

Artificial Intelligence as a Catalyst for Corporate Resourcefulness: Evidence from Mobile (GSM) Telecommunication Companies in Port Harcourt, Rivers State

Ugonna Augustina Kalu-Okoro¹, Faith Ginikachi Prosper², Uchechukwu Christogonus Egwenike³, Jude Chukwunyere Iwuoha⁴, Bethel Oluchi Enyinna⁵

^{1,3}Department of Entrepreneurship, University of Agriculture and Environmental Sciences, Umuagwo, Imo State.

¹ORCID ID 0009-0009-4583-8476

²Department of Business Administration, University of Agriculture and Environmental Sciences, Umuagwo, Imo State.

^{4,5}Department of Marketing, University of Agriculture and Environmental Sciences, Umuagwo, Imo State.

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Corresponding Author:
Ugonna Augustina Kalu-Okoro

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ABSTRACT

The growing use of artificial intelligence (AI) by mobile telecommunication companies raises questions about its ability to strengthen how firms manage and deploy their resources. This study examined the effect of AI-driven automation, predictive analytics, and smart support systems on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State. The study was anchored on the Resource-based view and dynamic capabilities theory. A cross-sectional survey design was adopted, with the study population covering the four (GSM) telecommunication companies namely, MTN Nigeria, Airtel Nigeria, Globacom, and 9Mobile. Given that the accessible population was manageable, a census method was adopted. The respondents comprised 28 top and middle-level managers which were selected through purposive sampling. Data were collected through a structured questionnaire. 28 questionnaires were administered by the researchers to the respondents, however, 23 copies were returned and used for analysis, representing an 82.1% response rate. The instrument was subjected to expert review to establish content validity, while its internal consistency was assessed using Cronbach's alpha. Multiple regression was employed to test the hypotheses. The findings showed that AI-driven automation, predictive analytics, and smart support systems each had a significant positive effect on corporate resourcefulness. Smart support systems recorded the strongest effect among the three dimensions. The study concludes that effective application of AI can enhance firms' ability to mobilize, optimize, and reconfigure their resources. It recommends that mobile (GSM) telecommunication companies should strengthen their investment in AI applications, particularly smart support systems, to improve resource utilization and organisational responsiveness.

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INTRODUCTION

Mobile (GSM) telecommunications companies in Nigeria have contributed significantly to economic growth, through their contribution to Gross Domestic Product (GDP), provision of employment opportunities for young people, and expansion of access to financial services for people who are underserved by traditional banking institutions. However, telecommunications companies operate in an environment where they face challenges such as high operating costs associated with power supply, infrastructure damage, vandalism and security risks (Ogunjinmi, 2025). These challenges can make it difficult for firms to use their available resources effectively and respond to changes in their operating environment. One capability that may help organizations deal with such situations is corporate resourcefulness. Corporate resourcefulness refers to an organization's ability to obtain and make use of available resources, combine them in useful ways, and adjust their use when circumstances changes in order to achieve its objectives and maintain good performance (Sirmon et al., 2007; Teece, 2007). For telecommunications companies, being resourceful may therefore help them maintain their operations and respond to changing demands despite the challenges surrounding their business activities. The growing use of artificial intelligence (AI) in business provides another way through which organizations can improve how they manage and use their resources. AI has become a strategic capability for organizations seeking to improve their operations, make better decisions, and develop new and innovative services in business environments that is constantly changing (Dwivedi et al., 2021).

AI is described as the ability of computer systems to carry out tasks that normally require human intelligence, such as automation, learning, reasoning, solving problems, and making decisions (Davenport et al., 2020). Through automation, predictive analytics, and intelligent support systems, AI can help organizations improve their operations, make better use of their resources, and respond quickly to changes in the environment. This is particularly relevant to the telecommunications industry, where firms operate in highly dynamic and technology-driven environment. The growing use of AI can help telecommunications companies respond to changing customer needs, improve their services, and remain competitive (Britto et al., 2025; World Economic Forum, 2025). Empirical studies have largely examined AI outcomes such as service quality (Busayo et al., 2023), customer experience enhancement (Chen & Prentice, 2024); organizational agility (Zeb-Obipi & Irabor-Ighedosa, 2023), organizational creativity and firm performance (Mikalef et al., 2021); firm performance (Mishra et al., 2022), productivity (Chen et al., 2022); labor productivity (Damioli et al., 2021); customer retention and churn prediction (Shaikh-surab & Magadum, 2024); firm growth and investment (Alekseeva et al., 2021). Despite these contributions, limited empirical attention has been given to the influence of AI on corporate resourcefulness.

Furthermore, evidence on this relationship within mobile telecommunication companies in Port Harcourt remains scarce. This creates a conceptual gap, due to the limited focus on corporate resourcefulness, and a contextual gap, given the under-researched nature of mobile (GSM) telecommunication companies in this location. While AI provides organizations with tools for processing information and supporting business activities, corporate resourcefulness reflects how effectively organizations can use available resources to address constraints and pursue their objectives. Thus, examining the connection between the two variables is particularly relevant to telecommunications companies, where technological demands, operational challenges, and changing customer expectations require firms to make effective use of their resources. This study therefore examines the influence of AI-driven automation, predictive analytics, and smart support systems on corporate resourcefulness in mobile (GSM) telecommunication companies in Port Harcourt. The study contributes to the literature by extending AI research beyond operational outcomes to strategic organizational capability and by providing empirical evidence from the Nigerian telecommunications sector. Based on the foregoing, the specific objectives were to:

- i. Examine the effect of AI-driven automation on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State.
- ii. Determine the effect of predictive analytics on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State.
- iii. Assess the effect of smart support systems on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State.

Consequent upon the stated objectives, the following research questions were generated:

- i. What is the effect of AI-driven automation on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State?
- ii. What is the effect of predictive analytics on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State?
- iii. What is the effect of smart support systems on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State?

To provide empirical answers to the research questions, the following null hypotheses were formulated:

H₀₁: AI-driven automation has no significant effect on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State.

H₀₂: Predictive analytics has no significant effect on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State.

H03: Smart support systems have no significant effect on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State

LITERATURE REVIEW

Theoretical Review

This study is anchored on the resource-based view (RBV) and the dynamic capabilities theory (DCT), which provide complementary explanations for how AI can enhance corporate resourcefulness in mobile (GSM) telecommunication companies.

Resource-Based View (RBV) Theory

The resource-based view was originally put forward by Wernerfelt (1984) and later formally developed by Barney (1991), with further refinement by Peteraf (1993). The central idea of RBV is that firms achieve sustained competitive advantage through the possession and effective deployment of valuable, rare, inimitable, and non-substitutable (VRIN) resources. The theory assumes that firms are heterogeneous in their resource endowments, which these resources are imperfectly mobile across companies, and that differences in resource configurations are the primary determinants of performance differences. Proponents of RBV, such as Barney (1991), argue that firms that effectively utilize unique internal resources are better positioned to achieve superior and sustained performance. Newbert (2007) further emphasizes that internal capabilities often explain performance differences more effectively than external market forces. In this regard, artificial intelligence systems such as AI-driven automation, predictive analytics, and smart support systems can be conceptualized as strategic organizational resources that enhance efficiency and decision quality. However, RBV has been criticized by Priem and Butler (2001) for its static nature and limited consideration of dynamic environmental conditions. Critics also argue that RBV places excessive emphasis on internal resources while underestimating the role of external technological and market changes. Despite these limitations, RBV remains relevant to this study because it explains how AI technologies serve as valuable resources that improve corporate resourcefulness through better mobilization and utilization of organizational assets.

Dynamic Capabilities Theory

This theory was developed by Teece et al. (1997) and later refined by Teece (2007). The theory explains how firms integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. Its central idea is that in dynamic and uncertain environments, competitive advantage depends not only on resource possession but also on a firm's ability to sense opportunities, seize them, and reconfigure its resource base accordingly. The theory assumes that business environments are highly dynamic, that firms must continuously adapt to survive, and that innovation and flexibility are essential for sustained competitiveness. Teece (2007) argued that dynamic capabilities enable firms to respond effectively to technological disruptions and environmental uncertainty. Eisenhardt and Martin (2000) further contend that dynamic capabilities allow firms to recombine existing resources in novel ways to create value, making them particularly relevant in fast-changing industries such as telecommunications. However, the theory has been criticized for its lack of precise operationalization, potential tautological reasoning, and limited predictive power in explaining firm performance differences (Priem & Butler, 2001). Some scholars also argue that it overlaps significantly with RBV, thereby creating conceptual ambiguity. Notwithstanding these criticisms, DCT is highly relevant to this study because it explains how AI technologies enhance organizational adaptability. Precisely, predictive analytics enhances the ability to sense environmental changes, smart support systems facilitate the seizing of opportunities through improved decision-making, and AI-driven automation supports the reconfiguration of organizational resources. Therefore, RBV and DCT provide a strong theoretical foundation for understanding how artificial intelligence influences corporate resourcefulness in mobile (GSM) telecommunication companies.

CONCEPTUAL REVIEW

This section presents the conceptual framework, and reviews related literature on the AI and its dimensions and corporate resourcefulness and its measures.

Conceptual Framework

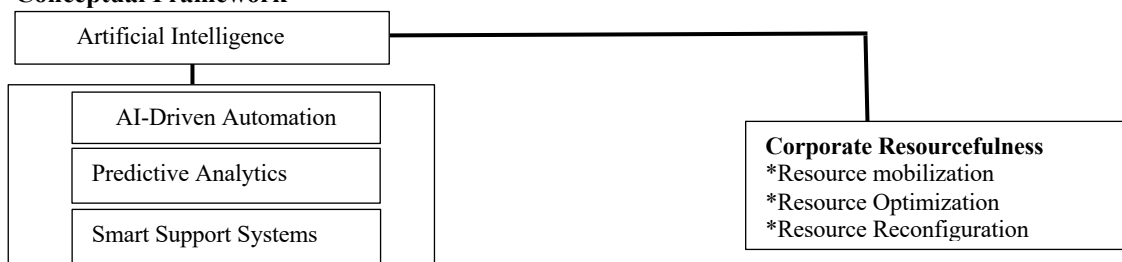


Fig 1: Conceptual Framework of Artificial Intelligence and Corporate Resourcefulness of Mobile (GSM) Telecommunication Companies in Port Harcourt, Rivers State.

Source: Conceptualized by the Researcher. Dimensions of Artificial Intelligence were adapted from Huang & Rust, 2021; Van den Broek et al., 2021; Zhao et al., 2021; Pumplun et al.2021), while corporate resourcefulness was adapted from Simon et al. (2007, 2011; Teece, 2007).

ARTIFICIAL INTELLIGENCE (AI)

Artificial Intelligence refers to the capability of computer systems and machines to perform tasks that typically require human intelligence, such as learning, reasoning, problem-solving, decision-making, and language processing (Russell & Norvig, 2021). In a similar vein, Davenport et al. (2020) explain AI as the use of computer systems to perform activities that traditionally require human intelligence. AI combines technologies such as machine learning, natural language processing, neural networks, robotics, and predictive analytics to enable intelligent decision-making and automation of complex organizational processes (Dwivedi et al., 2021). In contemporary organizations, AI has become a strategic tool for improving operational efficiency, customer engagement, innovation, and organizational adaptability (Huang & Rust, 2021). Although AI is often viewed as a driver of organizational transformation and competitiveness, however, some scholars have raised concerns, that its implementation may create challenges relating to privacy, ethics, workforce displacement, and overdependence on algorithmic decision-making (Dwivedi et al., 2021). Nevertheless, AI remains one of the most influential technologies shaping modern business operations and strategic management. For the purpose of this study, AI is conceptualized through three dimensions: AI-driven automation, predictive analytics, and smart support systems.

AI-Driven Automation

AI-driven automation refers to the application of artificial intelligence technologies to automate routine, repetitive, and decision-intensive tasks with minimal human intervention (Van den Broek et al., 2021). It integrates machine learning, robotic process automation, and intelligent algorithms to improve process efficiency, accuracy, and speed. Pumplun et al. (2021) posits that AI-driven automation enables organizations to streamline workflows, reduce operational costs, and optimize resource utilization. Similarly, Huang and Rust (2021) argue that automation powered by AI allows organizations to focus human effort on strategic and creative activities while intelligent systems handle routine operations. However, critics such as Acemoglu and Restrepo (2021) contend that excessive automation may lead to workforce displacement and reduced flexibility in organizational processes. Despite these concerns, AI-driven automation is widely recognized as a strategic capability that enhances organizational efficiency and supports effective deployment of resources. In the context of this study, AI-driven automation represents the extent to which mobile telecommunication firms employ intelligent systems to automate operational and service-related activities.

PREDICTIVE ANALYTICS

Predictive analytics refers to the use of statistical techniques, machine learning algorithms, and historical data to forecast future events, trends, and outcomes (Sarker, 2021). It enables organizations to identify patterns, anticipate risks, predict customer behaviour, and make proactive decisions. Wamba et al. (2021) asserts that predictive analytics enhances organizational decision-making by providing actionable insights that support strategic planning and resource allocation. Similarly, Abdelhady and Mohamed (2025) found that predictive analytics significantly improves customer retention and operational planning within telecommunications organizations by enabling firms to anticipate customer needs and market dynamics. Despite its advantages, predictive analytics has been criticized for its dependence on data quality and analytical competence. Sivarajah et al. (2017) argue that inaccurate, incomplete, or biased data can compromise the reliability of predictive outcomes. Nevertheless, predictive analytics remains a critical AI capability that supports organizational foresight and strategic responsiveness. Within this study, predictive analytics refers to the use of AI-enabled forecasting and data analysis tools to support planning, decision-making, and resource deployment in mobile (GSM) telecommunication companies.

SMART SUPPORT SYSTEMS

Smart support systems are AI-enabled technologies designed to provide intelligent assistance, customer service, problem resolution, and decision support through automated and interactive platforms such as chatbots, virtual assistants, and recommendation systems (Huang & Rust, 2021).

Ameen et al. (2021) argue that smart support systems improve customer experiences by providing timely, personalized, and efficient services. Likewise, Van den Broek et al. (2021) found that AI-powered support systems enhance service consistency and operational effectiveness by reducing response time and improving information accessibility. However, Zhao et al. (2022) observed that customers sometimes perceive AI-based support systems as impersonal and less effective when handling complex issues requiring emotional intelligence and contextual understanding. Despite these limitations, smart support systems are increasingly recognized as valuable organizational tools for improving responsiveness, service quality, and customer satisfaction. In this study, smart support systems refer to AI-enabled customer service and decision-support technologies employed by mobile telecommunication firms to enhance operational efficiency and service delivery.

CORPORATE RESOURCEFULNESS

Corporate resourcefulness denotes an organization's capability to effectively acquire, mobilize, combine, and deploy available resources to achieve strategic objectives and respond to environmental challenges (Sirmon et al., 2011; Teece, 2018). It reflects the capacity of a firm to utilize existing resources creatively and efficiently to generate value and sustain competitive advantage. Sirmon

et al. (2011) posit that resourcefulness involves the strategic orchestration of organizational resources to maximize productivity and performance. Likewise, Teece (2018) argues that resourceful organizations possess dynamic capabilities that enable them to reconfigure resources and adapt to changing business conditions. Recent scholars have linked corporate resourcefulness to organizational resilience, adaptability, innovation, and strategic flexibility (Wilden et al., 2019). Organizations that exhibit high levels of resourcefulness are better positioned to exploit opportunities, overcome constraints, and maintain competitiveness in dynamic environments.

Critics, however, argue that resourcefulness may be constrained by organizational rigidity, inadequate leadership capability, and limited technological readiness (Barreto, 2010). Nonetheless, corporate resourcefulness remains a critical organizational capability, particularly in technology-intensive industries such as telecommunications, where firms must continuously optimize resources to address rapidly changing customer and market demands. In the present study, corporate resourcefulness is viewed as the ability of mobile telecommunication companies to effectively mobilize, integrate, and utilize organizational resources to achieve operational and strategic objectives.

EMPIRICAL REVIEW

Recent empirical studies have increasingly highlighted the role of artificial intelligence (AI) in enhancing organizational performance, operational efficiency, customer experience, and strategic responsiveness across industries. Ameen et al. (2021), in a cross-national study involving customers of AI-enabled retail services in the United Kingdom, Oman, and France found that AI-enabled service quality, personalization, and convenience as well as significantly enhanced customer experience through improved trust and relationship commitment. Thus, the study demonstrated that AI contributes to organizational effectiveness by improving the quality of customer interactions and service delivery. Equally, Huang and Rust (2021), examining AI applications in service organizations in the United States, found that AI technologies enhance service efficiency, customer engagement, and organizational performance by supporting intelligent decision-making and service automation. The study argued that organizations that effectively integrate AI into service processes achieve greater operational effectiveness and resource optimization. Evidence also suggests that AI-driven automation improves organizational adaptability and resource utilization. In a study in Germany organizations, Pumplun et al. (2021) reported that AI adoption enhanced organizational flexibility and process optimization. These findings denote that AI-driven automation enables firms to deploy available resources more effectively and respond rapidly to environmental changes. Further empirical support is provided by Cao et al. (2024), who investigated the impact of AI in customer service organizations. Their findings showed that AI facilitates organizational adaptability, supports service innovation, and improves the balance between efficiency and effectiveness in customer service operations. The study established that AI enhances organizational capabilities by enabling firms to reconfigure resources and processes in response to changing customer needs.

The contribution of predictive analytics to organizational effectiveness has also been widely acknowledged. In the telecommunications sector, Abdelhady and Mohamed (2025), studying telecom firms in Egypt, reported that AI-driven predictive analytics significantly improved customer retention and strategic decision-making by enabling proactive identification of customer behaviour patterns. The study further found that predictive systems improved resource allocation and operational efficiency, thereby strengthening organizational capabilities. In the same light, Sarker (2021) found that machine learning and predictive analytics improve forecasting accuracy, operational planning, and managerial decision-making across industries. Studies on AI-enabled support systems equally report positive organizational outcomes. Van den Broek et al. (2021) conducted a study in the Netherlands and discovered that AI-powered customer service systems boosted service consistency, reduced response time, and enhanced operational effectiveness. In China, Zhao et al. (2022) examined AI customer service systems and revealed that AI improved service efficiency and responsiveness, even though users expressed concerns regarding the handling of complex customer issues. These findings imply that smart support systems contribute to organizational responsiveness and more efficient utilization of organizational resources.

In the Nigerian setting, empirical evidence remains relatively limited. Busayo et al. (2023) carried out a study in the telecommunication firms, and found that artificial intelligence significantly improved service quality through enhanced responsiveness, reliability, and customer support capabilities. Similarly, Zeb-Obipi and Irabor-Ighedosa (2023) found that AI-related technologies had positive influence on organizational agility in Nigerian telecommunication companies, while Irabor-Ighedosa and Opara (2023) reported that neural network applications heightened organizational adaptability and responsiveness.

EMPIRICAL GAPS

Though these studies provide valuable insights into the benefits of AI technologies, their focus was largely on service quality and organizational agility rather than corporate resourcefulness. Thus, the reviewed studies suggest that AI-driven automation, predictive analytics, and smart support systems contribute positively to organizational efficiency, service quality, customer experience, adaptability, and decision-making across various countries and sectors. However, most existing studies have concentrated on outcomes such as customer satisfaction, customer retention, service quality, operational performance, and organizational agility. Hence, there remains a paucity of empirical evidence on how these dimensions of AI influence corporate resourcefulness,

particularly within the Nigerian mobile (GSM) telecommunications industry. Furthermore, limited studies have simultaneously examined AI-driven automation, predictive analytics, and smart support systems as predictors of corporate resourcefulness. This gap forms the basis for the present study.

METHODOLOGY

This study adopted a cross-sectional survey research design to examine the effect of artificial intelligence on corporate resourcefulness among mobile (GSM) telecommunication companies in Port Harcourt, Rivers State, Nigeria. The study covered the regional offices of the four mobile (GSM) telecommunication companies operating in Port Harcourt, namely MTN Nigeria, Airtel Nigeria, Globacom, and 9Mobile, which constitute the population of the study. These companies operate their regional business activities through structural hubs, including the South-South regional offices, which provide an appropriate setting for obtaining information from managers with direct knowledge of organisational operations and resource management. Their significance within the telecommunications industry is reflected in their large subscriber bases, extensive coverage areas; number of mobile lines, revenue generation, asset bases, and workforce strengths.

Given the relatively small size of the accessible population, a census method was adopted. The respondents comprised 28 top-level and middle-level managers' across the four regional offices. The top-level respondents consisted of four regional managers/zonal directors, with one drawn from each firm, while the middle-level respondents comprised 24 managers, with 6 from each company. The middle-level respondents included regional marketing managers, territory sales managers, project managers, operations/network managers, regional human resource managers, customer relations/experience managers, shop floor managers, regional finance and compliance managers. The respondents were purposively selected because they were directly involved in strategic decision-making, technology adoption, and resource management within their organizations.

Primary data were collected using a structured questionnaire designed to assess the dimensions of artificial intelligence (AI-driven automation, predictive analytics, and smart support systems) and corporate resourcefulness was measured as a unidimensional construct. Responses were measured on a five-point Likert scale from strongly agree (SA=5) to strongly disagree (SD=1). The validity of the instrument was established through face and content validity. Experts in strategic management, entrepreneurship, and research methodology examined the questionnaire to determine the clarity, relevance, adequacy, and appropriateness of the items in measuring the study constructs. Their observations and recommendations were incorporated into the final version of the instrument. The reliability of the instrument was assessed using Cronbach's Alpha coefficient, and the coefficients exceeded the minimum acceptable threshold of 0.70, indicating satisfactory internal consistency and reliability of the instrument.

Ethical considerations were observed throughout the study, as participation was voluntary and respondents were informed about the purpose of the research. Their identities and responses were kept confidential, and the information collected was used strictly for academic purposes. A total of 28 copies of questionnaire were administered by the researchers, however, 23 were correctly completed and returned, representing a response rate of 82.1%. Data collected from the respondents were analyzed using descriptive and inferential statistics. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize respondents' responses, while multiple regression analysis was employed to examine the effect of AI-driven automation, predictive analytics, and smart support systems on corporate resourcefulness. The hypotheses were tested at a 0.05 level of significance using Statistical Package for Social Sciences (SPSS) version 28. The functional relationship between the variables is expressed as:

$$CR = f(ADA, PA, SSS)$$

The econometric model is specified as:

$$CR = \beta_0 + \beta_1 ADA + \beta_2 PA + \beta_3 SSS + \varepsilon$$

Where: CR=Corporate Resourcefulness; ADA=AI-Driven Automation; PA=Predictive Analytics; SSS = Smart Support Systems; β_0 = Constant term; β_1 – β_3 = Regression Coefficients, ε = Error Term.

Results and Discussion of Findings

This section presents and discusses the results of the study. The analysis covers the demographic characteristics of the respondents, reliability and descriptive statistics, and the multiple regression results used to examine the study variables.

Table 1: Demographic Characteristics of Respondents (N = 23)

Variable	Category	Frequency	Percentage (%)
Gender	Male	13	56.5
	Female	10	43.5
Age(Years)	30-39	-	-
	40-49	9	39.1
	50-59	14	60.9
	60 and above	-	-
Educational Qualification	HND	-	-

	Bachelor's Degree	8	34.8
	Master's Degree	15	65.2
	Doctorate Degree	-	-
Management Level	Top Management	2	8.7
	Middle Management	21	91.3
Work Experience	1-5 Years	4	17.4
	6-10 Years	8	34.8
	11-15 Years	11	47.8

Source: Survey Data, 2026

The demographic profile depicts that 13 (56.5%) of the respondents were male, while 10 (43.5%) were female. The majority of respondents (60.9%) were between 50 and 59 years of age. Most respondents possessed a master's degree (65.2%), indicating a highly educated workforce. In terms of managerial position, 91.3% were middle-level managers, while 8.7% were top-level managers. Furthermore, the majority of respondents (47.8%) had between 11 and 15 years of work experience, suggesting that the respondents possessed adequate managerial experience to provide reliable information on artificial intelligence and corporate resourcefulness.

Table 2: Reliability Analysis of Study Variables

Variable	Number of Items	Cronbach Alpha
AI-Driven Automation	5	0.811
Predictive Analytics	5	0.823
Smart Support Systems	5	0.845
Corporate Resourcefulness	5	0.864
Overall Instrument	20	0.836

Source: Survey Data, 2026

The Cronbach's alpha coefficients for AI-Driven automation (0.811), predictive analytics (0.823), smart support systems (0.845), and corporate resourcefulness (0.864) exceeded the acceptable threshold of 0.70. The overall reliability coefficient of the instrument was 0.836. This indicates that the instrument was reliable and suitable for the study.

Table 3: Descriptive Statistics of Study Variables

Variable	N	Mean	Standard Deviation
AI-Driven Automation	23	4.15	0.67
Predictive Analytics	23	4.11	0.70
Smart Support Systems	23	4.17	0.64
Corporate Resourcefulness	23	4.13	0.69

Source: Survey Data, 2026

The descriptive statistics shows that respondents generally agreed that artificial intelligence practices are implemented within the selected mobile telecommunication companies. Smart support systems recorded the highest mean score ($M = 4.17$, $SD = 0.64$), followed by AI-Driven automation ($M = 4.15$, $SD = 0.67$), corporate resourcefulness ($M = 4.13$, $SD = 0.69$), and predictive analytics ($M = 4.11$, $SD = 0.70$). The mean values, all exceeding the average mean of 2.5, suggest a high level of agreement among respondents regarding the presence of AI capabilities and corporate resourcefulness within the firms studied.

Table 4: Summary of Multiple Regression Results

R	R ²	Adjusted R ²	Std. Error	F-statistic	Sig. (F)
0.790	0.624	0.621	0.489	62.45	0.000

Source: Survey Data, 2026

The above regression result indicates that artificial intelligence significantly affects corporate resourcefulness in mobile (GSM) telecommunication companies in Port Harcourt. The coefficient of determination ($R^2 = 0.624$) shows that AI-driven automation, predictive analytics, and smart support systems jointly explain 62% of the variation in corporate resourcefulness, while the remaining 38% is attributable to factors not captured in the model. The adjusted R^2 value of 0.621 further confirms the stability of

the model. In addition, the F-statistic (62.45, $p=0.000 < 0.05$) indicates that the overall regression model is statistically significant, implying that the dimensions of artificial intelligence jointly exert a significant effect on corporate resourcefulness.

Table 5: Regression Coefficients

Variable	B	Beta (β)	t-value	Sig.
Constant	0.54	—	1.88	0.065
AI-Driven Automation	0.33	0.31	3.46	0.001
Predictive Analytics	0.29	0.28	3.38	0.001
Smart Support Systems	0.36	0.34	3.62	0.000

Source: Survey Data, 2026

The regression coefficients reveal that all dimensions of artificial intelligence have positive and statistically significant effects on corporate resourcefulness. Specifically, AI-driven automation ($\beta = 0.31$, $p=0.001 < 0.05$), predictive analytics ($\beta = 0.28$, $p=0.001 < 0.05$), and smart support systems ($\beta = 0.34$, $p=0.000 < 0.05$) significantly enhance corporate resourcefulness. Among the predictors, smart support systems exert the strongest effect, followed by AI-driven automation and predictive analytics. This suggests that improvements in AI-enabled customer support, automation of routine processes, and predictive decision-making capabilities contribute significantly to organizational resource optimization.

HYPOTHESES TESTING

Using a significance level of 0.05, the study tested the earlier stated null hypotheses (H_0) as follows:

H_{01} : AI-driven automation has no significant effect on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State.

Since $p = 0.001 < 0.05$, H_{01} was rejected.

H_{02} : Predictive analytics has no significant effect on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State.

Since $p = 0.001 < 0.05$, H_{02} was rejected.

H_{03} : Smart support systems have no significant effect on corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, State.

Since $p = 0.000 < 0.05$, H_{03} was rejected.

The results therefore indicate that all three dimensions of artificial intelligence significantly affect corporate resourcefulness of mobile (GSM) telecommunication companies in Port Harcourt, Rivers State.

DISCUSSION OF FINDINGS

The findings of this study reveal that artificial intelligence significantly enhances corporate resourcefulness in mobile (GSM) telecommunication companies in Port Harcourt, with the model explaining 62% of the variation in the dependent variable. This indicates that AI capabilities constitute important determinants of how effectively companies mobilize, combine, and utilize organizational resources. The result showing that smart support systems exert the strongest influence on corporate resourcefulness is consistent with the findings of Cao et al. (2024), who observed that AI-enabled customer support systems significantly improve service responsiveness, customer interaction quality, and operational coordination in digital service environments. Similarly, Pumplun et al. (2021) found that AI-based support systems enhance service automation and organizational agility by enabling faster and more accurate customer engagement. The present finding therefore confirms that intelligent support systems are critical in improving resource deployment efficiency in mobile (GSM) telecommunications companies.

The significant effect of AI-driven automation aligns with van den Broek et al. (2021), who established that automation technologies improve operational efficiency by reducing human workload and increasing process accuracy in service organizations. This suggests that AI-driven automation enables firms to streamline routine operations, thereby freeing up resources for strategic and value-adding activities. The result also supports the broader view that automation enhances organizational productivity and resource optimization in technology-driven environments. Similarly, the finding on predictive analytics is consistent with Zhao et al. (2022), who reported that AI-based predictive systems improve decision-making quality, customer behavior forecasting, and resource allocation efficiency in digital enterprises. Likewise, Huang and Rust (2021) argued that AI-powered predictive capabilities enable organizations to anticipate customer needs and improve service personalization, thereby enhancing organizational effectiveness. This is further supported by Cao et al. (2024), who noted that predictive analytics enhances proactive service delivery and enables firms to anticipate customer needs. The present study confirms that predictive analytics strengthens corporate resourcefulness by enabling data-driven planning and efficient allocation of resources. From a theoretical standpoint, the findings are consistent with both the resource-based view and dynamic capabilities theories. From the RBV perspective, artificial intelligence constitutes a valuable, rare, and strategic organizational resource that enhances firms' ability to optimize resource utilization and improve

performance. The significant effects of AI-driven automation, predictive analytics, and smart support systems suggest that telecommunication companies that possess and effectively deploy AI capabilities are better positioned to achieve superior levels of corporate resourcefulness than competitors lacking such capabilities.

Thus, the findings support the RBV argument that unique technological resources serve as sources of organizational effectiveness and competitive advantage. The findings also support the dynamic capabilities theory, which posits that firms achieve superior performance through their ability to sense opportunities, seize them, and reconfigure resources in response to environmental changes. In the context of this study, predictive analytics facilitates the sensing of market trends and customer needs, AI-driven automation enhances the firm's ability to seize opportunities through efficient operations, while smart support systems enable the reconfiguration and deployment of resources to meet changing customer demands. Consequently, artificial intelligence functions not only as a strategic resource but also as a dynamic capability that strengthens corporate resourcefulness in the mobile (GSM) telecommunications sector.

CONCLUSION

The study examined the effect of artificial intelligence on corporate resourcefulness in mobile (GSM) telecommunication companies in Port Harcourt., Rivers State. Based on the findings, it is concluded that artificial intelligence significantly enhances corporate resourcefulness, with the model explaining a substantial proportion of variation in the dependent variable. Explicitly, AI-driven automation, predictive analytics, and smart support systems were all found to have significant positive effects on corporate resourcefulness. Among these dimensions, smart support systems emerged as the strongest predictor, indicating the critical role of AI-enabled customer interaction platforms in improving organizational responsiveness and resource utilization. The study therefore concludes that artificial intelligence constitutes a strategic capability that enables telecommunication companies to improve efficiency, adaptability, and optimal use of organizational resources in a competitive and dynamic business environment.

RECOMMENDATIONS

The following recommendations are made in line with the findings of the study:

- i. Mobile (GSM) telecommunication companies should strengthen the deployment of AI-driven automation systems to improve operational efficiency, reduce manual workload, and enhance service delivery speed.
- ii. Management of mobile (GSM) telecommunication companies should leverage predictive analytics tools to improve forecasting accuracy, support evidence-based decision-making, and enhance efficient allocation of resources.
- iii. Mobile (GSM) telecommunication companies should prioritize the development and integration of smart support systems such as AI chatbots and intelligent customer service platforms to improve responsiveness and customer satisfaction.
- iv. Companies should adopt a holistic AI integration strategy that combines automation, predictive analytics, and smart support systems to enhance overall corporate resourcefulness and sustain competitive advantage.

Contribution to Knowledge

The study adds to existing knowledge by showing how the use of artificial intelligence can contribute to corporate resourcefulness in mobile (GSM) telecommunication companies. By examining AI-driven automation, predictive analytics, and smart support systems together, the study provides a broader understanding of how AI can support the way firms mobilise, utilize, and reconfigure their resources.

Theoretical Implications of the Study

The findings provide support for the resource-based view and dynamic capabilities theory. They suggest that AI can be viewed not only as a technological resource but also as a capability that helps firms make better use of their existing resources and respond to changing business demands. The study therefore extends the application of these theories to the relationship between AI and corporate resourcefulness.

Practical Implications of the Study

The findings have useful implications for managers of mobile (GSM) telecommunication companies. Companies should make deliberate investments in AI-driven automation, predictive analytics, and smart support systems as part of their resource management strategies. In particular, the stronger contribution of smart support systems suggests the need to strengthen AI-enabled support platforms that can improve the use of information, decision-making, and organisational resources.

Limitations of the Study

- i. This study was limited to mobile (GSM) telecommunication companies in Port Harcourt, which may restrict the generalizability of the findings to other sectors and geographical locations.
- ii. The study also adopted a cross-sectional research design, which captured respondents' perceptions at a single point in time and may not fully reflect changes in AI adoption and corporate resourcefulness over time.
- iii. Furthermore, the study examined only three dimensions of artificial intelligence (AI-driven automation, predictive analytics, and smart support systems) while other AI capabilities may also influence corporate resourcefulness.

Suggestions for Further Studies

- i. Future studies should replicate the study in other sectors such as banking, manufacturing, healthcare, and logistics, as well as in other cities in Nigeria to ascertain whether the relationship within AI and corporate responsiveness differs across industries and geographical locations.
- ii. Future research should adopt longitudinal designs in order to determine how the adoption of AI influences corporate resourcefulness over time.
- iii. Moreover, future studies should examine additional AI dimensions such as machine learning, natural language processing and possible mediating or moderating variables in order to aid generalization of the findings of the study.
- iv. Studies may further consider other outcomes, including organizational resilience, innovation capability, and competitive advantage.

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