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Carroll's CSR pyramid model revisited: The contingent role of responsible leadership in insurance product innovation performance

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ABSTRACT

This study examines the relationship between Corporate Social Responsibility (CSR) and product innovation performance, focusing on the dimensions of responsible leadership, including ethical, transformational, and sustainability-oriented leadership as contingent factors. Using Partial Least Squares Structural Equation Modeling (PLS-SEM) with data from 370 employees across 49 insurance companies in Ghana, the findings reveal that economic CSR significantly impacts product innovation performance ($\beta = 0.129$, $p = 0.038$) of firms. While ethical CSR, legal CSR, and philanthropic CSR showed no direct effect relationships, there was evidence of indirect influences through responsible leadership. Moderation analysis indicates that ethical leadership strengthens the effect of economic CSR ($\beta = 0.430$, $p = 0.001$) as well as the negative effect of philanthropic CSR ($\beta = -0.272$, $p = 0.006$) on product innovation performance. Sustainability-oriented leadership also enhanced the relationships between philanthropic CSR ($\beta = 0.312$, $p < 0.001$), economic CSR ($\beta = -0.355$, $p < 0.001$), and product innovation performance. Additionally, transformational leadership was found to have a positive moderating effect on ethical CSR ($\beta = 0.384$, $p = 0.015$) and philanthropic CSR ($\beta = 0.372$, $p < 0.001$), and a negative moderating effect on legal CSR ($\beta = -0.539$, $p = 0.002$). Grounded in stakeholder and upper echelons theories, this study shows that insurers should integrate economic CSR with ethical and sustainability-oriented leadership to maximize product innovation. Firms in the finance sector, particularly insurers, should be intentional about their CSR strategies and incorporate the appropriate leadership techniques to achieve product innovation performance.

Contribution/Originality: This study uniquely assesses how responsible leadership dimensions of ethical, transformational, and sustainability-oriented, moderate the link between CSR and innovation product performance. It contributes context-specific evidence from a developing economy, enriching the literature for insurers. The study also offers insights for managers to promote responsible strategies that enhance innovation outcomes.

1. INTRODUCTION

The insurance industry is very important for the economic growth of countries. The insurance industry of Ghana contributes about 1.2% to the GDP of Ghana, and it is the sector responsible for managing the various risks of people (National Insurance Commission (NIC), 2024). Importantly, the fundamental goal of insurance is always the same: building tailored-made and innovative products that cater to the risk needs of individuals (Skipper, 2008). Despite increasing organizational commitments towards Corporate Social Responsibility (CSR), CSR dimensions, which

translate into insurance product innovation, remain underspecified, especially in emerging economies like Ghana. According to Carroll's pyramid model of CSR, organizations are supposed to perform economic, legal, ethical, and philanthropic obligations (Ahn & Park, 2023; Carroll, 1991). For instance, Ahn and Park (2023) clarify that CSR includes the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations. Around the world, the four dimensions provide a framework of strategic CSR. Companies operating within developing economies tend to prioritize economic responsibilities (financial viability) first, followed by philanthropy, then legal and ethical obligations (Carroll, 2016). Practically, however, there may be superficial aspects of CSR initiatives. For instance, in a study on the Korean insurance market, Ahn and Park (2023) identified that there are many insurers that keep emphasizing simple donations rather than embedding CSR into their sustainable innovations (Ahn & Park, 2023). Revisiting Carroll's pyramid model in the current context highlights that organizations are expected to move beyond a duty of obligations and philanthropy, aiming to integrate ethical and social objectives into their core strategy.

Carroll's CSR model posits that firms should first be economically viable, abide by the law, behave ethically, and contribute philanthropically (Carroll, 1991), yet most prior research seldom equates these four dimensions as differentiated antecedents of innovation outcomes in insurance. This omission is consequential: in highly regulated, trust-sensitive service industries like insurance, innovation depends not only on resources but also on legitimacy, compliance, and fairness signals incorporated in CSR (Carroll, 1991; Eling & Schaper, 2024; Visser, 2016). The Ghanaian insurance market demonstrates urgency. Insurance penetration remains low at 1.2% (National Insurance Commission (NIC), 2024), and policyholders prefer product innovation, use of digitalization, and ensuring the development of insurance products to help bridge the protection gap. However, strategic levers are fragmented (National Insurance Commission (NIC), 2024). While microinsurance and national health insurance reforms show demand-side benefits and societal value, evidence is uneven and mostly descriptive, with limited integration of CSR drivers (Akomea-Frimpong, Boadi, & Owusu-Boafo, 2021; Akotey & Adjasi, 2018; Duku, Hernlund, Janssens, Smith, & Pradhan, 2021; National Insurance Commission (NIC), 2024).

Most importantly, every aspect of CSR can influence insurance product innovation in distinct but complementary terms. For economic CSR, Carroll (1991) opines that there is a focus on profitability as the basis of innovation. Insurers who are profitable are better placed to direct resources towards research and development, thus allowing the creation of innovative products. Profitability sustains long-term investment in innovative insurance products like risk-pooling mechanisms or climate risk coverage, which promotes competitiveness and growth (Visser, 2016). Legal CSR, on the other hand, leads to innovation by requiring insurers to embrace changing regulatory landscapes. Globally, and in Ghana, regulators are paying increasing attention to topics such as consumer protection, financial inclusion, and climate risk (Jamali & Mirshak, 2007). Fulfillment of those obligations pushes insurers towards launching products in the form of microinsurance products or health covers with stricter consumer protections that meet both statutory obligations and market demand at the same time.

Second, ethical CSR goes beyond technical compliance and encompasses fairness, integrity, and social responsiveness. When insurers adopt ethical practices, such as usage-based premium models or transparent claim processing, they build trust and achieve higher customer satisfaction. This ethical perspective can generate product development, enabling insurers not only to compete effectively but also to create social value by providing fair and inclusive products (Lin-Hi & Müller, 2013; Maak & Pless, 2006).

Philanthropic obligations give insurers the initiative to contribute voluntarily towards social welfare, which can reveal underserved or unserved market opportunities. For example, philanthropic CSR usually inspires the development of microinsurance products among low-earning groups, building resilience among vulnerable households. Microinsurance has been established in Ghana to strengthen the financial security of marginalized segments, suggesting that philanthropic CSR can directly inform product innovation in areas such as mobile-based health coverage or agricultural index-based insurance (Ansah, 2020). When companies engage in CSR, they are more

likely to identify social gaps and develop targeted products to address them. Altogether, these CSR dimensions represent more than compliance; they serve as strategic resources that enhance product portfolios of insurers. When integrated into the mission of insurance companies, CSR promotes innovation pathways that align business growth with social progress. Thus, CSR engagement not only enhances corporate legitimacy but also helps in positioning firms to achieve sustainable growth through innovation (Ansah, 2020; Carroll & Shabana, 2010).

This research further posits that the relationship between CSR dimensions and product innovation performance could be more complex than previously imagined, and the contingent role of responsible leadership styles cannot be underestimated. This is because transformational leaders are a source of inspiration and encouragement toward change and innovation. They serve as role models of creativity, challenging teams to think differently and be innovative (Jun & Lee, 2023). For example, Jun and Lee (2023) identified that transformational leaders "act as role models for innovation" and "exert influence on followers seeking a re-evaluation of prospective issues…with the emergence of innovative ideas." With this, transformational leaders can rally staff to transform CSR values into innovative products or challenge work teams to innovate socially friendly insurance products by appealing to a compelling vision. Ethical leaders embody normatively correct behaviors and instill ethical values across the organization. Such leaders reaffirm the good intent of CSR and signal that CSR initiatives are genuine. Kim, Kim, and Kim (2021) determined that ethical leadership has a beneficial moderating effect on the relationship between CSR and innovation: under high ethical leadership, the benefit of CSR on organizational outcomes is amplified. That is, when leaders are perceived as ethical, employees believe such CSR practices are genuine and are safer psychologically to innovate. Transposed to the context of insurance, strong ethical leadership would render employees more receptive to brainstorming innovative product ideas that achieve CSR objectives (such as employee suggestions of green insurance or community-based products) and a higher efficacy of CSR. With respect to sustainability-oriented leadership, such leaders make explicit the balance of economic, social, and environmental objectives. Liao (2022) references that sustainable leadership identifies the central role of leaders in reconciling the triple objectives of economy, society, and environment" (Liao, 2022). A sustainability-oriented leader integrates long-term social and environmental concerns into planning. Such leaders advocate products that attain sustainable growth – say, wellness programs reducing health risks or climate insurance for farmers. To align CSR projects with sustainability, such leaders ensure innovative products serve lasting social and environmental objectives alongside profitability. Overall, a focus on sustainability can increase the relationship between CSR and innovation by ensuring innovation activity has grounding within wider sustainable development goals (Liao, 2022).

In extending the discourse in terms of CSR and leadership theories, prior studies have all identified that innovative behavior and capabilities are positively linked with CSR, but such studies tend to look at CSR as a single composite and individual dimensions as defined by Carroll (1991), and seldom test boundary conditions within African insurance markets (Eling & Schaper, 2024; García-Piquero & García-Ruiz, 2023). Additionally, leadership, which may strengthen or weaken the relationship between CSR and product innovation performance, has not been given much attention in terms of research. Recent studies and meta-analyses have identified relations between transformational and ethical leadership, together with their impact on innovation and creativity, but they seldom investigate the moderation of the effects of CSR within insurance companies (Agyenim-Boateng & Ghansah, 2019; Jun & Lee, 2023; Lee, Kim, & Shin, 2024; Newman, Round, Wang, & Mount, 2020). As a result, there is a lack of empirical literature on whether and when the four dimensions of CSR affect product innovation among Ghanaian insurers based on the leadership of the firms.

Furthermore, the type of leadership needed in stakeholder-driven contexts such as insurance aligns with Responsible Leadership, which is a relational, ethical, stakeholder-based style that balances economic performance with social demands (Maak & Pless, 2006; Maak & Pless, 2011). Few empirical studies, however, ask whether responsible leadership enhances the economic and legal CSR effects of compliance-driven innovations, or ethical and philanthropic CSR effects of customer-trust and inclusion-oriented products (Liao, 2022; Maak & Pless, 2006; Maak

& Pless, 2011). Without this assessment, companies are at risk of symbolic CSR that yields publicity but does not impact positively on innovation, or innovation activities that lack stakeholder support and legitimacy and are bound to fail.

This research contributes to CSR and leadership theory by integrating Carroll's CSR model with product innovation performance and responsible leadership. The study advances the literature on CSR-Product Innovation Performance by investigating the moderating role of ethical, transformational, and sustainability-oriented responsible leadership within Ghana's insurance sector. It revisits the seminal four-level CSR model in a different sectoral context, explaining how each of the CSR levels impacts positively on insurance product innovation (Akomea-Frimpong et al., 2021; Dror & Eling, 2021; Oppong, Yu, & Mazonga Mfoutou, 2024). By integrating responsible leadership, with its transformational, ethical, and sustainability-oriented dimensions, the study offers novel empirical and practical insights, extending theoretical understanding and highlighting leadership's contingent influence on CSR-driven product innovation performance.

This moderated framework bridges a key gap: although previous studies have linked CSR with innovation or explored leadership within CSR, none of the four-level CSR responsibilities and aspects of leadership are integrated together within a single framework in the insurance industry. Consequently, there is a pressing need for quantitative evidence that (1) assesses economic**,** legal**,** ethical**,** and philanthropic CSR as distinct predictors of insurance product innovation; and (2) investigates the moderating role of responsible leadership, specifically ethical, transformational, and sustainability-oriented leadership in Ghana's insurance industry. The rest of the paper follows a sequential order: theoretical review of literature, empirical review of literature and hypotheses development, research design, empirical results and discussion, and summary and conclusion

2. LITERATURE REVIEW

2.1. Theoretical Perspective

Studies on CSR, innovation, and the role of responsible leadership in the past decades utilized the Resource-Based View (RBV), Dynamic Capabilities theory, Legitimacy theory, Institutional theory, or Contingency theory to analyze the relationship between some organizational variables as determinants or drivers of innovation performance (e.g. (Barney, 1991; Boadu & Ghansah, 2023; Hu, Zhang, & Yan, 2020; Teece, Pisano, & Shuen, 1997). This study contributes in a very different way to theories and frameworks by demonstrating the role of responsible leadership in the relationship between CSR and product innovation performance. This current work is based on Stakeholder Theory and Upper Echelon Theory.

Stakeholder theory contends that companies must satisfy the interests of all their relevant parties (customers, employees, communities, regulators, investors) in order to be successful (Donaldson & Preston, 1995; Freeman, 1984). From a stakeholder view, satisfying all four of the CSR dimensions (economic, legal, ethical, philanthropic) promotes trusting relationships with parties, allowing a supportive climate for innovation. Economic responsibilities (which include profitability and sustainable returns) ensure that companies are provided the resources they need to fund new products and R&D, and are able to demonstrate they can reward investors and settle claims. Legal compliance affords regulators and customers evidence of firms following rules, reducing uncertainty and providing a predictable climate in which to plan longer-term products. Ethical behavior reinforces corporate reputation and stakeholder goodwill, creating motivational drivers of free-flow of communication and idea-sharing by employees and customers – a significant input into innovative product development (Awa, Etim, & Ogbonda, 2024; Freeman, 1984). Philanthropic activities of voluntarily assisting communities also indicate that social responsibility creates positive signals among the communities served by insurers, helping identify emerging needs (for example, microinsurance by underserved communities) and reinforcing public-private partnerships around innovative products.

According to stakeholder theory, these CSR activities promote cooperation and support from stakeholders, which ultimately contribute to higher corporate performance. For instance, a positive CSR reputation can make it easier to

attract talented staff or partner with NGOs, accelerating product development. Empirically, CSR involvement has been linked to enhanced innovation: studies show that stakeholder demands drive CSR investment (McWilliams & Siegel, 2000), which in turn promotes the trust and social capital needed for innovation. In the financial sector, Ghanaian research finds that banks' philanthropic CSR efforts lead to stronger customer loyalty and positive perceptions (Amo-Mensah & Tench, 2019), and by analogy, Ghanaian insurers that engage responsibly may similarly earn stakeholder support for new product development.

Second, in relation to the moderating role of responsible leadership, the upper echelons theory hypothesizes that a firm's strategic outcomes (through innovativeness) are heavily dependent on the characteristics of top managers (Hambrick & Mason, 1984). Under this framework, CEOs and top-level executives who show responsible leadership – such as transformational, ethical, or sustainability leadership would make the decision to convert CSR projects into product innovations. Transformational leaders, for example, inspire and intellectually challenge employees towards a unifying organizational goal (Bass, 1985). Such top-level executives can incorporate the values of CSR into company strategy, thereby encouraging employees to seek innovative solutions that are beneficial both to profit and social goals. According to research, there is empirical evidence showing that transformational leadership "encourages employees to think creatively and adopt innovative work practices," providing higher levels of innovativeness (Zhu & Huang, 2023). By laying bare a compelling mission that shows how social and environmental missions alongside economic goals, transformational leadership aligns their CSR and R&D objectives, helping CSR efforts generate new product ideas (Kim et al., 2021; Zhu & Huang, 2023).

Ethical leadership, which relates to leaders leading with integrity and regard for fairness, further strengthens the impact of CSR on innovation by promoting a culture of safety and psychological trust. Kim et al. (2021) discovered that where there is ethical leadership, the positive influence of CSR on employees' creativity (innovation's predecessor) is enhanced. That is, ethical leaders enforce CSR values, which encourage employees to contribute ideas, hence innovating (Kim et al., 2021). Sustainability-focused leaders clearly advocate for long-term social and environmental objectives; such leaders are likely to value CSR in decision-making and spur expenditures on "green" or inclusive innovations. Although empirical evidence of sustainability-focused leadership in Ghana is rare, global evidence recommends that such leaders instill an organizational culture where CSR and innovation coexist (Zhu & Huang, 2023).

Upper echelons theory argues that such leadership effects moderate the relationship between CSR and innovation. For instance, Wang, Su, and Sun (2022) illustrate that where there is robust leadership by the CEO, top management team behavior accelerates product innovation. Consequently, visionary, ethical leadership by Ghanaian insurers would put them in a better position to convert CSR into innovative products (e.g., designing inclusive products that meet societal needs). Typically, upper echelons theory postulates that the values of leaders and their styles create an instance where a transformational or ethical leader would tend to strengthen the advantage of CSR on product innovation, but irresponsible leadership would weaken such a relationship (Hambrick & Mason, 1984; Kim et al., 2021).

2.2. Conceptual Review and Hypotheses Development

This study conceptualizes CSR into four dimensions, namely, economic, legal, ethical, and philanthropic CSR, and how they impact product innovation performance. This is moderated by leadership styles, which include ethical, transformational, and sustainability-oriented leadership. Figure 1 illustrates the conceptual model.

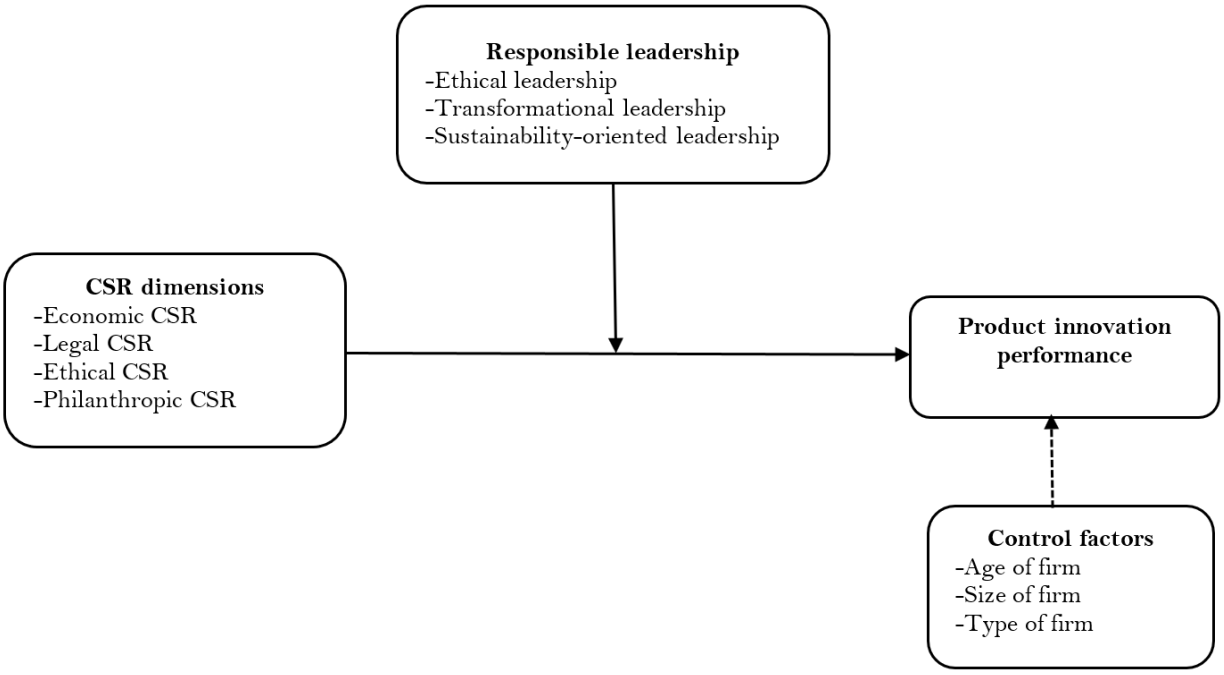

Figure 1. Conceptual model.

2.2.1. Economic CSR and Product Innovation Performance: The Role of Responsible Leadership

Economic CSR is the insurers' commitment to financial sustainability, profitability, and long-term value creation (Maris & Peters, 2017). Economic CSR offers essential resources for innovation by allowing insurers to reinvest in the development of products and risk management skills. Prior empirical studies suggest that CSR expenses usually occur before innovative products, such as climate-risk insurance or usage-based insurance (Schaltegger & Wagner, 2017). In Ghana, research shows that profitable insurers are more likely to distribute inclusive products, such as the emergence of microinsurance, which is both socially relevant and commercially viable (Akotey & Adjasi, 2018).

The economic relationship between CSR, business, and product innovation can be strengthened through responsible leadership. This is because Schüz (2016) believed that effective leadership has a catalytically operating effect by positively affecting the course and results of commercial CSR projects. Responsible leaders cultivate a culture of valuing innovation, risk-taking, and free communication and cooperation. Similarly, Dong and Zhong (2021) believed that responsible leadership can act on the economic relationship of CSR-firm product innovation by stimulating an innovative culture, embracing socially conscious HRM practices, stimulating employee motivation and pride, and constructing stakeholder engagement. Responsible leadership has been posited by empirical findings of the literature to be a motivator of the beneficial influence of CSR on firm innovation. For instance, Waldman, Siegel, and Javidan (2006) found that employees' creativity and innovation were facilitated by practices of responsible leadership. Such practices create a work climate of risk-taking, free communication, and cooperation, which is innovation-friendly.

More particularly, ethical leadership, which is represented by fairness, integrity, and transparent decision-making, results in building trust and inspiring employees to express innovative ideas (Agyenim-Boateng & Ghansah, 2019; Kim et al., 2021). Inspirational motivation and intellectual stimulation of transformational leadership directly activate innovation-oriented minds, proven in various settings (García & Bernal, 2023; Jun & Lee, 2023). Sustainability-focused leadership aligns long-term environmental and social objectives with business goals, substantiating CSR as a strategic driver of innovation (Avery & Bergsteiner, 2011). For Ghana's transforming insurance market, leaders embracing ethical standards, transformatively focused vision, and sustainable values are likely to channel CSR-based capital towards innovative insurance products that satisfy emerging social needs, including climate adaptation and financial inclusion.

2.2.2. Legal CSR and Product Innovation Performance: The Role of Responsible Leadership

Legal CSR is used in this study to refer to an organization's adherence to regulatory and compliance requirements. Companies that prioritize legal CSR are compelled to adjust products to meet evolving consumer protection, solvency, and climate-related disclosure requirements (Ioannou & Serafeim, 2017; Luo & Bhattacharya, 2009). Such compliance often promotes innovation, as insurers must design new products (e.g., microinsurance or regulatory-compliant health products) that align with statutory obligations and emerging risks (Brammer, Jackson, & Matten, 2012). Therefore, legal CSR is not only a constraint but also a catalyst for insurance product innovation.

The study posits that responsible leadership has a significant moderating effect on strengthening the relationship between legal CSR and product innovation performance. García-Piqueres and García-Ramos (2022) argued that ethical executives lead by example by promoting moral behavior and upholding CSR compliance throughout the firm. They make a strong commitment to adhering to the law and promote a culture of compliance exceeding the boundaries of regulation. This commitment to ethical compliance acts as an enabler, driving employees to excel beyond the minimum of the law and promoting products and procedural innovation. Responsible leadership dimensions, in the view of Voegtlin, Frisch, and Walther (2020), moderate the relationship between the legal aspect of CSR and firm product innovation by increasing the company's legitimacy and reputation, promoting an innovative culture, providing ethical leadership and development, and promoting stakeholder dialogue. Ethical leaders can focus on fairness and integrity in managing the demands of law, transformational leaders can challenge innovative solutions to compliance dilemmas, and leaders who are focused on sustainability can combine regulation by design with long-term, environmentally aware innovation strategies (Afsar, Al-Ghazali, & Umrani, 2020; Waldman & Galvin, 2008).

2.2.3. Ethical CSR and Product Innovation Performance: The Role of Responsible Leadership

Ethical CSR goes one step further than regulatory compliance. It covers fairness, transparency, and moral responsibility toward stakeholders (Carroll & Shabana, 2010). For the insurance industry, ethical CSR can promote product innovations, with a focus on putting customers first, fairness, and socially responsible products, such as usage-based premiums or transparent claim processing (Mishra & Suar, 2010). Companies seen by stakeholders and their publics as ethically responsible are better placed to innovate differentiated insurance products, which both satisfy their clients and strengthen reputational capital (Fombrun, Gardberg, & Barnett, 2000).

The effect of responsible leadership on the association between the ethical dimension of corporate social responsibility and firm product innovation has received little attention. For example, in their 2005 work, Brammer & Millington (2005) investigated innovative success-ethical CSR-responsible leadership relationships. They found that responsible leadership significantly increased the positive effects of ethical CSR on creativity. From their findings, we can see that responsible leadership practices increased the innovation outcomes of ethical CSR activities because the presence of responsible leaders strengthens the association between ethical CSR practices and company product innovation (Brammer & Millington, 2005). Likewise, Chen, Li, and Tang (2013) investigated the effects of ethical leadership on the relationship between CSR and innovation among Chinese companies. According to their studies, they showed that ethical CSR and outcomes of innovation were significantly impacted by responsible leadership.

In order to increase the beneficial relationship between ethical CSR and company product innovation, responsible leaders are important in promoting ethical ideals, encouraging employee participation, and establishing an environment that is conducive to creativity (Chen et al., 2013). It has been discovered that responsible leaders who place a high value on ethical decision-making, stakeholder engagement, and an encouraging company culture can increase the beneficial effects of ethical CSR activities on innovation outcomes. Responsible leadership strengthens the connection between ethical CSR actions and company product innovation by advancing ethical ideals and building an environment that is favorable to innovation. Ethical leaders reinforce fairness and accountability, transformational leaders inspire creative product development grounded in stakeholder values, and sustainability-oriented leaders align

ethical conduct with broader social and environmental goals (Avolio & Bass, 2004; Hoch, Bommer, Dulebohn, & Wu, 2016).

2.2.4. Philanthropic CSR and Product Innovation Performance: The Role of Responsible Leadership

Philanthropic CSR refers to voluntary business contributions towards social and community development, beyond their legally or ethically imposed obligations (Carroll, 1991). For insurance companies, such activities could take the form of financial education initiatives, disaster responses, or community development projects, which may generate ideas in unserved or underserved markets (Griffin & Prakash, 2013). Such engagement may catalyze innovative products such as microinsurance, climate-risk insurance, or phone-based insurance products addressing low-income or underserved groups (Chatterji, Levine, & Toffel, 2009).

In a research by Turker and Altuntas (2014) they examined the relationships between ethical leadership, philanthropic CSR, and innovative outcomes. It was found that responsible leadership significantly impacted the relationship between philanthropic CSR and innovation. Responsible leaders who made moral decisions and engaged in philanthropic activities promoted a culture of supporting innovation, which enhanced product innovation outcomes. Voegtlin, Frisch, et al. (2020) undertook a research on the relationship between responsible leadership, philanthropic CSR, and innovation. The study showed that responsible leadership increased philanthropic CSR activity, which, in turn, increased firm-level innovation. In extending support to disadvantaged groups, organizational creativity is harnessed by transformational leaders in fulfilling such social needs, and such innovations are ensured by sustainability-oriented leaders to be compatible with long-term social and environmental resilience (Maak, Pless, & Voegtlin, 2016; Stahl & Sully, 2014). Leadership, therefore, translates philanthropic activity by businesses from a charitable initiative into a strategic antecedent of insurance innovation. It can be inferred from the above reviews of empirical findings that responsible leaders who engage in philanthropic activity and demonstrate ethical behavior promote an organizational culture supporting innovation.

2.2.5. Research Gaps

From the above-reviewed literature, it is evident that, despite the growing body of literature on CSR and innovation, several gaps remain unresolved. First, most prior studies on CSR-innovation were conducted in developed economies (e.g. (Aguinis & Glavas, 2017; Fernando & Jabbour, 2020; García-Piqueres & García-Ramos, 2022; Turker & Altuntas, 2014) with limited empirical evidence from developing contexts such as Ghana (Nyuur, Ofori, & Debrah, 2019). Second, while CSR has been linked to innovation performance, little is known about the moderating mechanisms or conditions under which this relationship could be strengthened or weakened (Bocquet, Le Bas, Mothe, & Poussing, 2019; Martinez-Conesa, Soto-Acosta, & Palacios-Manzano, 2017; Sharma, 2021); Third, leadership has often been assessed separately, focusing on transformational or ethical leadership (Babalola, Stouten, Euwema, & Ovadje, 2016; Mittal & Dhar, 2015); without integrating the multiple dimensions of responsible leadership (ethical, transformational, and sustainability-oriented) as contingent moderating factors, the insurance sector in the finance industry in Ghana remains underexplored, despite its role in mitigating risks (Kolk & Rivera-Santos, 2016). Finally, there is a lack of empirical studies that examine how leadership moderates CSR's impact on product innovation performance rather than on general corporate outcomes, leaving theoretical and practical gaps in understanding the nuanced dynamics between CSR, leadership, and innovation (Voegtlin, Scherer, & Hawn, 2020). This study provides a resolution of these identified gaps.

3. METHODOLOGY AND DATA

3.1. Participants and Sampling

Using 49 registered insurance firms with the insurance regulator, the National Insurance Commission of Ghana, all life and non-life insurance companies were selected as the population of the study. This study evaluated the

perceptions of CEOs, top management, and employees of insurance firms concerning their company's CSR and product innovation initiatives. When choosing the sample, 10 members from four hierarchical levels, TMT members, middle-level supervisors, managers, and start-up employees, were sampled because they were strategically positioned to measure their perceptions regarding their company's CSR efforts. Specifically, a mean of 7.9 out of 10 respondents initially contacted from each insurance company provided responses to the questionnaire, representing a mean of 2 TMT members, middle-level supervisors, managers, and new entrants from every insurance company. A total of 397 questionnaires were returned during fieldwork. After data cleaning, 370 questionnaires with no missing variables were retained for analysis, representing a response rate of 93.2%. The final sample comprised 95 TMT members, 140 middle-level supervisors and managers, and 135 start-up employees. This accounts for 2.6% of the combined population of the life and non-life insurance industry in Ghana. In terms of demographics, 63% of respondents were male and 37% female. The mean age was 38 years. The average number of years in the current position was 6.24 years, and approximately 52% of respondents held a degree.

3.2. Data Collection and Analysis Technique

The following data collection procedures were undertaken. First, the Human Resource Manager, on instructions from the CEO, emailed the 10 respondents requesting their voluntary participation, guaranteeing them that no one within their company, including their managers or the CEO, would know of individual responses. To guarantee confidentiality, subsequent contact was only with the lead researcher, and no later contact by the CEO. Employees were permitted, in the event they agreed to partake, to respond on company-paid time or from home. Measures of the four dimensions of CSR, responsible leadership (transformational, ethical, and sustainability-oriented leadership), as well as insurance product innovation and control factors, were gathered through the questionnaire delivered by the researchers.

3.3. Measures and Instrumentation

The dimensions of CSR encompassed Economic, Legal, Ethical, and Philanthropic aspects, while Responsible Leadership was measured with dimensions of Ethical, Transformational, and Sustainability-Oriented leadership on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). Product innovation performance, which is the dependent variable, was assigned a five-point Likert scale (1 = very high; 5 = very low). In dealing with Common Method Bias (CMB), some prior research outlined the computation of the Variance Inflation Factor (VIF), Harman's single-factor test, and the common latent factor method as credible diagnostic tests. The use of PLS-SEM in this study incorporates control variables such as the age of the firm, size of the firm, and type of the firm to control for common method bias (Maheshwari & Kha, 2022). Controlling such demographic variables aims to reduce the potential effect of common method bias on the results of the study. Using control variables is a frequent statistical method to ensure the study is internally validated, such that its observed effects are due to the intended independent variables and not some extraneous variables.

Relating to the instrumentation and operationalization of the constructs, four items each were used to measure the CSR dimensions. This was adopted from the scales of Maignan (2001). Transformational leadership was measured with 7 items adopted from Carless, Wearing, and Mann (2000); ethical leadership had 6 items adopted from Yukl, Mahsud, Hassan, and Prussia (2013), while sustainability-oriented leadership had 5 items adopted from the study of Warner-Søderholm, Bertsch, Loveridge, and Ingle (2018). Prajogo and Ahmed's (2006)'s 4 items were adopted and used to measure product innovation performance from the perspective of insurance companies in Ghana. We operationalized the age of the firm by how long the company has been in existence since its incorporation. The size of the firm was measured by the total number of full-time employees, while the type of firm was measured by whether the firm was a life or non-life insurance company.

Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to test the specified hypotheses. PLS-SEM was chosen over Covariance-Based SEM (CB-SEM) because the study primarily focuses on prediction and theory development, with particular interest in the impact of CSR on innovation product performance and the contingent role of responsible leadership. PLS-SEM is more appropriate when the emphasis is on prediction and exploration rather than strict theory confirmation (Hair, Hult, Ringle, & Sarstedt, 2019). Additionally, the constructs used in this study are complex and multidimensional, requiring the estimation of relationships among latent variables with both formative and reflective indicators.

4. RESULTS

4.1. Data Analysis

The study employed the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique to analyze the collected data, following the guidelines outlined by Hair et al. (2019) and Ringle, Wende, and Becker (2021). The analysis was conducted using SmartPLS 4.0 software, which facilitates the assessment of both the measurement model (outer model) and the structural model (inner model). This two-step approach ensures the reliability and validity of the constructs before testing the hypothesized relationships (Henseler, Ringle, & Sarstedt, 2015). Figure 2 illustrates the structural model showing the results of the hypothesised relationships.

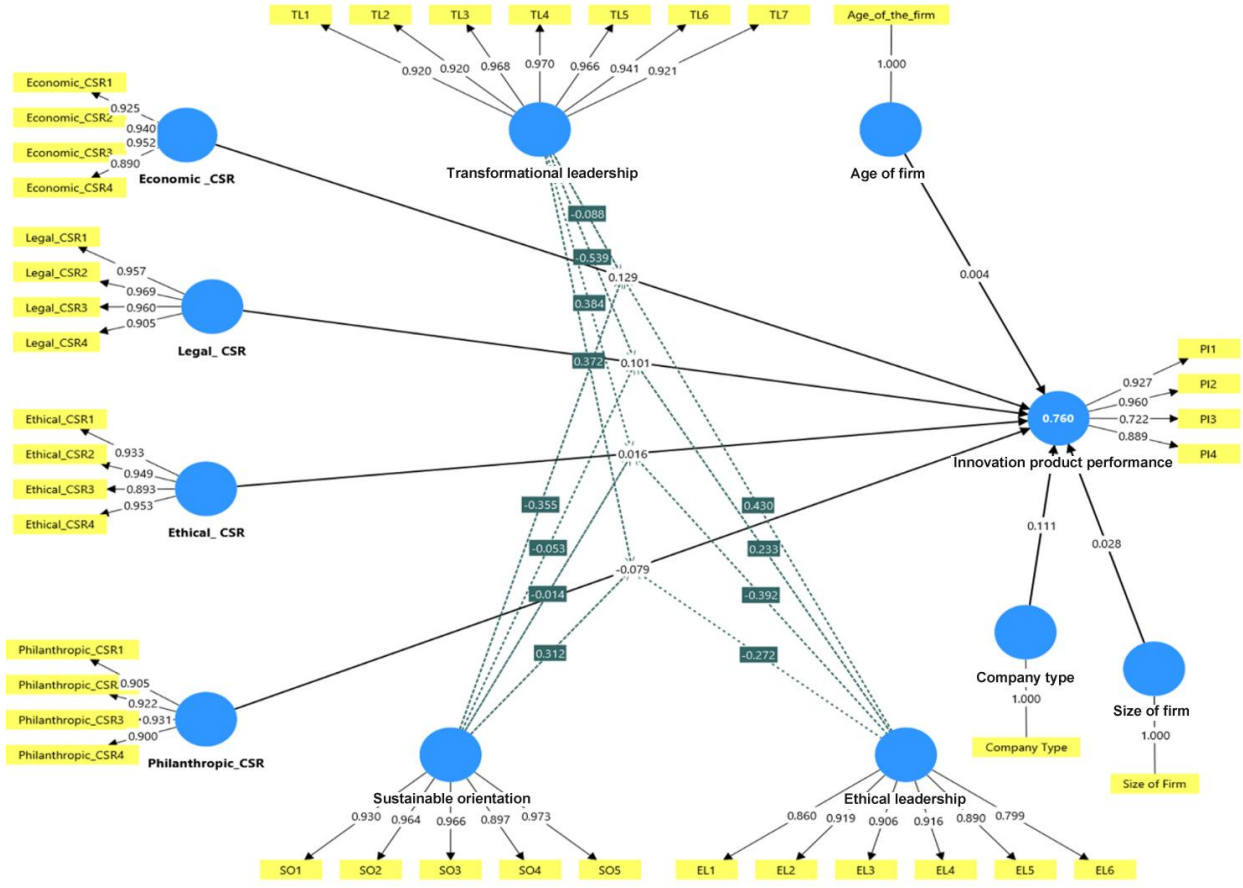

Figure 2. Structural equation model.

4.1.1. Descriptive Statistics

Descriptive statistics for the study variables are presented in Table 4. As per Demir (2022), normality evaluation includes skewness and kurtosis. Following Hair, Black, Babin, and Anderson (2010), skewness and kurtosis values were within acceptable ranges (typically |skewness| < 3 and |kurtosis| < 10 for PLS-SEM robustness), confirming the data's suitability for PLS-SEM analysis.

Table 1. Report the means of construction.

Construct	N	Min.	Max.	Mean	Std. dev	Kurtosis	Skewness
Company type	370	1	2	1.230	0.419	-0.289	1.309
Size of firm	370	1	5	3.570	1.055	-0.797	-0.186
Age of the firm	370	1	5	3.150	1.531	-1.681	0.213
Legal CSR (LC)	370	1	7	6.022	1.563	2.475	-1.882
Economic CSR (EC)	370	1	7	5.655	1.531	1.031	-1.384
Ethical CSR (ETC)	370	1	7	5.768	1.600	1.842	-1.669
Philanthropic CSR (PC)	370	1	7	5.128	1.689	-0.255	-0.907
Sustainable orientation (SO)	370	1	7	5.881	1.731	1.182	-1.616
Ethical leadership (EL)	370	1	7	5.060	1.514	0.409	-0.985
Transformational leadership (TL)	370	1	7	4.544	1.748	-0.977	-0.311
Innovation product performance (PI)	370	1	9	6.414	2.126	-0.344	-0.708

Table 1 reveals that the mean of the company type (1.230) suggests most firms belong to a specific category, likely closer to type 1 on a binary scale, with low variability (SD = 0.419). Firm size (mean = 3.570) and age (mean = 3.150) reflect a diverse mix of medium-sized and moderately established firms. CSR dimensions show high means on a 1-7 Likert scale: LC (6.022), EC (5.655), ETC (5.768), and PC (5.128), indicating strong agreement among respondents regarding CSR practices, especially in legal and ethical aspects. Responsible leadership components also display high means: SO (5.881), EL (5.060), and TL (4.544), which suggest prevalent, sustainable and ethical orientations. PI has a mean of 6.414 on a 1-9 scale, demonstrating robust innovation performance. Skewness is predominantly negative across constructs, such as -1.882 for LC, implying left-skewed distributions where responses tend to cluster toward higher values, with fewer low scores a common pattern in self-reported positive behaviors like CSR engagement. Kurtosis varies, with positive values such as 2.475 for LC, indicating peaked distributions around the mean, supporting overall data suitability without extreme deviations. These descriptive statistics highlight that firms in the sample demonstrate high CSR commitment and leadership responsibility, potentially fostering strong innovation outcomes. The negative skewness aligns with optimistic reporting biases in CSR studies, where respondents emphasize positive attributes (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

4.1.2. Multicollinearity and Autocorrelation

We evaluated multicollinearity by reviewing the correlation matrix for constructs in Table 2. No significant multicollinearity or autocorrelation issues were detected, supporting the robustness of the results (Sarpong, Nyantakyi, & Asiedu, 2023). The variance inflation factors (VIFs) remain below 5 (Hair et al., 2019) for all the latent variables. Subsequent VIF checks in the full model confirmed this.

Table 2. Correlations between constructs.

Constructs	1	2	3	4	5	6	7	8	9	10	11
1. Age of the firm	1										
2. Company type	-0.057	1									
3. Size of firm	-0.069	-0.159**	1								
4. LC	-0.059	0.068	-0.012	1							
5. EC	-0.040	0.026	-0.048	0.320**	1						
6. ETC	-0.005	0.065	-0.055	0.207**	0.815**	1					
7. PC	-0.078	0.123*	-0.031	0.337**	0.455**	0.227**	1				
8. SO	-0.089	0.008	-0.024	0.361**	0.393**	0.344**	0.331**	1			
9. EL	-0.013	0.015	0.014	0.492**	0.210**	0.494**	0.513**	0.663**	1		
10. TL	0.196**	0.033	0.016	0.409**	0.453**	0.435**	0.584**	0.419**	0.397**	1	
11. PI	0.021	0.042	0.008	0.444**	0.225**	0.342**	0.590**	0.693**	0.307**	0.593**	1

Note: **,*Correlation is significant at the 0.01 and 0.05 levels (2-tailed).

Key findings from Table 2 include strong positive intercorrelations among CSR dimensions (ranging from 0.307 to 0.693, $p < 0.01$), indicating they are interrelated facets of overall CSR strategy, consistent with Carroll (1991) pyramid model, where legal, economic, ethical, and philanthropic responsibilities overlap. This also suggests that CSR practices enhance innovation performance, aligning with stakeholder theory (Akotey & Adjasi, 2018) that ethical and sustainable actions drive competitive advantages like product innovation. Control variables exhibit mixed associations: firm age positively correlates with TL (0.196, $p < 0.01$), suggesting older firms benefit from transformational leaders; company type negatively associates with firm size (-0.159, $p < 0.01$) and positively with PC (0.123, $p < 0.05$), indicating firm type influences philanthropic focus; firm size shows weak, non-significant ties to most constructs. These interdependencies demonstrate how demographic factors relate to CSR and leadership, informing nuanced interpretations in the structural model. Overall, the positive correlations support the theoretical framework, where CSR, moderated by responsible leadership, drives PI, with controls adding contextual depth.

4.2. Validity and Reliability

The measurement model's validity and reliability were assessed to ensure the constructs' psychometric robustness, following Hair et al. (2019). Table 3 presents the results for the constructs: Economic CSR (EC), Ethical CSR (ETC), Legal CSR (LC), Philanthropic CSR (PC), Sustainability Oriented (SO), Transformational Leadership (TL), Ethical Leadership (EL), and Innovation Product Performance (PI). Reliability was evaluated using Cronbach's alpha ($Ca \geq 0.7$), composite reliability ($CR \geq 0.8$), and rho_a, all exceeding thresholds, confirming internal consistency. Convergent validity was established with average variance extracted ($AVE \geq 0.5$) for all constructs, indicating that each construct explains sufficient variance in its indicators. Factor loadings ($FL \geq 0.6$) were satisfactory, with most exceeding 0.8, though EL6 (0.799) and PI3 (0.722) were retained due to acceptable thresholds and minimal impact on model fit. Variance inflation factors ($VIF < 5$) confirmed no multicollinearity issues, with the highest VIF (4.363 for PI4) within acceptable limits (Kock, 2015). These results affirm the constructs' reliability and validity for PLS-SEM analysis.

Table 3. Results of validity and reliability of items constructs.

Constructs	Code	FL ≥ 0.6	Ca ≥0.7	CR ≥0.8	Rho_a	AVE ≥0.5	VIF
Economic CSR			0.945	0.961	0.951	0.859	2.993
	Economic_CSR1	0.925					2.569
	Economic_CSR2	0.940					2.089
	Economic_CSR3	0.952					1.014
	Economic_CSR4	0.890					2.433
Ethical CSR			0.949	0.964	0.955	0.869	2.138
	Ethical_CSR1	0.933					2.416
	Ethical_CSR2	0.949					2.168
	Ethical_CSR3	0.893					1.369
	Ethical_CSR4	0.953					1.801
Legal CSR			0.962	0.972	0.965	0.898	3.572
	Legal_CSR1	0.957					3.617
	Legal_CSR2	0.969					2.568
	Legal_CSR3	0.960					2.162
	Legal_CSR4	0.905					1.469
Philanthropic CSR			0.935	0.953	0.938	0.836	3.003
	Philanthropic_CSR1	0.905					2.334
	Philanthropic_CSR2	0.922					1.066
	Philanthropic_CSR3	0.931					2.221
	Philanthropic_CSR4	0.900					2.373
Sustainability oriented			0.971	0.977	0.971	0.896	3.032
	SO1	0.930					2.682
	SO2	0.964					3.325
	SO3	0.966					2.869

Constructs	Code	FL ≥ 0.6	Ca ≥0.7	CR ≥0.8	Rho_a	AVE ≥0.5	VIF
	SO4	0.897					2.571
	SO5	0.973					1.507
Transformational leadership			0.98	0.983	0.981	0.891	1.568
	TL1	0.920					1.524
	TL2	0.920					2.958
	TL3	0.968					1.519
	TL4	0.970					1.846
	TL5	0.966					2.296
	TL6	0.941					1.116
	TL7	0.921					2.996
Ethical leadership			0.943	0.955	0.948	0.779	2.809
	EL1	0.86					1.893
	EL2	0.919					1.686
	EL3	0.906					2.233
	EL4	0.916					2.068
	EL5	0.890					1.918
	EL6	0.799					2.216
Innovation product performance			0.900	0.931	0.931	0.773	
	PI1	0.927					3.580
	PI2	0.96					3.800
	PI3	0.722					1.790
	PI4	0.889					4.363

4.2.1. Measure of the Model: Model Fitness and Significance

Model fit and significance were evaluated following Henseler, Ringle, and Sarstedt (2016). Table 4 reports discriminant validity and model fit metrics. Discriminant validity was confirmed via the Fornell-Larcker criterion, where the square root of each construct's AVE exceeded its correlations with other constructs, and the Heterotrait-Monotrait (HTMT) ratio, with all values below 0.85 (e.g., highest HTMT = 0.863 for EC and ETC), ensuring distinct constructs.

Table 4. Discriminant validity.

Construct	1	2	3	4	5	6	7	8	9	10	11
Fornell-Larcker Criteria											
1	1.000										
2	-0.057	1.000									
3	-0.039	0.030	0.927								
4	-0.004	0.062	0.822	0.932							
5	-0.015	0.016	0.521	0.500	0.883						
6	0.002	0.048	0.660	0.679	0.714	0.879					
7	-0.058	0.067	0.825	0.909	0.501	0.687	0.948				
8	-0.077	0.126	0.662	0.726	0.616	0.617	0.737	0.914			
9	-0.069	-0.159	-0.047	-0.055	0.013	0.002	-0.013	-0.030	1.000		
10	-0.088	0.006	0.698	0.745	0.668	0.732	0.763	0.631	-0.023	0.946	
11	0.198	0.034	0.459	0.435	0.697	0.582	0.410	0.586	0.015	0.424	0.938
Heterotrait-Monotrait Ratio (HTMT) Criteria											
1											
2	0.057										
3	0.041	0.036									
4	0.039	0.066	0.863								
5	0.059	0.024	0.543	0.523							
6	0.092	0.057	0.691	0.708	0.769						
7	0.060	0.069	0.862	0.950	0.519	0.707					
8	0.081	0.128	0.699	0.772	0.653	0.653	0.777				
9	0.069	0.159	0.049	0.056	0.016	0.028	0.013	0.031			
10	0.098	0.032	0.726	0.775	0.694	0.755	0.788	0.663	0.025		
11	0.198	0.034	0.472	0.450	0.725	0.629	0.421	0.610	0.019	0.432	

Note: 1=Age of firm, 2= Company type, 3= Economic CSR, 4= Ethical CSR, 5= Ethical leadership, 6= Product innovation performance, 7= Legal CSR, 8= Philanthropic CSR, 9= size of firm, 10=Sustainability Oriented and 11= Transformational Leadership

Tables 5 and 6 present the model fit indices indicate a good fit: SRMR (0.061) is below the 0.08 threshold, and d_ULS (3.176) and d_G (3.110) are within acceptable ranges for PLS-SEM (Henseler et al., 2016). The adjusted R^2 values (0.760 and 0.744) demonstrate substantial explanatory power, indicating that the model explains approximately 76% of the variance in Innovation Product Performance (Cohen, 1988). Both R^2 values are significant ($p < 0.001$), with t-statistics (31.786 and 29.291) confirming robust model performance.

Table 5. Model fit.

Indices	Original sample (O)		Sample mean (M)	
SRMR	0.061	0.066	0.025	0.052
d_ULS	3.176	3.803	0.545	2.384
d_G	3.110	3.323	0.593	0.642

Table 6. R-square and Adj. R-square.

Indices	Original sample (O)	Sample mean (M)	ST.DEV	T -|O/STDEV|	P values
R-square	0.760	0.774	0.024	31.786	0.000
R-square adjusted	0.744	0.760	0.025	29.291	0.000

These findings validate the model's suitability for testing the hypothesized relationships, particularly the moderating role of Responsible Leadership components on the CSR-Innovation Product Performance nexus.

4.3. Hypothesis Testing

The structural model was tested using PLS-SEM with 5,000 bootstrap resamples to assess the significance of path coefficients, as shown in Table 6. Hypotheses were evaluated at a significance level of $p < 0.05$, following Hair et al. (2019). The results examine the direct effects of Corporate Social Responsibility (CSR) dimensions (Economic CSR, Ethical CSR, Legal CSR, Philanthropic CSR) and Responsible Leadership components (Sustainability-Oriented, Transformational Leadership, Ethical Leadership) on Innovation Product Performance (PI), alongside control variables including firm age, company type, and firm size. Table 7 presents the outcome.

Table 7. Hypothesis testing.

Hypothesis	Mean	t-statistics	p values	Decision
Control variables				
Age of firm -> Product Innovation Performance	0.004	0.118	0.906	
Company type -> Product Innovation Performance	0.111	1.741	0.082	
Size of firm -> Product Innovation Performance	0.028	0.992	0.321	
Direct effects				
H1: Economic CSR -> Product Innovation Performance	0.129	2.072	0.038	Significant
H2: Ethical CSR -> Product Innovation Performance	0.016	0.189	0.850	
H3: Legal CSR -> Product Innovation Performance	0.101	0.769	0.442	
H4: Philanthropic CSR -> Product Innovation Performance	-0.079	1.097	0.273	
Moderating variables				
H5: Ethical leadership x Economic CSR -> Product Innovation Performance	0.430	4.608	0.000	Significant
H6: Ethical leadership x Ethical CSR -> Product Innovation Performance	-0.392	1.702	0.089	
H7: Ethical_ leadership x Legal CSR Product Innovation Performance	0.233	0.867	0.386	
H8: Ethical_ leadership x Philanthropic CSR -> Product Innovation Performance	-0.272	2.727	0.006	Significant
H9: Sustainability oriented x Economic _CSR -> Product Innovation Performance	-0.355	3.571	0.000	Significant

Hypothesis	Mean	t-statistics	p values	Decision
H10: Sustainability-oriented x Ethical CSR -> Product Innovation Performance	-0.014	0.087	0.930	
H11: Sustainability-oriented x Legal CSR -> Product Innovation Performance	-0.053	0.297	0.766	
H12: Sustainability-oriented x Philanthropic CSR -> Product Innovation Performance	0.312	5.067	0.000	Significant
H13: Transformational leadership x Economic CSR -> Innovation product performance	-0.088	1.627	0.104	
H14: Transformational leadership x Ethical CSR -> Product Innovation Performance	0.384	2.444	0.015	Significant
H15: Transformational leadership x Legal CSR -> Product Innovation Performance	-0.539	3.051	0.002	Significant
H16: Transformational leadership x Philanthropic CSR -> Product Innovation Performance	0.372	4.156	0.000	Significant

4.4. Control Variables

None of the control variables thus, firm age ($\beta = 0.004$, $t = 0.118$, $p = 0.906$), company type ($\beta = 0.111$, $t = 1.741$, $p = 0.082$), or firm size ($\beta = 0.028$, $t = 0.992$, $p = 0.321$) showed significant effects on Product Innovation Performance (PIP). This suggests that these demographic factors have minimal influence on innovation outcomes in this context, aligning with prior studies where firm characteristics are less impactful when CSR and leadership are considered (Amoh & Ali-Nakyea, 2019).

4.5. Direct Effects

For the direct effects, H1 (Economic CSR → PIP) was supported ($\beta = 0.129$, $t = 2.072$, $p = 0.038$), indicating that economic CSR positively influences innovation performance, consistent with stakeholder theory, where economic responsibility drives competitive advantages such as product innovation (Freeman, 1984). H2: Ethical CSR → PIP ($\beta = 0.016$, $p = 0.850$), H3: Legal CSR → PIP ($\beta = 0.101$, $p = 0.442$), and H4: Philanthropic CSR → PIP ($\beta = -0.079$, $p = 0.273$) were not significant. This suggests that, although Ethical, Legal, and Philanthropic CSR did not significantly impact product innovation performance, the significant interaction term indicates that the relationship between these variables is contingent upon other factors. By implication, the three dimensions could affect product innovation only under specific conditions defined by responsible leadership acting as a moderator.

4.6. Moderating Effects

The moderating analysis could be found in Table 6. From Table 6, H5 (Ethical Leadership x Economic CSR → PIP) was significant ($\beta = 0.430$, $t = 4.608$, $p < 0.001$), indicating that Ethical Leadership significantly strengthens the positive effect of Economic CSR on innovation performance. This aligns with the notion that ethical leaders amplify the economic responsibility's impact by promoting trust and aligning business goals with innovation (Brown, Treviño, & Harrison, 2005). H6 (Ethical Leadership x Ethical CSR → PIP, $\beta = -0.392$, $t = 1.702$, $p = 0.089$) and H7 (Ethical Leadership x Legal CSR → PIP, $\beta = 0.233$, $t = 0.867$, $p = 0.386$) were not significant, suggesting Ethical Leadership does not consistently moderate all CSR dimensions, possibly due to overlapping ethical constructs reducing distinct effects. H8 (Ethical Leadership x Philanthropic CSR → PIP) was significant ($\beta = -0.272$, $t = 2.727$, $p = 0.006$), indicating a negative moderation effect, where high ethical leadership may reduce the impact of philanthropy on innovation, possibly by prioritizing internal ethical practices over external goodwill activities.

H9 (Sustainability-Oriented x Economic CSR → PIP) was supported ($\beta = -0.355$, $t = 3.571$, $p < 0.001$), showing that sustainability-oriented leadership negatively moderates the Economic CSR–PIP relationship, potentially because a focus on sustainability may divert resources from profit-driven innovation. H10 (Sustainability-Oriented x Ethical CSR → PIP, $\beta = -0.014$, $t = 0.087$, $p = 0.930$) and H11 (Sustainability-Oriented x Legal CSR → PI, $\beta = -0.053$, $t =$

0.297, p = 0.766) were not significant, suggesting a limited moderating influence of sustainability orientation on these CSR dimensions. H12 (Sustainability-Oriented x Philanthropic CSR → PIP) was significant (β = 0.312, t = 5.067, p < 0.001), indicating that sustainability-oriented leadership enhances the positive effect of philanthropic CSR on innovation, likely by aligning community-focused initiatives with innovative outcomes.

H13 (Transformational Leadership x Economic CSR → PIP, β = -0.088, t = 1.627, p = 0.104) was not significant, suggesting Transformational Leadership does not significantly alter Economic CSR's impact on PIP. However, H14 (Transformational Leadership x Ethical CSR → PIP, β = 0.384, t = 2.444, p = 0.015) and H16 (Transformational Leadership x Philanthropic CSR → PIP, β = 0.372, t = 4.156, p < 0.001) were supported, indicating that Transformational Leadership strengthens the relationship between Ethical and Philanthropic CSR and PIP. This reflects transformational leaders' ability to inspire and align ethical and social initiatives with innovation goals (Bass, 1985). H15 (Transformational Leadership x Legal CSR → PIP, β = -0.539, t = 3.051, p = 0.002) was significant but negative, suggesting that transformational leadership may weaken Legal CSR's effect on innovation, possibly due to a focus on visionary goals over regulatory compliance.

5. CONCLUSION AND LIMITATIONS

5.1. Discussions

This study investigates the relationship between Corporate Social Responsibility (CSR) dimensions and Innovation Product Performance in the Ghanaian insurance industry, with Responsibility as the contingent factor. The findings confirm that Economic CSR significantly enhances PI (β = 0.129, p = 0.038), aligning with stakeholder theory, which posits that economic responsibility provides resources for innovation (Freeman, 1984). Ethical, legal, and philanthropic CSR lacked a direct effect, indicating that goodwill activities alone may not drive innovation without leadership support. Moderation analysis revealed complex effects. Ethical leadership strengthened Economic CSR's impact on product innovation (β = 0.430, p < 0.001) but negatively moderated philanthropic CSR (β = -0.272, p = 0.006), possibly due to a focus on internal ethical practices over external philanthropy. Sustainability-oriented leadership enhanced philanthropic CSR's effect (β = 0.312, p < 0.001) but negatively moderated economic CSR (β = -0.355, p < 0.001), suggesting resource allocation trade-offs. Transformational leadership strengthened ethical (β = 0.384, p = 0.015) and philanthropic CSR (β = 0.372, p < 0.001) effects but weakened legal CSR's impact (β = -0.539, p = 0.002), showing a preference for visionary over compliance-driven innovation. These findings support the upper echelons theory, where leadership styles shape strategic outcomes (Hambrick & Mason, 1984) and extend (Carroll, 1991) the CSR model by highlighting leadership's contingent role in the insurance sector.

5.2. Implications and Limitations

This study advances stakeholder theory by demonstrating that economic CSR directly drives innovation in insurance, while ethical and legal CSR require leadership to moderate and enhance their effects (Carroll, 1991) CSR pyramid model in a sector-specific context. It extends the upper echelons theory by showing how responsible leadership moderates CSR-innovation relationships, particularly in Ghana's insurance market, where prior studies are limited (Akomea-Frimpong et al., 2021). The findings show the differential moderating effects of leadership styles, offering a robust framework for integrating CSR and leadership theories in innovation research. For Ghanaian insurers, prioritizing economic CSR alongside ethical and sustainability-oriented leadership can enhance product innovation, such as microinsurance or digital solutions, addressing low penetration rates (National Insurance Commission (NIC), 2024). Managers should foster transformational leadership to align ethical and philanthropic CSR with innovation goals, but ensure compliance-driven legal CSR is not sidelined.

Policymakers, including the National Insurance Commission, should promote CSR-driven innovation through incentives and leadership training, aligning with Ghana's Insurance Sector Strengthening Strategy (Ministry of Finance and Economic Planning (MoFEP), 2025). The findings of this study suggest that financial regulators to

encourage and regulate the integration of CSR among insurance companies, as innovation driven by CSR improves market competitiveness and product performance. Industry regulators should design policies, standards, and incentives for prudent leadership behaviors, which will ensure that firm CSR initiatives move beyond compliance to value creation for society and stakeholders.

For investors and interested stakeholders, this study demonstrates the relevance of responsive leadership as a strategic driver of CSR-innovation outcomes among insurance companies. Investors may consider working with companies that have strong commitments to CSR and responsible leadership behavior, as these are associated with lower risk, greater resilience, and better positioning to capture market opportunities in Ghana's evolving insurance sector.

Finally, the study's focus on Ghana's insurance industry limits its generalizability to other sectors or countries. The sample size (N = 370) is robust for PLS-SEM but may not capture the full diversity of insurance firms. Self-reported data may introduce common method bias, despite mitigation efforts (Podsakoff et al., 2003). The non-significant direct effects of Ethical and Legal CSR suggest potential unexamined mediators (e.g., organizational culture). Future research should explore longitudinal designs to establish causality, include other African markets for comparative analysis, and examine additional moderators such as regulatory intensity or digital adoption.

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Institutional Review Board Statement: This study was approved by the Institutional Review Board of Ramaiah University of Applied Sciences on 16 February 2023. Informed verbal consent was obtained from all participants, and all data were anonymized to protect participant confidentiality.
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Data Availability Statement: The corresponding author can provide the supporting data of this study upon a reasonable request.
Competing Interests: The authors declare that they have no competing interests.
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