



POLAC INTERNATIONAL JOURNAL OF ECONS & MGT SCIENCE (PIJEMS)  
DEPARTMENT OF ECONOMICS & MANAGEMENT SCIENCE NIGERIA  
POLICE ACADEMY, WUDIL-KANO



## STRATEGIC INNOVATION AND ETHICAL LEADERSHIP AS CATALYSTS FOR SUSTAINABLE GROWTH IN TELECOMMUNICATION FIRMS IN NIGERIA

**Kingsley Lazarus Uwa, PhD**

Department of Business Administration, Faculty of Administration and Management Sciences, Akwa Ibom State University

**Inemesit Enobong Uwah, PhD**

Department of Business Administration, Faculty of Administration and Management Sciences, Akwa Ibom State University

### Abstract

*This study examined the effect of strategic innovation on the sustainable growth of telecommunication firms in Nigeria, with particular emphasis on business model innovation and technological innovation, with the moderating role of ethical leadership. The study was motivated by the increasing need for telecommunication firms to respond effectively to rapid technological changes, intense competition, changing customer expectations and the growing demand for sustainable organizational performance. The study adopted a quantitative research design, using a structured questionnaire to obtain data from respondents in selected telecommunication firms in Nigeria. Data were analyzed using descriptive statistics and inferential techniques, including multiple regression and hierarchical multiple regression analysis. The results revealed that strategic innovation significantly predicts sustainable growth. Specifically, business model innovation had a positive and significant effect on sustainable growth ( $\beta = 0.676, p < 0.001$ ), while technological innovation also had a positive and significant effect ( $\beta = 0.304, p < 0.001$ ). The combined model explained 90.5% of the variation in sustainable growth ( $R^2 = 0.905$ ), and the overall regression model was statistically significant ( $F(2,40) = 1149.227, p < 0.001$ ). Furthermore, ethical leadership significantly moderated the relationship between strategic innovation and sustainable growth. The interaction effect was positive and significant ( $\beta = 0.784, t = 14.101, p < 0.001$ ), while the inclusion of the interaction term increased the explanatory power of the model by 6.9% ( $\Delta R^2 = 0.069, p < 0.001$ ). The study concludes that strategic innovation, particularly business model and technological innovation, are critical to sustainable growth in Nigerian telecommunication firms, while ethical leadership strengthens the capacity of firms to translate innovation into sustainable growth outcomes. The study recommends that telecommunication firms should integrate innovation strategies with ethical leadership practices that would strengthen investment in emerging technologies a continuous to promote responsible innovation for enhanced competitiveness and long-term growth.*

**Keywords:** Strategic Innovation; Business Model Innovation; Technological Innovation; Ethical Leadership; Sustainable Growth.

### 1. Introduction

The telecommunications industry is characterised by rapid technological advancement, intense competition, changing customer expectations and continuous pressure to provide innovative and reliable services. Globally, firms are increasingly adopting innovative

business models and emerging technologies to improve service delivery, expand market opportunities and sustain competitiveness. Business model innovation enables firms to redesign how they create, deliver and capture value, while technological innovation facilitates the adoption of technologies that improve operational efficiency and customer experience. These innovations

are particularly relevant to telecommunications, where firms are moving beyond traditional voice and messaging services towards digital platforms, mobile financial services, cloud-based solutions, data-driven services and other technology-enabled offerings. Evidence also indicates that innovation-related capabilities are associated with organisational performance, while leadership can influence the capacity of organisations to generate and implement innovative ideas (Adekanmbi & Ukpere, 2022; Zhang, 2022).

In the telecommunications sector, technological innovation through 4G and 5G networks, artificial intelligence, cloud computing, Internet of Things technologies, data analytics and digital platforms has created opportunities for improved network efficiency, service quality and customer experience. However, adopting new technologies does not necessarily guarantee sustainable growth, which involves the ability of firms to maintain continuous development, competitiveness, market expansion, operational efficiency and long-term value creation. The Nigerian telecommunications industry operates within a challenging environment characterised by intense competition, infrastructure constraints, regulatory requirements, cybersecurity concerns, changing consumer preferences and substantial investment requirements for technological upgrading. At the same time, digital transformation provides opportunities for new business models, improved connectivity and innovative services. Evidence on Nigeria's digital economy suggests that emerging technologies can contribute to economic sustainability while also presenting technological and digital inclusion challenges (Agbeyangi, Makinde, & Odun-Ayo, 2024). These conditions make business model innovation and technological innovation important considerations in understanding the sustainable growth of Nigerian telecommunication firms.

Ethical leadership may provide an important organisational condition through which innovation contributes to sustainable growth. Ethical leadership,

reflected in integrity, fairness, transparency, accountability and responsible decision-making, can influence how technological resources are utilised and how firms respond to the interests of customers, employees, regulators and other stakeholders. Evidence from Nigerian organisations indicates that ethical leadership is associated with sustainability-oriented employee behaviour, while other research links ethical leadership with innovation-related outcomes (Nwanzu & Babalola, 2024; Zhang, 2022). This suggests that ethical leadership may create an organisational environment that supports responsible innovation, employee commitment, trust and accountability. Therefore, examining the effects of business model innovation and technological innovation on sustainable growth, while considering the moderating role of ethical leadership, is important for understanding how telecommunication firms in Nigeria can translate innovation into sustained organisational outcomes and long-term value creation.

The Nigerian telecommunications industry operates in a highly competitive and rapidly changing environment characterised by evolving customer expectations, infrastructure limitations, regulatory pressures and rising operational costs. Although business model innovation and technological innovation provide opportunities for firms to develop new services, improve efficiency, create revenue streams and respond to changing market demands, limited attention has been given to their specific contribution to the sustainable growth of Nigerian telecommunication firms. Moreover, technological innovation may not automatically translate into sustainable growth without appropriate organisational support, particularly ethical leadership that promotes transparency, accountability and responsible use of technology. While existing studies have linked innovation and ethical leadership with organisational and sustainability-related outcomes (Adekanmbi & Ukpere, 2022; Nwanzu & Babalola, 2024; Zhang, 2022), empirical evidence remains limited on whether ethical leadership strengthens the relationship between technological innovation and sustainable growth in Nigeria's telecommunications

sector. Therefore, this study seeks to examine the effects of business model innovation and technological innovation on sustainable growth and determine the moderating role of ethical leadership in the relationship between technological innovation and sustainable growth among telecommunication firms in Nigeria.

The general objective of the study is to examine the relationship between strategic innovation and sustainable growth of telecommunication firms in Nigeria. The study specifically seeks to:

1. Examine the effect of business model innovation on the sustainable growth of telecommunication firms in Nigeria.
2. Determine the effect of technological innovation on the sustainable growth of telecommunication firms in Nigeria.
3. Examine the moderating effect of ethical leadership on the relationship between strategic innovation and sustainable growth of telecommunication firms in Nigeria.

### Research Hypotheses

**Ho<sub>1</sub>:** Business model innovation has no significant effect on the sustainable growth of telecommunication firms in Nigeria.

**Ho<sub>2</sub>:** Technological innovation has no significant effect on the sustainable growth of telecommunication firms in Nigeria.

**Ho<sub>3</sub>:** Ethical leadership does not significantly moderate the relationship between strategic innovation and the sustainable growth of telecommunication firms in Nigeria.

## 2. Literature Review

### 2.1 Conceptual Review

#### Strategic Innovation

Strategic innovation refers to the deliberate development and implementation of new approaches to creating, delivering and capturing value in response to changes in the business environment. It goes beyond new products or technologies to include changes in

organisational strategies, business models, processes and competitive approaches. Through strategic innovation, organisations can identify new opportunities, reconfigure resources and capabilities, and respond effectively to technological changes and evolving customer needs. In the telecommunications industry, it is reflected in digital platforms, technology-enabled services, alternative revenue models and the shift from traditional voice services towards data, digital financial services and other digital offerings. Thus, strategic innovation represents an important organisational capability that can help Nigerian telecommunication firms adapt to technological disruption, respond to competitive pressures and pursue sustainable growth (Teece, 2007; Adekanmbi & Ukpere, 2022).

#### Business Model Innovation

Business model innovation involves significant changes in how an organisation creates, delivers and captures value, focusing not only on new products but also on redesigning the underlying logic of how the organisation operates. Foss and Saebi (2017) describe it as a structured change to elements of an existing business model, including value proposition, value creation and value capture. In the telecommunications industry, business model innovation is reflected in the shift from traditional voice services towards mobile financial services, digital content, data services, enterprise solutions and technology-enabled platforms. These changes enable firms to develop new sources of value, diversify revenue streams and respond to changing customer preferences. Clauss (2017) identifies value creation, value proposition and value capture as key dimensions of business model innovation, which can influence organisational performance. For Nigerian telecommunication firms, therefore, business model innovation can enhance customer value, strengthen competitiveness and support sustainable organisational growth by enabling firms to identify customer preferences, develop appropriate value offerings and effectively capture value from emerging market opportunities (Ekanem, 2021; Ekanem & Efi, 2025; Bassey, Ekanem, & Edem, 2025).

### **Technological Innovation**

Technological innovation refers to the introduction, adoption or implementation of new or significantly improved technologies, processes and technology-enabled solutions that enhance organisational activities and outcomes. It includes technologies such as digital platforms, advanced communication systems, artificial intelligence, cloud computing, Internet of Things and data analytics, which can improve efficiency, service delivery and organisational adaptability (Damanpour & Gopalakrishnan, 2001). In the telecommunications industry, technological innovation is particularly important because network infrastructure and digital technologies form the foundation of service delivery. Innovations such as 4G and 5G networks, artificial intelligence, cloud computing and advanced data analytics enable firms to improve network performance, personalise customer services, develop new digital offerings and expand connectivity. In Nigeria, such innovations can also contribute to improved digital inclusion and technology-enabled services despite continuing infrastructural and accessibility challenges (Agbeyangi et al., 2024). Therefore, technological innovation represents an important capability through which Nigerian telecommunication firms can enhance operational efficiency, respond to changing customer needs and support sustainable growth.

### **Sustainable Organisational Growth**

Sustainable organisational growth refers to an organisation's ability to achieve continuous and balanced development while maintaining its capacity to create value and remain competitive over the long term. It extends beyond short-term financial outcomes to include profitability, customer retention, market expansion, operational efficiency, competitive advantage, resilience and responsible resource utilisation. In the telecommunications industry, sustainable growth requires firms to continuously adapt to technological developments, changing customer expectations and competitive pressures rather than relying solely on existing products and services. Strategic innovation can support this process by enabling firms to develop new value propositions,

improve service delivery, diversify revenue sources and explore new markets. Evidence suggests that innovation-related capabilities can enhance organisational outcomes when effectively implemented (Adekanmbi & Ukpere, 2022). Therefore, sustainable organisational growth can be viewed as the achievement of desired organisational outcomes over time through the effective utilisation of resources, continuous innovation and adaptation to changing environmental conditions (Ekanem, 2021).

### **Ethical Leadership**

Ethical leadership refers to the demonstration and promotion of normatively appropriate conduct through personal actions, interpersonal relationships, communication, decision-making and reinforcement of ethical standards. Brown, Treviño, and Harrison (2005) conceptualise ethical leadership as the demonstration of appropriate conduct through personal actions and relationships and the promotion of such conduct among followers through communication, reinforcement and decision-making. Ethical leaders therefore serve as behavioural role models by demonstrating integrity, fairness, responsibility and concern for others. In organisational settings, ethical leadership can influence how employees interpret organisational values and how they respond to management decisions, thereby contributing to trust, commitment and responsible organisational behaviour. Ethical leadership is particularly relevant to telecommunications because firms operate in an environment involving customer information, digital transactions, technological resources and regulatory obligations. Ethical leadership can provide the governance and behavioural framework needed to ensure that technological resources and innovative initiatives are used responsibly. Research has shown that ethical leadership can influence innovation-related outcomes by creating conditions that encourage employees to contribute ideas and engage in innovative activities (Zhang, 2022).

### **Ethical Leadership as a Moderator**

Ethical leadership may moderate the relationship between technological innovation and sustainable

growth by shaping the organisational conditions under which technological resources and capabilities are transformed into outcomes. Ethical leaders promote trust, accountability, fairness, transparency and responsible decision-making, which can encourage employees and managers to use technological resources effectively (Brown et al., 2005). This role is particularly important in the telecommunications industry, where technological innovation involves issues such as customer privacy, cybersecurity, data management and responsible technology use. Evidence linking ethical leadership with innovation performance (Zhang, 2022) and sustainability-related employee behaviour in Nigeria (Nwanzu & Babalola, 2024) supports its potential as an enabling condition. Therefore, ethical leadership may strengthen the contribution of technological innovation to sustainable growth among telecommunication firms in Nigeria.

## 2.2 Theoretical Framework

This study anchored on Dynamic Capabilities Theory, primarily associated with Teece, Pisano, and Shuen (1997), explains how organisations achieve competitive advantage by developing the capacity to integrate, build and reconfigure internal and external competencies in response to rapidly changing environments. The theory distinguishes dynamic capabilities from ordinary operational capabilities by emphasising an organisation's ability to adapt its resource base as environmental conditions change. Teece (2007) subsequently identifies sensing, seizing and transforming as important components of dynamic capabilities. The theory is highly relevant to strategic innovation because business model innovation and technological innovation require organisations to recognise opportunities, invest in appropriate resources and reconfigure existing capabilities.

The theory provides a useful foundation for explaining the proposed relationship between strategic innovation and sustainable growth among Nigerian telecommunication firms. Business model innovation requires firms to reconfigure how they create and capture value, while technological innovation requires

them to acquire, integrate and deploy new technological capabilities. In a highly dynamic telecommunications environment, firms that possess strong dynamic capabilities may be better positioned to respond to technological disruption and changing customer requirements. Thus, Dynamic Capabilities Theory supports the argument that business model innovation and technological innovation can contribute to sustainable growth by enabling telecommunication firms to adapt continuously to changes in their competitive environment.

## 2.3 Empirical Review

Gautam, Gautam, and Silwal (2025) investigated business model innovation and firm performance among SMEs during the COVID-19 pandemic. Using survey data from 396 SME owners and managers, the researchers employed structural equation modelling to examine both the direct and indirect effects of business model innovation. The findings revealed a significant positive association between business model innovation and SME performance, while competitive advantage and entrepreneurial orientation were considered in the explanatory model. The findings provide further evidence that organisations can improve performance by redesigning their business models in response to environmental disruption. The study is particularly relevant because it demonstrates the importance of business model innovation when firms operate under uncertainty and changing market conditions. Nevertheless, the research was conducted among SMEs in Nepal, not Nigerian telecommunication firms. It also examined firm performance rather than sustainable growth.

Salfore, Ensermu, and Kinde (2023) examined the relationship between business model innovation and firm performance among manufacturing SMEs. The study collected data from 264 manufacturing SMEs and employed PLS-SEM to test the relationships. The findings showed that changes in the major components of business model innovation—value creation, value proposition and value capture—were positively and

significantly associated with firm performance. The authors concluded that business model innovation enables firms to create greater value for customers while improving their ability to capture value for the organisation. The study is relevant to the present research because it provides empirical evidence that redesigning the way firms create, deliver and capture value can improve organisational outcomes. However, the study focused on manufacturing SMEs in Ethiopia, whereas the present study focuses on telecommunication firms in Nigeria. Furthermore, Salfore et al. examined overall firm performance rather than sustainable organisational growth and did not incorporate ethical leadership as a moderating variable.

Zhang and Aumeboonsuke (2022) investigated the relationship between technological innovation and firm performance using 1,166 listed Chinese companies over the period 2012–2020. The researchers examined the mechanisms through which technological innovation affects firm performance and conducted endogeneity and robustness tests. Interestingly, the study found that technological innovation had a significant negative effect on firm performance, with risk-taking identified as an important mechanism through which technological innovation influenced performance. This finding is important because it demonstrates that technological innovation does not necessarily produce positive organisational outcomes automatically. While technology can create opportunities for efficiency and competitiveness, its implementation can also involve substantial costs, uncertainty and organisational risks. The study therefore provides a useful counterpoint to research reporting positive innovation-performance relationships. However, its focus was on listed Chinese companies, and it did not investigate Nigerian telecommunications firms or the role of ethical leadership.

### 3. Methodology

#### 3.1 Research Design

The study adopted a cross-sectional survey research design. The design was appropriate because data were collected from respondents at a single point in time to

examine the relationships between business model innovation, technological innovation and sustainable growth, as well as the moderating effect of ethical leadership. The population of the study comprises of 46 management and supervisory employees of selected telecommunication firms operating in Nigeria. The choice of management and supervisory employees is appropriate because these employees are more directly involved in strategic decision-making, technological adoption, business model development and organisational performance. For a more manageable study, the population was restricted to the major GSM/telecommunication firms operating in Nigeria, such as MTN Nigeria, Airtel Nigeria, Globacom and 9mobile. The census technique was adopted for the study. The census technique involves collecting data from every eligible member of the identified population rather than selecting a sample from the population.

#### 3.2 Data and Source

The study primarily relied on primary data collected through a structured questionnaire administered to respondents in the selected telecommunication firms. Secondary information from scholarly journals, books, industry reports and relevant institutional publications was used to support the literature review and discussion of findings. The questionnaire consisted of closed ended items designed on a modified five point Likert scale, ranging from Strongly Agree (5) to Strongly Disagree (1). The reliability of the instrument was assessed using Cronbach's alpha, which produced a coefficient greater than 0.7, indicating an acceptable level of internal consistency.

#### 3.3 Model Specification

The first model examined the effect of business model innovation on sustainable growth:

$$\text{Model 1: } SG = \beta_0 + \beta_1 BMI + \varepsilon \quad \dots(1)$$

Where:

SG = Sustainable Growth

BMI = Business Model Innovation

$\beta_0$  = Constant

$\beta_1$  = Regression coefficient

$\varepsilon$  = Error term

The second model examined technological innovation and sustainable growth:

$$SG = \beta_0 + \beta_1 TI + \varepsilon \quad \dots (2)$$

Where:

TI = Technological Innovation.

Moderating Model

To test the third hypothesis, ethical leadership was introduced as a moderator.

The moderation model was:

$$SG = \beta_0 + \beta_1 TI + \beta_2 EL + \beta_3 (TI \times EL) + \varepsilon \quad (3)$$

Where:

SG = Sustainable Growth

TI = Technological Innovation

EL = Ethical Leadership

TI × EL = Interaction between Technological Innovation and Ethical Leadership

$\beta_3$  = Moderating effect

$\varepsilon$  = Error term

The data collected for the study were analysed using both descriptive and inferential statistical techniques. Descriptive statistics, including frequency and simple percentage was used to summarise the responses obtained on the study variables. Inferential statistics examined the relationships among business model innovation, technological innovation, ethical leadership and sustainable growth of telecommunication firms in Nigeria. The inferential analysis involved regression analysis to determine the nature and extent of the relationships between the independent and dependent variables. Specifically, regression analysis was used to examine the effects of business model innovation and technological innovation on sustainable growth. The hypotheses was tested at a 0.05 level of significance, such that a hypothesis was rejected where the probability value is less than 0.05 and retained where the probability value is greater than or equal to 0.05.

### 3.4 Method of Data Analysis

### 4. Results and Discussion

**Table: 1: Descriptive Statistics of Business Model Innovation, Technological Innovation and Sustainable Growth**

| Variable                  | Mean         | Standard Deviation | Interpretation |
|---------------------------|--------------|--------------------|----------------|
| Business Model Innovation | 4.086        | 0.821              | High           |
| Technological Innovation  | 4.152        | 0.812              | High           |
| Sustainable Growth        | 4.162        | 0.804              | High           |
| <b>Overall Mean</b>       | <b>4.133</b> | <b>0.812</b>       | <b>High</b>    |

**Source:** Field survey data, (2026).

The results indicate that the respondents generally perceived high levels of business model innovation, technological innovation and sustainable growth among the sampled telecommunication firms. Sustainable growth recorded the highest mean ( $M = 4.162$ ,  $SD = 0.804$ ), followed by technological innovation ( $M = 4.152$ ,  $SD = 0.812$ ), while business model innovation recorded a mean of 4.086 ( $SD = 0.821$ ). The overall

mean of 4.133 indicates a generally high perception of the three variables among the respondents.

#### 4.1 Test of Hypotheses

**H<sub>01</sub>:** Business model innovation, Technological innovation has no significant effect on the sustainable growth of telecommunication firms in Nigeria.

**Table 2: Model Summary<sup>b</sup> of Business model innovation and Technological innovation**

| Model Summary <sup>b</sup>                                                    |                          |                             |                   |                            |               |                   |
|-------------------------------------------------------------------------------|--------------------------|-----------------------------|-------------------|----------------------------|---------------|-------------------|
| Model                                                                         | R                        | R Square                    | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |                   |
| 1                                                                             | .951 <sup>a</sup>        | .905                        | .904              | .25050                     | 1.359         |                   |
| a. Predictors: (Constant), Businessmodel Innovation, Technological Innovation |                          |                             |                   |                            |               |                   |
| b. Dependent Variable: Sustainable Growth                                     |                          |                             |                   |                            |               |                   |
| ANOVA <sup>a</sup>                                                            |                          |                             |                   |                            |               |                   |
| Model                                                                         | Sum of Squares           |                             | Df                | Mean Square                | F             | Sig.              |
| 1                                                                             | Regression               | 144.226                     | 2                 | 72.113                     | 189.98        | .001 <sup>b</sup> |
|                                                                               | Residual                 | 15.185                      | 40                | .380                       |               |                   |
|                                                                               | Total                    | 159.411                     | 42                |                            |               |                   |
| a. Dependent Variable: Sustainable Growth                                     |                          |                             |                   |                            |               |                   |
| b. Predictors: (Constant), Businessmodel Innovation, Technological Innovation |                          |                             |                   |                            |               |                   |
| Coefficients <sup>a</sup>                                                     |                          |                             |                   |                            |               |                   |
| Model                                                                         |                          | Unstandardized Coefficients |                   | Standardized Coefficients  | t             | Sig.              |
|                                                                               |                          | B                           | Std. Error        | Beta                       |               |                   |
| 1                                                                             | (Constant)               | .339                        | .080              |                            | 4.2375        | .001              |
|                                                                               | Technological Innovation | .305                        | .039              | .304                       | 7.82          | .001              |
|                                                                               | Businessmodel Innovation | .603                        | .035              | .676                       | 17.23         | .001              |

a. Dependent Variable: Sustainable Growth

The multiple regression results show that business model innovation and technological innovation jointly have a very strong and statistically significant relationship with sustainable growth among Nigerian telecommunication firms. The model recorded  $R = 0.951$  and  $R^2 = 0.905$ , indicating that the two innovation dimensions jointly explain 90.5% of the variation in sustainable growth, while the remaining 9.5% is explained by other factors. The overall model was statistically significant ( $F(2,40) = 189.98$ ,  $p < 0.001$ ). Both business model innovation ( $B = 0.603$ ,  $\beta = 0.676$ ,  $p < 0.001$ ) and technological innovation ( $B = 0.305$ ,  $\beta = 0.304$ ,  $p < 0.001$ ) had positive and statistically significant effects on sustainable growth. Based on the standardized coefficients, business model innovation showed a larger relative contribution than technological innovation. Overall, the findings indicate that both dimensions of strategic innovation are significant predictors of sustainable growth among the sampled telecommunication firms.

**H<sub>03</sub>:** Ethical leadership does not significantly moderate the relationship between strategic innovation and the sustainable growth of telecommunication firms in Nigeria.

**Table 3: Model Summary of Ethical leadership**

| <b>Model Summary</b> |                   |                   |          |                            |                 |                   |     |    |               |
|----------------------|-------------------|-------------------|----------|----------------------------|-----------------|-------------------|-----|----|---------------|
| Model                | R                 | R Square          |          | Std. Error of the Estimate | R Square Change | Change Statistics |     |    | Sig. F Change |
|                      |                   | Adjusted R Square | F Change |                            |                 | df1               | df2 |    |               |
| 1                    | .921 <sup>a</sup> | .848              | .846     | .32207                     | .848            | 109.05            | 2   | 39 | .001          |

|   |                   |      |      |        |      |       |   |    |      |
|---|-------------------|------|------|--------|------|-------|---|----|------|
| 2 | .958 <sup>b</sup> | .917 | .910 | .59045 | .069 | 31.36 | 1 | 38 | .001 |
|---|-------------------|------|------|--------|------|-------|---|----|------|

a. Predictors: (Constant), Strategic\_innovation, Ethical\_Leadership

b. Predictors: (Constant), Strategic\_innovation, Ethical\_Leadership, SI\_EL

#### ANOVA<sup>a</sup>

| Model |            | Sum of Squares | Df | Mean Square | F      | Sig.              |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1     | Regression | 135.235        | 2  | 67.618      | 109.05 | .001 <sup>b</sup> |
|       | Residual   | 24.176         | 39 | .620        |        |                   |
|       | Total      | 159.411        | 41 |             |        |                   |
| 2     | Regression | 146.164        | 3  | 48.721      | 139.76 | .001 <sup>c</sup> |
|       | Residual   | 13.247         | 38 | .349        |        |                   |
|       | Total      | 159.411        | 41 |             |        |                   |

a. Dependent Variable: Sustainable\_Growth

b. Predictors: (Constant), Strategic\_innovation, Ethical\_Leadership

c. Predictors: (Constant), Strategic\_innovation, Ethical\_Leadership, SI\_EL

#### Coefficients<sup>a</sup>

| Model |                      | Unstandardized Coefficients |            | Standardized Coefficients |        | Sig. | 95.0% Confidence Interval for B |             |
|-------|----------------------|-----------------------------|------------|---------------------------|--------|------|---------------------------------|-------------|
|       |                      | B                           | Std. Error | Beta                      | t      |      | Lower Bound                     | Upper Bound |
| 1     | (Constant)           | .009                        | .108       |                           | .087   | .931 | -.203                           | .222        |
|       | Ethical_Leadership   | 1.538                       | .093       | 1.415                     | 16.551 | .001 | 1.355                           | 1.721       |
|       | Strategic_innovation | -.553                       | .089       | -.530                     | -6.203 | .001 | -.729                           | -.378       |
| 2     | (Constant)           | .099                        | .080       |                           | 1.233  | .219 | -.059                           | .257        |
|       | Ethical_Leadership   | .568                        | .097       | .523                      | 5.836  | .000 | .376                            | .760        |
|       | Strategic_innovation | -.385                       | .067       | -.369                     | -5.721 | .000 | -.517                           | -.252       |
|       | SI_EL                | .785                        | .056       | .784                      | 14.101 | .000 | .675                            | .895        |

a. Dependent Variable: Sustainable Growth

The hierarchical multiple regression results indicate that strategic innovation and ethical leadership jointly have a strong and statistically significant relationship with sustainable growth. Model 1 explained 84.8% ( $R^2 = 0.848$ ) of the variation in sustainable growth and was statistically significant ( $F(2,40) = 109.05$ ,  $p < 0.001$ ). After introducing the strategic innovation–ethical leadership interaction term in Model 2, the explanatory power increased to 91.7% ( $R^2 = 0.917$ ), representing an additional 6.9% explained variance, with the change being statistically significant ( $F \text{ Change } (1,41) = 198.830$ ,  $p < 0.001$ ). The interaction term was also positive and statistically significant ( $B = 0.785$ ,  $\beta = 0.784$ ,  $t = 14.101$ ,  $p < 0.001$ ; 95% CI [0.675, 0.895]),

indicating that ethical leadership significantly moderates the relationship between strategic innovation and sustainable growth. The findings therefore suggest that stronger ethical leadership is associated with a stronger positive relationship between strategic innovation and sustainable growth among the sampled Nigerian telecommunication firms, providing evidence against the stated null hypothesis.

#### 4.2 Discussion of Findings

The findings revealed that strategic innovation has a significant positive effect on the sustainable growth of telecommunication firms in Nigeria, with business

model innovation ( $\beta = 0.676$ ,  $p < 0.001$ ) making a stronger contribution than technological innovation ( $\beta = 0.304$ ,  $p < 0.001$ ). The results suggest that firms that continuously redesign their business models, introduce new services, adopt alternative revenue approaches and invest in emerging technologies are better positioned to achieve sustained growth. The findings therefore highlight strategic innovation as an important capability for responding to changing customer needs, technological developments and competitive pressures.

The study also found that ethical leadership significantly moderates the relationship between strategic innovation and sustainable growth ( $\beta = 0.784$ ,  $p < 0.001$ ), with the interaction contributing an additional 6.9% ( $\Delta R^2 = 0.069$ ) to the explained variance. This indicates that ethical leadership strengthens the contribution of strategic innovation to sustainable growth by promoting integrity, accountability, fairness and responsible decision-making. Thus, combining innovation-oriented strategies with ethical leadership can help Nigerian telecommunication firms convert innovation into sustainable organisational outcomes (Uttong, Ekanem, & Uwa, 2024). This is consistent with the argument that ethical leadership can create an organisational environment in which employees are encouraged to participate in innovative activities while ensuring that innovation is pursued responsibly. In the context of Nigerian telecommunication firms, ethical leaders can provide the values, accountability and direction required to ensure that technological and business model innovations serve organisational and stakeholder interests rather than being pursued solely for short-term gains. In a highly competitive business environment, developing new strategies that can generate new value in the face of competition or even new markets and customers is therefore essential to an organization's survival (Uttong, Ekanem, & Uwa, 2024).

The moderating finding further suggests that strategic innovation and ethical leadership are complementary organisational capabilities. Strategic innovation

provides the mechanisms through which firms adapt, create new value and respond to technological and market changes, while ethical leadership provides the behavioural and governance conditions necessary for these innovations to be implemented responsibly. The finding is particularly important because innovation without appropriate ethical direction may expose organisations to problems involving customer trust, employee welfare, data responsibility and other stakeholder concerns. Conversely, ethical leadership without innovation may not provide sufficient adaptability for firms operating in a highly dynamic telecommunications environment.

## 5. Conclusion and Recommendations

The study concludes that strategic innovation is an important driver of sustainable growth among telecommunication firms in Nigeria. The findings demonstrate that both business model innovation and technological innovation have significant positive effects on sustainable growth, with business model innovation making the stronger contribution. This indicates that telecommunication firms can improve their long-term sustainability by continuously developing new ways of creating and delivering customer value, introducing new services, adopting alternative revenue-generation approaches and modifying existing business models in response to changes in the industry. Technological innovation also contributes significantly by enabling firms to improve service delivery, operational efficiency and customer experience.

Based on the findings of the study, the following recommendations are made:

- i. Telecommunication firms should strengthen business model innovation. Management should continuously review and redesign existing business models to respond to changing customer expectations, competitive pressures and emerging market opportunities. Greater attention should be given to developing

innovative service offerings, alternative revenue-generation mechanisms, strategic partnerships and new approaches to creating and delivering customer value.

- ii. Telecommunication firms should increase investment in technological innovation. Management should allocate adequate resources to emerging technologies, digital platforms, network infrastructure and technology-driven service solutions. The findings showed that technological innovation significantly contributes to sustainable growth; therefore, firms should ensure that

technological investments are strategically aligned with operational efficiency, customer experience and long-term competitiveness.

- iii. Management should strengthen ethical leadership practices. Managers should demonstrate integrity, fairness, transparency, accountability and responsible decision-making in their daily activities. Regular leadership development programmes, ethics training and appropriate accountability mechanisms should be implemented to ensure that managers serve as positive ethical role models within their organisations.

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