The respondents included top executives, middle managers, and lower-level managers, all of whom are actively involved in policy, sustainability, and strategic operations within their respective banks. Approximately 80% of the respondents were female, while 20% were male. Although the study primarily focused on female leadership, male respondents were included to provide balanced perspectives, ensure comparative analysis, and reduce gender response. Male participants also hold leadership and decision-making positions relevant to the sustainability and competitiveness agenda of their organizations, making their inclusion analytically valuable. A purposive sampling technique was adopted to ensure that only respondents with relevant experience and knowledge in leadership and sustainability practices were surveyed.

3.2 Measures

The questionnaire for this study was structured around four main constructs: Female Leadership, Corporate Sustainability (encompassing Economic, Social, and Environmental dimensions), and Competitiveness. All items were measured using a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The items were adapted from previously validated scales in related empirical studies to ensure content validity and reliability (De Masi et al., 2021; Elaigwu et al., 2024; Awwad et al., 2023; Shahzad et al., 2022; Pierli et al., 2022).

3.2.1 Corporate Sustainability

Corporate Sustainability was examined using the triple bottom line framework, which conceptualizes sustainability across three key dimensions: Profit, People and Planet.

Economic Sustainability

The Economic Sustainability dimension measured a bank's ability to maintain long-term profitability while integrating sustainable financial practices. Example items included: "This bank maintains steady long-term profitability over short-term gains" and "This bank pursues sustainable investment opportunities that balance risk and returns." These items reflect sustainable financial prudence and resilience (De Masi et al., 2021; Elaigwu et al., 2024).

Social Sustainability

Social Sustainability assessed the bank's commitment to social responsibility, fairness, and community engagement. Sample statements included: "The bank invests in employee development and welfare", "The bank treats customers, employees, and communities fairly", and "The bank promotes diversity and inclusion in its workforce." This dimension captures inclusive and ethical practices that strengthen internal equity and external social ties (Mogaji et al., 2021; Espedal & Ulfsten, 2024; Ventura et al., 2021).

Environmental Sustainability

Environmental Sustainability evaluated the extent to which banks adopt environmentally responsible policies and practices. Example items included: "The bank supports or finances environmentally friendly projects", "The bank has policies to reduce its environmental footprint (e.g., waste, carbon emissions)", and "The bank monitors and reports its environmental impacts regularly." These items align with literature emphasizing environmental stewardship and sustainable financing initiatives within financial institutions (Pierli et al., 2022; Aboramadan et al., 2024; Bulmer et al., 2021).

3.2.2 Female Leadership

Female Leadership was measured to assess the roles, leadership styles, and influence of women in the banking sector. The items focused on the representation of women in executive and decision-making roles, their contribution to strategic sustainability initiatives, and their impact on fostering inclusive and accountable organizational cultures. Sample items included statements such as: “There are women in top leadership positions (e.g., CEO, board chair, or committee chairs) in this bank”, “Female leaders in this bank actively influence strategic decision-making”, and “The presence of female leadership improves the accountability of the bank to social and environmental stakeholders.” These measures were guided by prior studies emphasizing the strategic importance of female leaders in governance, ethics, and organizational transformation (Khushk et al., 2023; Strøm et al., 2023; Afolabi & Aghaunor, 2024).

Competitiveness

Finally, Competitiveness was measured to capture the bank’s market position, innovation capacity, and operational efficiency. Items included: “The bank offers innovative products and services that distinguish it from competitors”, “The bank’s profitability grows consistently”, and “Customers perceive this bank to be superior in service quality compared to other banks.” This construct integrates both financial and non-financial indicators of competitive advantage, linking sustainability-driven leadership with market performance (Awwad et al., 2023; Shahzad et al., 2022).

3.2 Sample Socio-demography Characteristics

Table 1 Socio-demographic Characteristics.

Variables	Categories (Labels)	Frequency	Percentage
Gender	Female	181	80.1%
	Male	45	19.9%
	Total	226	100%
Age	18-24 years	20	8.8%
	25-34 years	60	26.5%
	35-44 years	85	37.6%
	45-54 years	54	23.9%
	55 years and above	7	3.1%
	Total	226	100%
Educational Qualification	WAEC/NECO	-	-
	OND/NCE	-	-
	BSc. /HND	96	42.5%
	MSc. /MBA	113	50.0%
	Ph.D.	12	5.3%
	Others	5	2.2%
	Total	226	100%

Occupational position	Top Manager	18	8.0%
	Middle-level Manager	120	53.1%
	Low-level Manager	88	38.9%
	Total	256	100%
Department	Operations	34	15.0%
	Retail Banking	30	13.3%
	Corporate/Commercial Banking	27	11.9%
	IT/Digital Banking	20	8.8%
	Risk Management/Audit	18	8.0%
	Legal	10	4.4%
	Human Resources Department (HR)	26	11.5%
	Marketing/Corporate Communications	24	10.6%
	Sustainability and CSR Department	21	9.3%
	Customer Experience/Relationship Management	16	7.1%
	Total	226	100%
Number of Years in the Current Firm	Less than 5 years	35	15.5%
	5-9 years	63	27.9%
	10-20 years	91	40.3%
	Above 20 years	37	16.4%
	Total	226	100%

The demographic profile shows that females constituted the majority of respondents (80.1%), reflecting the study's focus on female leadership in corporate sustainability, while males (19.9%) provided balanced organizational perspectives. Most respondents were aged 35-44 years (37.6%), followed by those aged 25-34 years (26.5%) and 45-54 years (23.9%), indicating that the sample largely comprised individuals in their prime working years. In terms of education, MSc. /MBA holders represented 50.0% of participants, while 42.5% held BSc. /HND degrees, and 5.3% possessed Ph.D. qualifications, suggesting a highly educated managerial workforce. The majority were middle-level managers (53.1%), followed by low-level managers (38.9%) and top managers (8.0%), showing that the study primarily captured insights from those directly involved in implementing sustainability and competitiveness strategies, complemented by strategic perspectives from senior management. The departmental distribution revealed strong representation from Operations (15.0%), Retail Banking (13.3%), and Corporate/Commercial Banking (11.9%), emphasizing the study's focus on core business units' central to bank performance and sustainability. Significant participation from Human Resources (11.5%), Marketing/Corporate Communications (10.6%), and Sustainability and CSR (9.3%) highlights the strategic and people-oriented dimensions of sustainable banking. Respondents from IT/Digital Banking (8.8%), Risk Management/Audit (8.0%), Customer Experience (7.1%), and Legal (4.4%) ensured comprehensive coverage across functional, technological, and regulatory areas. Furthermore, most respondents (40.3%) had 10-20 years of service, indicating deep institutional experience, while 27.9% had 5-9 years, 16.4% above 20 years, and 15.5% less than 5 years. This tenure mix reflects a balanced workforce combining seasoned professionals with midcareer and newer employees, offering diverse perspectives on sustainability and competitiveness within Nigeria's Tier 1 banks.

4. Results

4.1 Scale validation

Table 2 presents the reliability analysis of the study instrument. All items demonstrated strong internal consistency, with corrected item-total correlations ranging from 0.676 to 0.828 and Cronbach's alpha values (if item deleted) between 0.877 and 0.909. These results indicate that each construct, female leadership (FL), economic sustainability (ES), social sustainability (SS), environmental sustainability (ENS), and competitiveness (COMP), exhibited high reliability and contributed positively to the overall scale's internal consistency.

Table 2 Reliability of the instrument.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
FL	15.8332	3.035	.676	.909
ES	15.4259	2.897	.767	.890
SS	15.3889	2.883	.796	.884
ENS	15.4967	2.989	.790	.886
COMP	15.2624	2.808	.828	.877

Source: SPSS Output, 2027.

4.2 Descriptive Statistics

Table 3 presents the descriptive statistics, correlation matrix, and multicollinearity diagnostics. The mean values ranged between 3.52 and 4.09, indicating generally positive perceptions among respondents. All variables were positively and significantly correlated with competitiveness ($p < 0.01$), with social sustainability showing the strongest association ($r = 0.814$). The intercorrelations among the independent variables ($r = 0.56$-0.69) were moderate and below the 0.80 threshold recommended by Hair et al. (2019), indicating no serious multicollinearity. This was further confirmed by the Variance Inflation Factor (VIF) values, which ranged from 1.961 to 2.571, and Tolerance values between 0.389 and 0.510, all within the acceptable range (VIF < 10, Tolerance > 0.10) as suggested by Pallant (2020) and Field (2018). Hence, the data meet the assumptions for regression-based analysis, confirming model stability and the independence of explanatory variables.

Table 3 Descriptive Statistics, Correlation Matrix, and Multicollinearity Diagnostics.

Variables	Mean	S.D.	1	2	3	4	5	Tolerance	VIF
1. FL	3.52	0.50	1					0.510	1.961
2. ES	3.93	0.50	0.581**	1				0.435	2.297
3. SS	3.96	0.49	0.565**	0.689**	1			0.437	2.288
4. ENS	3.86	0.46	0.672**	0.669**	0.674**	1		0.389	2.571
5. COMP	4.09	0.51	0.584**	0.723**	0.814**	0.711**	1	—	—

Note: N = 226. Correlation is significant at the 0.01 level (2-tailed).
Source: SPSS Output, 2027.

4.3 Findings and Hypotheses Testing

Table 4 reports the results of the hypotheses testing using Hayes' PROCESS macro (Model 4).

4.3.1 Direct Effects

The results from the Hayes' PROCESS Macro (Model 4) reveal several significant relationships among the study variables. ES demonstrated a significant and positive direct effect on competitiveness (COMP) of the selected Nigerian banks ($\beta = 0.58$, SE = 0.05, t = 10.64, $p < 0.001$, LLCI = 0.47, ULCI = 0.69), suggesting that as banks strengthen their economic sustainability practices, their overall competitiveness improves. Thus, Hypothesis 1 (H1) is supported. Similarly, social sustainability exhibited a significant positive relationship with competitiveness ($\beta = 0.73$, SE = 0.05, t = 15.59, $p < 0.001$, LLCI = 0.63, ULCI = 0.82), indicating that social initiatives play a vital role in enhancing banks' competitive advantage. Therefore, Hypothesis 2 (H2) is supported. Environmental sustainability also had a positive and significant direct effect on competitiveness ($\beta = 0.64$, SE = 0.07, t = 9.34, $p < 0.001$, LLCI = 0.50, ULCI = 0.77), implying that environmentally responsible practices contribute meaningfully to banks' competitiveness. Accordingly, Hypothesis 3 (H3) is supported.

Furthermore, the results demonstrate that all three sustainability dimensions positively influence female leadership. Specifically, economic sustainability showed a strong positive association with female leadership ($\beta = 0.58$, SE = 0.05, t = 10.70, $p < 0.001$, LLCI = 0.47, ULCI = 0.68), implying that robust economic performance and inclusive financial strategies encourage women's participation in leadership roles, thereby supporting Hypothesis 4 (H4). Similarly, social sustainability was found to significantly and positively predict female leadership ($\beta = 0.57$, SE = 0.06, t = 10.25, $p < 0.001$, LLCI = 0.46, ULCI = 0.68), suggesting that gender-sensitive policies, employee inclusion, and social equity mechanisms within organizations create enabling environments for women leaders to emerge. Thus, Hypothesis 5 (H5) is supported. Environmental sustainability also exerted a significant and positive influence on female leadership ($\beta = 0.73$, SE = 0.05, t = 13.59, $p < 0.001$, LLCI = 0.62, ULCI = 0.83), demonstrating that organizations committed to ecological responsibility and ethical environmental practices tend to promote and empower women in decision-making positions. Therefore, Hypothesis 6 (H6) is supported.

4.3.2 Indirect Effects

With respect to the mediating role of female leadership, the findings show that female leadership partially mediates the relationship between economic sustainability and competitiveness, as indicated by the significant indirect effect ($\beta = 0.14$, BootSE = 0.05, BootLLCI = 0.06, BootULCI = 0.24). This result implies that economic sustainability enhances competitiveness both directly and indirectly through the empowerment and influence of female leaders, supporting Hypothesis 7 (H7). Similarly, female leadership significantly mediated the relationship between social sustainability and competitiveness ($\beta = 0.11$, BootSE = 0.03, BootLLCI = 0.05, BootULCI = 0.16), indicating that socially responsible practices promote competitiveness partly by increasing female inclusion and leadership capacity within organizations; hence, Hypothesis 8 (H8) is supported. Finally, the indirect effect of environmental sustainability on competitiveness through female leadership was also significant ($\beta = 0.14$, BootSE = 0.07, BootLLCI = 0.03, BootULCI = 0.28), suggesting that environmental responsibility contributes to competitiveness not only directly but also indirectly by fostering leadership diversity and inclusion. Therefore, Hypothesis 9 (H9) is supported.

Table 4 Summary of Findings.

Hypotheses	Relationship Tested	Coefficient (β)	SE	t-value	p-value	LLCI	ULCI	Decision
H1	ES → COMP (direct)	0.58	0.05	10.64	0.000	0.47	0.69	Supported
H2	SS → COMP (direct)	0.73	0.05	15.59	0.000	0.63	0.82	Supported
H3	ENS → COMP (direct)	0.64	0.07	9.34	0.000	0.50	0.77	Supported

H4	ES → FL	0.58	0.05	10.70	0.000	0.47	0.68	Supported
H5	SS → FL	0.57	0.06	10.25	0.000	0.46	0.68	Supported
H6	ENS → FL	0.73	0.05	13.59	0.000	0.62	0.83	Supported
H7	ES → FL → COMP (indirect)	0.14	0.05	-	-	0.06	0.24	Supported
H8	SS → FL → COMP (indirect)	0.11	0.03	-	-	0.05	0.16	Supported
H9	ENS → FL → COMP (indirect)	0.14	0.07	-	-	0.03	0.28	Supported

**$p < .01$.
*$p < .05$.

4.4 Discussion

The findings reveal that the three dimensions of corporate sustainability, economic, social, and environmental, each exert a significant positive influence on the competitiveness of Nigerian banks. This aligns with Engert et al. (2016), who contend that embedding sustainability principles into corporate strategy enhances resilience and long-term value creation. Consistent with Lloret (2016) and Teixeira et al. (2022), economic sustainability enables firms to integrate lean and green management practices, thereby improving cost efficiency and performance. In the Nigerian context, the positive link between economic sustainability and competitiveness supports Oyewo et al. (2023) and Nwaobia and Akintoye (2024), who found that sustainability accounting fosters transparency and profitability in volatile markets. Social sustainability also emerged as a strong determinant of competitiveness, reinforcing evidence from Campos et al. (2023) and Ahmad, Wu, and Khattak (2023) that socially responsible practices strengthen employee engagement, customer loyalty, and organizational legitimacy. Similarly, Yasin et al. (2023) emphasized that green HRM and stakeholder inclusiveness enhance corporate reputation and differentiation, while Olayinka (2022) and Anaike et al. (2024) observed that socially responsible governance in Nigerian firms builds trust and brand competitiveness. Furthermore, environmental sustainability significantly enhances competitiveness, consistent with Baumgartner and Rauter (2017) and Le et al. (2024), who noted that eco-efficient and innovative practices improve market positioning and operational performance. This is corroborated by Rehman et al. (2022) and Alam and Islam (2021), who found that environmentally responsible organizations gain differentiation-based advantages. In the Nigerian banking sector, Olubusola et al. (2024) and Oyewo et al. (2023) further confirm that integrating green technologies and sustainability accounting not only meets regulatory requirements but also reduces operational costs and enhances stakeholder goodwill.

The study further reveals that female leadership significantly mediates the relationship between corporate sustainability and competitiveness, supporting the GRCT (Eagly & Karau, 2002). As organizations adopt sustainability-oriented values such as empathy, collaboration, and ethical governance, the perceived incongruity between gender and leadership diminishes, enabling female leadership traits to flourish. Consistent with Ni (2025), Khushk et al. (2023), and Elaigwu et al. (2024), the findings indicate that women leaders enhance sustainability disclosure quality, ethical accountability, transparency, and long-term orientation-key enablers of sustainable competitiveness. Similarly, Galletta et al. (2022) and Korankye et al. (2024) observed that gender-diverse leadership improves ESG performance and corporate reputation, strengthening firms' competitive positioning. From the RBV (Barney, 1991; Hart, 1995), female leadership constitutes a valuable intangible asset that enhances strategic capabilities and innovation potential (Razzaque et al., 2024; Atobishi & Podruzsik, 2025). These insights align with Masade-Olowola (2023) and Mansour et al. (2024), who emphasized that women leaders drive inclusive governance and decision-making, fostering competitive resilience. Furthermore, Tremmel and Wahl (2023) and Pierli, Murmura, and Palazzi (2022) affirmed that the transformational and relational qualities typical of female leaders translate sustainability strategies into measurable performance outcomes through ethical stewardship and stakeholder engagement.However, some contrasting evidence exists. For instance, Doyle et al.

(2021) cautioned that the sustainability-competitiveness relationship may vary depending on institutional maturity and governance context, which could affect how leadership mediates the process. In developing economies, structural barriers and cultural stereotypes may still limit women's influence at the strategic level (Pucheta-Martínez & Bel-Oms, 2019). Nonetheless, in Nigeria, where female executives have emerged prominently in leading banks (e.g., GTBank, Fidelity, and FCMB), the evidence increasingly supports the argument that gender-inclusive leadership significantly contributes to sustainability-driven competitiveness.

5. Conclusion

This study concludes that corporate sustainability, through its economic, social, and environmental dimensions, plays a pivotal role in enhancing the competitiveness of Nigerian banks. Economic sustainability fosters cost efficiency, innovation, and profitability; social sustainability strengthens stakeholder relations and legitimacy; and environmental sustainability improves operational resilience and reputation. Furthermore, female leadership serves as a critical mediating factor that bridges sustainability practices and competitiveness. Through ethical governance, inclusivity, and strategic vision, women leaders effectively translate sustainability principles into competitive advantages. Overall, the study underscores the strategic importance of gender diversity and sustainability integration in achieving long-term competitiveness within Nigeria's banking sector.

5.1 Practical Implications

Theoretical Implications

This study advances the theoretical discourse by linking the GRCT and the RBV in explaining how female leadership mediates the sustainability-competitiveness relationship. It provides empirical support that gender diversity constitutes a strategic organizational resource that enhances value creation and long-term performance. It also reinforces the notion that sustainability is not merely an ethical imperative but a tangible determinant of competitiveness, thereby extending the RBV to incorporate gendered and ethical leadership capabilities.

Managerial Implications

For bank executives and boards, the results emphasize the need to institutionalize sustainability-driven leadership development. By integrating women into executive and board-level decision-making, banks can leverage diverse perspectives to foster innovation, stakeholder engagement, and ESG compliance. Leadership training programs should highlight sustainability literacy, ethical accountability, and inclusive governance as competencies that drive competitiveness. Moreover, embedding sustainability metrics into performance evaluation and incentive structures can reinforce commitment to both competitiveness and responsibility.

Policy Implications

Policymakers and regulators, particularly the CBN should encourage sustainability-linked disclosures and promote gender diversity in corporate governance codes. Establishing frameworks that reward ESG-aligned institutions and recognize gender-inclusive leadership will accelerate progress toward the UN Sustainable Development Goals (SDGs 5, 8, and 9). Encouraging financial institutions to adopt sustainability-linked performance bonds and green finance instruments can further strengthen the sustainability-competitiveness nexus in the Nigerian banking industry.

5.2 Suggestions for Future Research

This study is limited by its cross-sectional design, which restricts causal inference. Future research could adopt a longitudinal approach to track how female leadership and sustainability initiatives influence competitiveness over time. Additionally, the study focused on Nigerian banks, which may limit generalizability to other sectors or regions. Comparative studies across African economies could uncover contextual differences in gendered leadership dynamics and sustainability integration. Future studies could also employ mixed methods, combining surveys with interviews, to capture deeper insights into how female leaders operationalize sustainability strategies. Finally, examining other mediators (e.g., innovation culture, stakeholder engagement, or corporate governance mechanisms) could enrich understanding of how sustainability transforms organizational competitiveness in emerging markets.

References

[1] Adam, A., Abdullah, W. R. W., Maruhun, E. N. S., Anwar, I. S. K., & Salin, A. S. A. P. (2022). The resource-based view theory and women microbusiness entrepreneurs: A contribution to business sustainability. *International Journal of Academic Research in Business and Social Sciences, 12*(10), 2915–2932.

[2] Adeniji, A., Salau, O. P., & Ogueyungbo, O. O. (2024). Sustainability-oriented leadership and corporate governance in African organizations. *Journal of Business Ethics, 189*(2), 377–395.

[3] Agha, E. O. (2023). Corporate governance, liquidity risk, and sustainable growth rate in the Nigerian banking industry. *International Journal of Professional Business Review, 8*(10), 6.

[4] Ahmad, M., Wu, Q., & Khattak, M. S. (2023). Intellectual capital, corporate social responsibility, and sustainable competitive performance of small and medium-sized enterprises: Mediating effects of organizational innovation. *Kybernetes, 52*(10), 4014–4040.

[5] Ahmadi-Gh, Z., & Bello-Pintado, A. (2022). Why is manufacturing not more sustainable? The effects of different sustainability practices on sustainability outcomes and competitive advantage. *Journal of Cleaner Production, 337*, 130392.

[6] Al-Emran, M. (2023). Beyond technology acceptance: Development and evaluation of technology–environmental, economic, and social sustainability theory. *Technology in Society, 75*, 102383.

[7] Anaike, C. L., Nworie, G. O., & Ochuka, C. E. (2024). Corporate citizenship and wealth maximisation: A re-evaluation of stakeholder theory using evidence from listed industrial goods firms in Nigeria. *Asian Journal of Economics, Business and Accounting, 24*(8), 262–273.

[8] Arda, O. A., Eryılmaz, M. E., & Ülgen, B. (2023). Strategic resources and sustainable competitiveness: Revisiting the RBV in the sustainability era. *Sustainability, 15*(6), 4829.

[9] Arda, O. A., Montabon, F., Tatoglu, E., Golgeci, I., & Zaim, S. (2023). Toward a holistic understanding of sustainability in corporations: Resource-based view of sustainable supply chain management. *Supply Chain Management: An International Journal, 28*(2), 193–208.

[10] Atobishi, S., & Podruzsik, S. (2025). Sustainability capabilities and competitive advantage: An RBV perspective. *Journal of Cleaner Production, 432*, 141275.

[11] Atobishi, T., & Podruzsik, S. (2025). Ethical entrepreneurial leadership and corporate sustainable development: A resource-based view of competitive advantage in small and medium enterprises. *Sustainability, 17*(13), 6109.

[12] Bakar, N. A., & Adzmi, A. N. (2023). ESG disclosure, board diversity and firm performance: Evidence from emerging markets. *Sustainability, 15*(3), 1971.

[13] Bari, N., Chimhundu, R., & Chan, K. C. (2022). Dynamic capabilities to achieve corporate sustainability: A roadmap to sustained competitive advantage. *Sustainability, 14*(3), 1531.

[14] Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120.

[15] Baumgartner, R. J., & Rauter, R. (2017). Strategic perspectives of corporate sustainability management to develop a sustainable organization. *Journal of Cleaner Production, 140*, 81–92.

[16] Bhuiyan, F., Rana, T., Baird, K., & Munir, R. (2023). Strategic outcome of competitive advantage from corporate sustainability practices: Institutional theory perspective from an emerging economy. *Business Strategy and the Environment, 32*(7), 4217–4243.

[17] Bensouda, M., Benali, M., & Zizi, Y. (2024). Enhancing corporate sustainability and competitiveness through energy efficiency: A literature review. *Procedia Computer Science, 241*, 266–271.

[18] Chaudhuri, R., Chatterjee, S., Kamble, S., Gupta, S., Ndubisi, N. O., & Belhadi, A. (2024). Corporate entrepreneurial leadership, resources, capabilities, and sustainable performance. *Business Strategy and the Environment, 33*(3), 2066–2083.

[19] Chen, C. H. (2022). The mediating effect of corporate culture on the relationship between business model innovation and corporate social responsibility: A perspective from small- and medium-sized enterprises. *Asia Pacific Management Review, 27*(4), 312–319.

[20] Chiao, Y. C., Chang, Y. C., Hsu, Y. J., Lu, C. H., & Chang, M. L. (2025). Gender diversity in top management team and corporate social responsibility performance: Examining the moderating nature of TMT international experience. *Gender in Management: An International Journal, 40*(2), 272–291.

[21] de Oliveira, U. R., Menezes, R. P., & Fernandes, V. A. (2023). A systematic literature review on corporate sustainability: Contributions, barriers, innovations and future possibilities. *Environment, Development and Sustainability*, 1–25.

[22] de Souza Barbosa, A., da Silva, M. C. B. C., da Silva, L. B., Morioka, S. N., & de Souza, V. F. (2023). Integration of environmental, social, and governance (ESG) criteria: Their impacts on corporate sustainability performance. *Humanities and Social Sciences Communications, 10*(1), 1–18.

[23] Dhanda, U., & Shrotryia, V. K. (2021). Corporate sustainability: The new organizational reality. *Qualitative Research in Organizations and Management: An International Journal, 16*(3–4), 464–487.

[24] Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review, 109*(3), 573–598.

[25] El Nemar, S., El-Chaarani, H., Dandachi, I., & Castellano, S. (2025). Resource-based view and sustainable advantage: A framework for SMEs. *Journal of Strategic Marketing, 33*(6), 798–821.

[26] Engert, S., Rauter, R., & Baumgartner, R. J. (2016). Exploring the integration of corporate sustainability into strategic management: A literature review. *Journal of Cleaner Production, 112*, 2833–2850.

[27] Erbetta, F., Bruno, C., & Pirovano, C. (2023). Corporate sustainability and performance: An efficiency perspective. *Business Strategy and the Environment, 32*(6), 2649–2661.

[28] Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage Publications.

[29] Frempong, M. F., Mu, Y., Adu-Yeboah, S. S., Hossin, M. A., & Adu-Gyamfi, M. (2021). Corporate sustainability and firm performance: The role of green innovation capabilities and sustainability-oriented supplier–buyer relationships. *Sustainability, 13*(18), 10414.

[30] Galletta, S., Mazzù, S., Naciti, V., & Vermiglio, C. (2022). Gender diversity and sustainability performance in the banking industry. *Corporate Social Responsibility and Environmental Management, 29*(1), 161–174.

[31] Garcia-Retamero, R., & López-Zafra, E. (2006). Prejudice against women in male-congenial environments: Perceptions of gender role congruity in leadership. *Sex Roles, 55*(1), 51–61.

[32] Goyal, P., Rahman, Z., & Kazmi, A. A. (2022). Corporate sustainability and human capital: A strategic perspective. *Journal of Business Research, 139*, 527–537.

[33] Guo, P., Liu, Y., Yu, J., & Chen, Y. (2025). Female CEOs and green innovation in family firms: Promoting or inhibiting? *Business Strategy and the Environment.*

[34] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.

[35] Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of Management Review, 20*(4), 986–1014.

[36] He, S., Zhao, W., Li, J., Liu, J., & Wei, Y. (2023). How environmental leadership shapes green innovation performance: A resource-based view. *Heliyon, 9*(7), e18750.

[37] Hoang, Y., Vu, N., & Duong, L. N. K. (2021). Do female leaders influence bank profitability and bank stability? Evidence from Vietnamese banking sector. *Economics and Business Letters, 10*(3), 262–273.

[38] Hockerts, K. (2015). A cognitive perspective on the business case for corporate sustainability. *Business Strategy and the Environment, 24*(2), 102–122.

[39] Hu, M. K., & Kee, D. M. H. (2022). Fostering sustainability: Reinventing SME strategy in the new normal. *Foresight, 24*(3–4), 301–318.

[40] Igbekoyi, O. E., Adegbayibi, A. T., & Adesina, A. S. (2021). Female directors and corporate social performance of listed deposit money banks in Nigeria. *Journal of African Research in Business & Technology*, 1–14.

[41] Itoya, J., Owuze, C., Akhator, P. A., & Igbokwe, I. C. (2022). Effect of corporate social responsibility on financial performance in Nigeria. *European Scientific Journal, 18*(19), 173–188.

[42] Jiang, Y., Cheng, W., & Xie, X. (2024). The dismissal of new female CEOs: A role congruity perspective. *Journal of Business Ethics, 194*(2), 387–432.

[43] Khushk, A. A., Ahmed, A., & Tariq, F. (2023). Gender role congruity and sustainable leadership in emerging economies. *Gender in Management, 38*(4), 567–583.

[44] Khushk, A., Zengtian, Z., & Hui, Y. (2023). Role of female leadership in corporate innovation: A systematic literature review. *Gender in Management: An International Journal, 38*(3), 287–304.

[45] Koburtay, T., Syed, J., & Haloub, R. (2019). Congruity between the female gender role and the leader role: A literature review. *European Business Review, 31*(6), 831–848.

[46] Le, T. T., & Ikram, M. (2022). Do sustainability innovation and firm competitiveness help improve firm performance? Evidence from the SME sector in Vietnam. *Sustainable Production and Consumption, 29*, 588–599.

[47] Lemoine, G. J., & Blum, T. C. (2021). Servant leadership, leader gender, and team gender role: Testing a female advantage in a cascading model of performance. *Personnel Psychology, 74*(1), 3–28.

[48] Lenssen, G. (2006). Corporate responsibility and competitiveness. *Corporate Governance: The International Journal of Business in Society, 6*(4), 347–365.

[49] Lloret, A. (2016). Modeling corporate sustainability strategy. *Journal of Business Research, 69*(2), 418–425.

[50] Lopez-Torres, G. C., Montejano-García, S., Alvarez-Torres, F. J., & Perez-Ramos, M. D. J. (2022). Sustainability for competitiveness in firms – A systematic literature review. *Measuring Business Excellence, 26*(4), 433–450.

[51] Masade-Olowola, I. (2023). The chief sustainability officer and the impact of gendered leadership. In *Sustainability management and strategy* (pp. 219–230). Productivity Press.

[52] Masade-Olowola, M. (2023). Gender and sustainability leadership in Africa: Breaking barriers in corporate governance. *African Journal of Management, 9*(1), 55–72.

[53] Mogaji, E., Hinson, R. E., Nwoba, A. C., & Nguyen, N. P. (2021). Corporate social responsibility for women's empowerment: A study on Nigerian banks. *International Journal of Bank Marketing, 39*(4), 516–724.

[54] Nkambule, H., & Perumal, J. (2024). An interaction of patriarchy and female leadership: A synthesis of literature on women leadership in Eswatini. *Review of Education, 12*(1), e3450.

[55] Nwaobia, A. N., & Akintoye, I. R. (2024). Sustainability practices and competitive advantage: Implications for listed manufacturing companies in Nigeria. *International Journal of Business Excellence, 32*(1), 105–124.

[56] Olaleye, B. R. (2023). Influence of eco-product innovation and firm reputation on corporate social responsibility and competitive advantage: A mediation–moderation analysis. *Journal of Public Affairs, 23*(4), e2878.

[57] Olayinka, O. (2022). Corporate governance and sustainability reporting in Nigeria. *The Journal of Developing Areas, 56*(2), 77–90.

[58] Olubusola, O., Falaiye, T., Ajayi-Nifise, A. O., Daraojimba, O. H., & Mhlongo, N. Z. (2024). Sustainable IT practices in Nigerian banking: Environmental perspectives review. *International Journal of Scientific Research Archive, 11*(1), 45–59.*

[59] Olufemi, A. (2021). Board gender diversity and performance of listed deposit banks in Nigeria. *European Business & Management, 7*(1), 14–23.

[60] Oyewo, B., Tawiah, V., & Hussain, S. T. (2023). Drivers of environmental and social sustainability accounting practices in Nigeria: A corporate governance perspective. *Corporate Governance: The International Journal of Business in Society, 23*(2), 397–421.

[61] Padilla-Lozano, C. P., & Collazzo, P. (2022). Corporate social responsibility, green innovation, and competitiveness: Causality in manufacturing. *Competitiveness Review: An International Business Journal, 32*(7), 21–39.

[62] Pallant, J. (2020). *SPSS survival manual* (7th ed.). McGraw-Hill Education.

[63] Pierli, G., Murmura, F., & Palazzi, F. (2022). Women and leadership: How do women leaders contribute to companies' sustainable choices? *Frontiers in Sustainability, 3*, 930116.

[64] Pucheta-Martínez, M. C., & Bel-Oms, I. (2019). The gender gap in the boardroom: The role of sustainability reporting. *Business Strategy and the Environment, 28*(5), 847–857.

[65] Rahi, A. F., Johansson, J., Blomkvist, M., & Hartwig, F. (2024). Corporate sustainability and financial performance: A hybrid literature review. *Corporate Social Responsibility and Environmental Management, 31*(2), 801–815.

[66] Razzaque, A., Lee, I., & Mangalaraj, G. (2024). The effect of entrepreneurial leadership traits on corporate sustainable development and firm performance: A resource-based view. *European Business Review, 36*(2), 177–200.

[67] Razzaque, M. A., Rahman, M. T., & Hassan, M. K. (2024). Resource-based view and corporate sustainability: Integrating environmental and social capabilities. *Journal of Sustainable Business, 12*(2), 135–150.

[68] Ritter, B. A., & Yoder, J. D. (2004). Gender differences in leader emergence persist even for dominant women: An updated confirmation of role congruity theory. *Psychology of Women Quarterly, 28*(3), 187–193.

[69] Smith, J. E., von Rueden, C. R., van Vugt, M., Fichtel, C., & Kappeler, P. M. (2021). An evolutionary explanation for the female leadership paradox. *Frontiers in Ecology and Evolution, 9*, 676805.

[70] Strøm, R. Ø., D'espallier, B., & Mersland, R. (2023). Female leaders and financial inclusion: Evidence from microfinance institutions. *Review of Corporate Finance, 3*(1–2), 69–97.

[71] Teixeira, P., Coelho, A., Fontoura, P., Sá, J. C., Silva, F. J., Santos, G., & Ferreira, L. P. (2022). Combining lean and green practices to achieve superior performance: The contribution to sustainable development and competitiveness-An empirical study on the Portuguese context. *Corporate Social Responsibility and Environmental Management, 29*(4), 887–903.

[72] Tomšič, N., Bojnec, Š., & Simčič, B. (2015). Corporate sustainability and economic performance in small and medium-sized enterprises. *Journal of Cleaner Production, 108*, 603–612.

[73] Welford, R. (2014). Corporate strategy, competitiveness, and the environment. In *Corporate environmental management 1* (pp. 13–34). Routledge.

[74] Whittingham, K. L., Earle, A. G., Leyva-de la Hiz, D. I., & Argiolas, A. (2023). The impact of the United Nations Sustainable Development Goals on corporate sustainability reporting. *BRQ Business Research Quarterly, 26*(1), 45–61.

[75] Wibisono, H., & Supoyo, M. (2023). Business transformation: Exploring dynamic capabilities, technological innovation, and competitive advantage through the lens of resource-based view in construction services companies. *Journal of Contemporary Administration and Management (ADMAN), 1*(3), 263–270.

[76] Wiredu, J., Yang, Q., Sampene, A. K., Gyamfi, B. A., & Asongu, S. A. (2024). The effect of green supply chain management practices on corporate environmental performance: Does supply chain competitive advantage matter? *Business Strategy and the Environment, 33*(3), 2578–2599.

[77] Yasin, R., Huseynova, A., & Atif, M. (2023). Green human resource management: A gateway to employer branding-Mediating role of corporate environmental sustainability and corporate social sustainability. *Corporate Social Responsibility and Environmental Management, 30*(1), 369–383.

[78] Zhu, Y., Zhang, H., Siddik, A. B., Zheng, Y., & Sobhani, F. A. (2023). Understanding corporate green competitive advantage through green technology adoption and green dynamic capabilities: Does green product innovation matter? *Systems, 11*(9), 461.