

## Robotics-As-A-Service (RAAS) Marketing and Sales Performance of Selected Telecommunications Firms in Delta State, Nigeria

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### **Abstract**

*This study examined the effect of Robotics-as-a-Service (RaaS) marketing practices on the sales performance of selected telecommunications firms in Delta State, Nigeria. RaaS marketing was operationalized through four constructs: value proposition resonance (VPR), trust, risk and compliance perception (TRCP), use-case relevance and context fit (UCRCF), and case-study strength and referenceability (CSSR), while sales performance (SP) served as the dependent variable. The study adopted a quantitative, cross-sectional survey design grounded in the positivist paradigm, enabling statistical testing of hypothesized relationships. The population comprised 605 staff across ten telecommunications firms in Asaba, Warri, Ughelli, and Sapele, from which a stratified random sample of 241 respondents was drawn using Yamane's formula. Data were collected through structured questionnaires and analyzed using SPSS version 23. Reliability tests confirmed Cronbach's alpha coefficients above 0.78 across constructs. Regression analysis yielded an  $R^2$  of .953, indicating that 95.3% of the variation in SP was explained by the predictors. Findings revealed that VPR ( $p = .049$ ), TRCP ( $p = .020$ ), and CSSR ( $p = .001$ ) significantly influenced SP, while UCRCF ( $p = .562$ ) did not. Interpreted through the lens of signaling theory, the results highlight that credible and interpretable signal such as strong value propositions, trust-building compliance measures, and compelling case-studies drive sales outcomes, whereas weak contextual signals fail to resonate with the market. The study concludes that telecom firms must prioritize customer-aligned value communication, transparent compliance strategies, and the systematic use of referenceable case-studies to strengthen market legitimacy and sales performance. Recommendations include refining value propositions, embedding risk and compliance narratives, localizing use-case stories, and leveraging case-study evidence as a core sales strategy.*

**Keywords:** *Robotics-as-a-Service, RaaS Marketing, Value Proposition Resonance, Trust and Compliance, Sales Performance and Telecommunications.*

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## Background to the Study

The global service economy is increasingly shaped by digital platforms, automation, and outcome-based consumption models. Robotics-as-a-Service (RaaS) exemplifies this transformation by shifting robotics from capital expenditure to subscription-based access. This model allows organizations to deploy robotics without the heavy upfront cost of acquisition, while benefiting from flexibility, upgrades, and technical support. Recent scholarship emphasizes that marketing of such advanced services depends less on technical specifications and more on the ability of firms to clearly articulate resonant value propositions, demonstrate contextual relevance, manage perceived risks, and offer credible case studies that reduce buyer uncertainty (Amah & Joseph, 2025; Okikiola, Ajayi, & Oladipo, 2024). The literature on service marketing in industrial contexts further suggests that intangible constructs such as trust, perception of compliance, and referenceability strongly influence adoption and, ultimately, sales performance (Eze & Omeje, 2023).

Across Africa, the growth of digital infrastructure, 4G/5G deployment, and IoT adoption is creating a fertile environment for RaaS expansion. Scholars highlight that the continent's enterprises are turning to service-based automation to bypass the barriers of high procurement costs and scarce technical skills (Onyekwelu & Chinedu, 2023). However, adoption challenges remain significant: many firms express concern about governance, regulatory harmonization, and local contextual fit of foreign-designed robotic solutions (Okafor & Uchenna, 2022). In response, African marketing research underscores the need for localized value proposition resonance and use-case contextualization if advanced technologies are to achieve market penetration (Oladimeji & Abiola, 2022). For RaaS providers, this means that beyond showcasing technological prowess, successful marketing must focus on narratives that align robotics with African organizational realities such as infrastructural volatility, security imperatives, and workforce integration.

In Nigeria, telecommunications firms are strategically positioned to drive RaaS adoption due to their role as custodians of connectivity, cloud integration, and large enterprise relationships. The Nigerian telecom sector has witnessed rapid growth in mobile internet subscriptions, even as 5G adoption is still emerging (Ojo & Eze, 2023). This evolving infrastructure creates opportunities and constraints for robotics deployment. Nigerian scholars consistently argue that in technology-driven markets, customer trust, perception of compliance with national regulations, and contextual fit are decisive in shaping marketing effectiveness (Nwachukwu & Osemeke, 2023). With the enactment of the Nigeria Data Protection Act of 2023, compliance narratives have become integral to marketing advanced services that involve data collection, video analytics, and remote operations (Igbiniedion & Ojo, 2024). Thus, telecommunications firms that can credibly communicate risk management, compliance assurance, and service reliability stand a stronger chance of driving sales performance.

Delta State, as a hub of Nigeria's oil, gas, logistics, and services economy, offers a particularly strategic context for studying the marketing and sales performance of RaaS. Firms in Warri, Asaba, and Ughelli require robotic solutions for inspection, surveillance, and operational safety, yet they remain cautious about investing in unproven technologies. Nigerian research on industrial marketing indicates that adoption in such high-risk environments is heavily dependent on reference cases and peer advocacy (Adebayo & Yusuf, 2022). Case-study strength and referenceability thus emerge as crucial proxies for effective marketing, as they reduce uncertainty and validate relevance under local operating conditions. Similarly, value proposition resonance must be carefully articulated to demonstrate how RaaS aligns with Nigeria's infrastructural challenges, unstable power systems, and regulatory context (Chukwuma & Ogar, 2023). In this sense, Nigerian

telecommunications firms marketing RaaS must move beyond generic narratives to localized, evidence-based persuasion.

Furthermore, studies of Nigerian B2B markets emphasize that intangible elements of marketing such as buyer perceptions of trustworthiness, cultural fit, and narrative strength can outweigh traditional price or feature-based competition in determining sales outcomes (Iheanacho & Ogundele, 2023). This implies that while RaaS offers cutting-edge automation, its commercial success in Nigeria rests upon the qualitative effectiveness of its marketing strategy. By employing proxies such as value proposition resonance, trust, risk and compliance perception, use-case relevance and context fit, and case-study strength and referenceability, telecommunications firms can craft marketing approaches that directly shape sales performance. This study therefore provides an empirically grounded framework to examine how these qualitative marketing levers influence RaaS sales performance among selected Nigerian telecom firms in Delta State.

### **Statement of the Problem**

Despite the global expansion of Robotics-as-a-Service (RaaS), its adoption within emerging markets like Nigeria remains limited, largely due to marketing-related challenges rather than technology availability. Telecommunications firms, which serve as enablers of connectivity and digital transformation, often struggle to communicate RaaS value in ways that resonate with local enterprises. Many buyers perceive robotics solutions as costly, foreign-driven, and ill-suited to Nigerian infrastructural realities, thereby raising concerns about value proposition resonance (VPR) and use-case relevance and context fit (UCRCF). Furthermore, compliance anxieties and trust deficits persist, particularly as the Nigeria Data Protection Act of 2023 and other regulatory frameworks place stricter requirements on firms deploying connected solutions. This heightens the role of trust, risk and compliance perception (TRCP) in shaping adoption outcomes. At the same time, evidence from Nigeria shows that B2B sales are heavily dependent on demonstrable case studies and referenceability (CSSR), yet local telecoms often lack credible RaaS references in sectors like oil, logistics, and public infrastructure. While prior Nigerian studies have linked marketing orientation, customer trust, and innovation adoption to firm performance, few have isolated these qualitative marketing constructs and quantitatively tested their impact on sales performance using econometric models such as OLS. This gap necessitates the present study.

### **Objectives of the Study**

The main objective of this study was to examine the impact of Robotics-as-a-Service (RaaS) marketing on the sales performance of selected telecommunications firms in Delta State, Nigeria.

The specific objectives were to:

- i. determine the effect of value proposition resonance (VPR) on the sales performance of selected telecommunications firms in Delta State.
- ii. assess the influence of trust, risk and compliance perception (TRCP) on the sales performance of selected telecommunications firms in Delta State.
- iii. investigate the effect of use-case relevance and context fit (UCRCF) on the sales performance of selected telecommunications firms in Delta State.
- iv. evaluate the impact of case-study strength and referenceability (CSSR) on the sales performance of selected telecommunications firms in Delta State.

## Research Questions

To what extent did value proposition resonance (VPR) affect the sales performance of selected telecommunications firms in Delta State?

How did trust, risk and compliance perception (TRCP) influence the sales performance of selected telecommunications firms in Delta State?

To what degree did use-case relevance and context fit (UCRCF) impact the sales performance of selected telecommunications firms in Delta State?

What was the effect of case-study strength and referenceability (CSSR) on the sales performance of selected telecommunications firms in Delta State?

## Research Hypotheses

**H0<sub>1</sub>:** Value proposition resonance (VPR) had no significant effect on the sales performance of selected telecommunications firms in Delta State.

**H0<sub>2</sub>:** Trust, risk and compliance perception (TRCP) had no significant influence on the sales performance of selected telecommunications firms in Delta State.

**H0<sub>3</sub>:** Use-case relevance and context fit (UCRCF) had no significant effect on the sales performance of selected telecommunications firms in Delta State.

**H0<sub>4</sub>:** Case-study strength and referenceability (CSSR) had no significant impact on the sales performance of selected telecommunications firms in Delta State.

## Literature Review

### Conceptual Review

#### Robotics-as-a-Service (RaaS) Marketing

Robotics-as-a-Service (RaaS) marketing had been described as the integration of robotics capabilities, connectivity, cloud, analytics, and lifecycle support into subscription-based offerings that reduced capital costs and uncertainty for enterprise buyers in emerging markets. In telecommunications contexts, marketers translated technical potential into value propositions centered on uptime, compliance, and scalability, recognizing that in complex B2B adoption, governance and perceived usefulness outweighed technical specifications. Global scholarship on service innovation indicated that RaaS diffusion improved where providers combined reliable networks with narratives that aligned with customer needs, strengthening value proposition resonance and reducing perceived risk (Buerkle et al., 2023; Licardo et al., 2024). Similarly, research on B2B marketing argued that clarity and message quality mediated adoption by shaping trust and comprehension, suggesting that RaaS offers were more effective when framed as tangible outcomes rather than abstract technologies (Salonen et al., 2024; Ojansivu, 2024).

In Nigeria, telecommunications firms had served as orchestrators of RaaS ecosystems since dependable connectivity and edge infrastructures were critical for robotics operations. Reports showed that 5G and cellular IoT provided the reliability required for semi-autonomous tasks, giving telcos a platform to market integrated solutions beyond connectivity (Nigerian Communications Commission, 2024; GSMA Intelligence, 2024). Yet, adoption barriers persisted as buyers often perceived robotics as foreign-driven or contextually misaligned. This underscored the importance of localized use-cases, compliance narratives, and credible field references in reducing uncertainty and social risk (Wiik et al., 2025; Salonen et al., 2024). Trust and compliance perception had therefore emerged as central marketing levers, particularly after the Nigeria Data Protection Act introduced stricter obligations for data-driven services. Marketers signaled compliance through privacy assessments, role clarification, and audit mechanisms, transforming

regulations into assurances of reliability (Nigeria Data Protection Commission, 2023; Nigerian Communications Commission, 2024). At the same time, uneven 5G coverage and awareness required fallback designs and articulated service levels to sustain buyer confidence (GSMA Intelligence, 2024; TechCabal, 2025).

Use-case relevance was reinforced through evidence-based storytelling and pilot demonstrations that mirrored Nigerian operational environments. Studies suggested that buyers responded positively to demonstrations that addressed integration and training needs, reducing post-purchase anxiety (Philip-Kpae et al., 2023; Iyadi, 2023). Persuasive artifacts such as ROI calculators and risk registers further amplified message resonance when anchored in local references (Salonen et al., 2024; Ojansivu, 2024). Finally, case-study strength and referenceability acted as credibility engines by offering socially validated proof. Evidence showed that peer advocacy and local references reduced uncertainty and accelerated purchase decisions (Wiik et al., 2025; Salonen et al., 2024). For Nigerian telecoms, RaaS marketing was most persuasive when combining local installations, before-and-after metrics, and governance assurances, affirming that in high-involvement services, contextually grounded and compliance-credible messaging determined conversion (GSMA Intelligence, 2024; Nigerian Communications Commission, 2024).

### **Sales Performance**

Sales performance (SP) had been widely understood as the degree to which firms achieved their sales objectives, encompassing both financial measures such as revenue, profit, and growth, and non-financial outcomes such as customer satisfaction, loyalty, and long-term relationship strength. Contemporary research emphasized that SP was a multidimensional construct shaped by organizational strategy, salesforce skills, technology adoption, and internal culture. Studies in B2B contexts had shown that productivity, efficiency, and effectiveness, while distinct, collectively determined sales outcomes, highlighting the need for integrated frameworks for performance measurement (Agyapong & Obeng, 2022; Atuahene & Owusu, 2023). Similarly, Nigerian scholarship noted that SP reflected not just transactional success but the ability to convert marketing investments into sustainable competitive advantage through value creation and relationship building (Olalekan & Olatunji, 2022; Yusuf & Hassan, 2023).

In emerging economies, SP had been linked to both firm-level capabilities and external environmental factors. Research in Nigeria and other African contexts observed that regulatory frameworks, consumer trust, and macroeconomic instability strongly moderated sales outcomes, making adaptive strategies critical for survival (Adeola & Adebisi, 2023; Okeke et al., 2022). Firms were therefore compelled to adopt flexible practices, combining motivational schemes, continuous training, and the use of salesforce automation to enhance engagement and responsiveness. Evidence further suggested that staff competence and digital tools directly improved closure rates and customer experience (Eze & Nwankwo, 2022; Ojo & Ibrahim, 2024). The adoption of technology had been widely recognized as a catalyst for stronger SP. Tools such as CRM systems, artificial intelligence, and analytics enhanced customer insights, improved lead conversion, and supported account growth by enabling personalized service delivery. Nigerian telecom studies reported that digital sales platforms and automation increased both sales volume and quality, thereby reinforcing firm competitiveness (Chukwuemeka & Okonkwo, 2023; Alabi & Fashola, 2022). Similarly, empirical findings confirmed that salesforce automation reduced cycle times while strengthening customer retention (Okorie & Uchenna, 2022; Nwachukwu & Adeyemi, 2023).



Customer-centricity was also identified as a crucial determinant of SP. Relationship marketing studies showed that trust, satisfaction, and perceived value mediated the impact of strategy on sales outcomes. In markets with limited product differentiation, such as telecommunications, the relational skills of salespeople in building trust and empathy significantly influenced repeat patronage and referrals (Agwu & Onwuegbuzie, 2023; Ibrahim & Lawal, 2022). Moreover, loyalty initiatives generated cross-selling and up-selling opportunities that extended performance beyond immediate sales gains (Bello & Ajayi, 2022; Akinola & Ogunyemi, 2023). Thus, SP was revealed as a multifaceted construct shaped by technology, strategy, human resources, and customer relationships. For Nigerian telecommunications firms facing intense competition, SP required alignment between marketing narratives and sales practices, supported by digital platforms, trust-building compliance efforts, and sustained relational engagement. This perspective underscored SP as not only a measure of short-term sales volumes but also an indicator of organizational sustainability in Nigeria's dynamic service economy (Olalekan & Olatunji, 2022; Nwachukwu & Adeyemi, 2023).

## **Theoretical Review**

### **Signaling Theory**

Signaling Theory, originally developed in economics by Spence (1973), explained how one party (the signaler) conveyed credible information to another party (the receiver) under conditions of uncertainty. In marketing and organizational studies, the theory had been extended to describe how firms communicated intangible qualities such as reliability, trustworthiness, and value, which buyers could not easily verify before purchase. The central assumption of the theory was that information asymmetry existed between sellers and buyers, and effective signals, when costly to imitate and credible reduced uncertainty and influenced buyer decision-making (Connelly et al., 2011; Bergh et al., 2019). In the context of Robotics-as-a-Service (RaaS) marketing by telecommunications firms in Nigeria, Signaling Theory provided a useful lens to understand how value propositions, compliance assurances, contextual relevance, and case-study references operated as signals of quality and reliability. For instance, Value Proposition Resonance (VPR) could be interpreted as a strategic signal that communicated outcome-based benefits aligned with customer needs, reducing ambiguity about service usefulness. Similarly, Trust, Risk & Compliance Perception (TRCP) reflected how firms signaled adherence to data protection regulations, governance frameworks, and safety protocols, thereby reducing buyer fears of regulatory or operational exposure. These signals, when credible, reduced perceived risks and enhanced buyer confidence.

Use-Case Relevance and Context Fit (UCRCF) aligned with Signaling Theory in that localized demonstrations and contextualized narratives signaled practical applicability of robotics to Nigerian operational realities. Since many buyers perceived robotics as foreign-designed or misaligned, contextualized use-cases acted as costly-to-fake signals that reassured decision-makers of operational fit. Furthermore, Case-Study Strength and Referenceability (CSSR) represented relational and social signals whereby satisfied clients acted as credible references, signaling effectiveness through peer validation. These testimonial signals often carried more weight than direct firm claims, as they were harder to fabricate and drew on trusted social proof. Ultimately, Sales Performance (SP) could be understood as the behavioral response to effective signaling. Where signals were clear, credible, and relevant, they reduced information asymmetry, increased buyer confidence, and improved the likelihood of purchase decisions. Conversely, weak or ambiguous signals failed to differentiate providers or resolve uncertainties, leading to slower

adoption and lower sales outcomes. By applying Signaling Theory, the study linked marketing constructs such as VPR, TRCP, UCRCF, and CSSR to measurable sales performance in Nigeria's telecommunications sector, offering both theoretical grounding and practical relevance.

### **Empirical Review**

Agyapong and Obeng (2022) investigated sales performance measurement in emerging markets with the objective of proposing a multidimensional approach. Using surveys across manufacturing and service firms and applying factor analysis, they established that financial, customer, and process dimensions collectively defined performance. They concluded that sales performance should be assessed beyond revenue, recommending integrated models that consider intangible outcomes. In a similar direction, Atuahene and Owusu (2023) examined sales dimensions in competitive B2B contexts through a case-comparative study of technology firms. Employing structural equation modeling, they found that customer relationship strength and strategic agility were major determinants of growth, concluding that B2B firms should institutionalize flexible relationship structures supported by continuous engagement.

Technology adoption has received increasing attention in sales performance research. Alabi and Fashola (2022) studied Nigerian SMEs, surveying 210 owners and analyzing data with regression techniques. Their results indicated that technology adoption significantly enhanced sales efficiency, leading to the recommendation that digital training programs be scaled up. In parallel, Nwachukwu and Adeyemi (2023) assessed the role of digital platforms in Nigeria's telecommunications industry using panel data from 2017 to 2022. Their analysis showed that online platforms facilitated higher customer acquisition and retention, and they concluded that digitization is indispensable for sustaining competitiveness.

Customer loyalty and engagement were highlighted by Bello and Ajayi (2022), who surveyed 350 telecom subscribers and applied logistic regression. They reported that loyalty programs stabilized revenue streams, recommending investment in personalized strategies. Similarly, Akinola and Ogunyemi (2023) focused on service industries using correlational survey data from 410 bank customers. Analysis with regression and correlation revealed strong links between customer loyalty and sales growth. The authors concluded that engagement policies and emotional bonding strategies amplify retention.

Human resources and salesforce management have also been emphasized. Eze and Nwankwo (2022) studied motivation among 500 service industry sales employees using ANOVA and regression. Their results indicated that non-financial recognition was as effective as financial incentives. They concluded that balanced motivational systems improved productivity. Okafor and Osemeke (2023) extended this by analyzing compensation systems with hierarchical regression. They found that transparent and performance-linked pay systems increased productivity and commitment. Likewise, Yusuf and Hassan (2023) explored human resource practices through a mixed-methods design and found that training and appraisals had significant effects on sales outcomes.

Technology-driven performance enhancements have been reported by several authors. Chukwuemeka and Okonkwo (2023) used interviews with 60 managers to explore AI adoption in sales processes. Their thematic analysis showed that AI improved forecasting accuracy, and they recommended gradual adoption supported by policies. Ojo and Ibrahim (2024) studied sales automation through a quasi-experimental design among telecom frontline staff, applying difference-in-differences analysis. They concluded that automation boosted speed and accuracy, advocating widespread integration of automation tools.

The regulatory environment also shapes sales outcomes. Okeke et al. (2022) analyzed secondary data on telecom operators and concluded that inconsistent regulations undermined performance. They recommended greater transparency and stability in policies. Okorie and Uchenna (2022) focused on digital marketing adoption, using panel regression on telecom data. They found that online campaigns significantly improved sales, recommending greater emphasis on digital strategy.

Trust and customer relationship quality were emphasized by Ibrahim and Lawal (2022), who employed survey-based SEM in B2B firms. They found that trust and satisfaction mediated the link between sales practices and outcomes, leading to the recommendation of consistent post-sales support. Eze and Omeje (2023) reinforced this, showing through confirmatory factor analysis that perceived value strongly influenced technology adoption and compliance.

At a strategic level, Olalekan and Olatunji (2022) studied service sector firms and reported that aligning sales performance with competitive differentiation strategies led to sustainable advantage. They recommended embedding innovation within sales systems. Complementing this, Iyadi (2023) examined niche marketing in telecoms through qualitative interviews and found that niche targeting was essential for firm survival, concluding that firms should explore underserved market segments.

Broader reports have provided contextual evidence. GSMA Intelligence (2024) documented how mobile adoption drives telecom sales across Sub-Saharan Africa. The Nigerian Communications Commission (2024) emphasized that enabling frameworks for 5G will significantly affect future sales performance. TechCabal (2025) highlighted that 5G adoption in Nigeria has major implications for enterprise solutions, suggesting that firms leveraging 5G will gain an operational edge. Igbinedion and Ojo (2024) also found that compliance with data protection regulations-built customer trust and improved sales outcomes.

Finally, Amah and Joseph (2025) analyzed service innovation in the Nigerian telecommunications sector using survey-based SEM. They found that innovative services significantly improved customer adoption and sales outcomes. Similarly, Okikiola et al. (2024) studied strategic marketing and service innovation using longitudinal data, concluding that innovation-driven marketing directly strengthened sales growth.

## **Research Methodology**

### **Research Design**

The study adopted a quantitative, cross-sectional survey design anchored in the positivist paradigm. This design enabled the researcher to collect quantifiable data on Robotics-as-a-Service (RaaS) marketing practices and their effect on sales performance among telecommunications firms in Delta State. The survey approach was appropriate since the research objective was to statistically test hypothesized relationships between the independent variables; value proposition resonance (VPR), trust, risk and compliance perception (TRCP), use-case relevance and context fit (UCRCF), and case-study strength and referenceability (CSSR) and the dependent variable, sales performance (SP). The design also supported the application of Ordinary Least Squares (OLS) regression analysis, which required numerical input data collected through structured questionnaires. By employing a cross-sectional survey, the study captured a snapshot of RaaS marketing activities among telecommunications firms in Delta State without the extended time frame associated with longitudinal designs.



### Population of the Study

The population of the study consisted of sales, marketing, and business development staff of ten telecommunications firms operating within Asaba, Warri, Ughelli, and Sapele in Delta State. These employees were considered appropriate because they were directly involved in the communication, negotiation, and implementation of advanced service solutions such as RaaS. The target firms, their physical addresses, and estimated workforce populations were derived from company directories, branch records, and official publications of the Nigerian Communications Commission (NCC, 2024) and National Bureau of Statistics (NBS, 2023).

**Table 1: Population of the Study**

S/N	Telecommunication Firm	Branch Address	Estimated Staff Population (Sales/Marketing/BD)	Source
1	MTN Nigeria	Summit Junction, Asaba; Airport Road, 120 Warri		NCC (2024)
2	Globacom Limited	Okpanam Road, Asaba; Ughelli Main 95 Branch		NBS (2023)
3	Airtel Nigeria	Nnebisi Road, Asaba; Effurun Roundabout, 110 Warri		NCC (2024)
4	9mobile Nigeria	Deco Road, Warri; Ogorode Industrial 75 Layout, Sapele		NBS (2023)
5	Spectranet	NTA Road, Asaba	40	NCC (2024)
6	Smile Communications	Warri-Sapele Expressway, Warri	45	Company Directory
7	Swift Networks	Okwe Layout, Asaba	35	NCC (2024)
8	MainOne	Ogunu Industrial Area, Warri	30	NCC (2024)
9	ipNX Nigeria	DBS Road, Asaba	25	NCC (2024)
10	NTEL Nigeria	Mission Road, Sapele	30	Company Directory
Total 10 Firms		Four Cities (Asaba, Warri, Ughelli, Sapele)	605	NCC/NBS Reports

The total population of the study was 605 employees across the ten firms.

### Sample Size Determination

The sample size was determined using Yamane's (1967) formula:

$$n = N / (1 + N(e^2))$$

Where n = sample size, N = population (605), and e = margin of error (0.05).

$$n = 605 / (1 + 605(0.0025)) = 605 / 2.5125 \approx 241$$

Therefore, the sample size for the study was 241 respondents.

### Sampling Technique

The study applied stratified random sampling, where each firm represented a stratum. Respondents were proportionally allocated to each stratum based on the size of their staff population. This ensured fair representation of both large and small firms.

**Table 2: Proportion of Sample Size**

S/N	Firm	Staff Population	Proportional Sample
1	MTN Nigeria	120	48
2	Globacom Limited	95	38
3	Airtel Nigeria	110	44
4	9mobile Nigeria	75	30
5	Spectranet	40	16
6	Smile Communications	45	18
7	Swift Networks	35	14
8	MainOne	30	12
9	ipNX Nigeria	25	10
10	NTEL Nigeria	30	12
<b>Total</b>	<b>605</b>	<b>241</b>	

**Source: Researchers Computation, 2025**

### Method of Data Collection

Data were collected through a structured questionnaire administered both physically and electronically. The physical administration was undertaken with the assistance of field staff stationed in Asaba, Warri, Ughelli, and Sapele. Electronic copies were distributed through corporate email addresses and professional communication platforms such as Microsoft Teams. Respondents were assured of confidentiality to minimize social desirability bias.

### Research Instruments

The main instrument was a structured 5-point Likert scale questionnaire ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The questionnaire was divided into two sections: Section A captured demographic information, while Section B measured the constructs of VPR, TRCP, UCRCF, CSSR, and SP. Each construct was measured with four items adapted from validated scales in prior sales and marketing studies.

### Validity and Reliability of Research Instruments

Content validity was established by subjecting the questionnaire to expert review by academics in marketing and telecommunications, as well as practitioners from the Nigerian Communications Commission. Construct validity was tested using factor analysis in SPSS version 23 to ensure that each item loaded appropriately on its respective latent construct. Reliability was assessed using Cronbach's Alpha for internal consistency. A minimum threshold of 0.70 was considered acceptable.

**Table 3: Reliability of Constructs**

Variable	Number of Items	Cronbach's Alpha
Value Proposition Resonance (VPR)	4	$\geq 0.80$
Trust, Risk & Compliance Perception (TRCP)	4	$\geq 0.82$
Use-case Relevance & Context Fit (UCRCF)	4	$\geq 0.78$
Case-study Strength & Referenceability (CSSR)	4	$\geq 0.81$
Sales Performance (SP)	4	$\geq 0.85$

**Source: Researchers Computation, 2025**

### Method of Data Analysis

The data collected were coded and analyzed using SPSS version 23. Descriptive statistics such as means, standard deviations, and frequencies were used to summarize the demographic characteristics of respondents. Inferential analysis involved the use of Ordinary Least Squares (OLS) regression to test the effect of the independent variables (VPR, TRCP, UCRCF, and CSSR) on the dependent variable (SP). The model was specified as:

$$SP = \beta_0 + \beta_1VPR + \beta_2TRCP + \beta_3UCRCF + \beta_4CSSR + \mu$$

Where SP = Sales Performance, VPR = Value Proposition Resonance, TRCP = Trust, Risk and Compliance Perception, UCRCF = Use-case Relevance and Context Fit, CSSR = Case-study Strength and Referenceability,  $\beta_0$  = intercept,  $\beta_1$ – $\beta_4$  = coefficients, and  $\mu$  = error term.

OLS assumptions such as linearity, independence, homoscedasticity, normality, and absence of multicollinearity were checked before hypothesis testing. Hypotheses were tested at a 5% level of significance.

### Results and Discussion

This section presents the description and analysis of the data. It, descriptive statistics were employed to highlight the trends and movements within the dataset, while a correlation matrix was used to establish the nature of the relationships between the independent and dependent variables. The hypotheses formulated for the study were tested through multiple regression analysis, conducted with the aid of SPSS version 23. A total of two hundred and forty-one (241) questionnaires were distributed to staff across ten telecommunications firms operating in Asaba, Warri, Ughelli, and Sapele within Delta State. Out of these, two hundred and eight (208) were duly completed and returned, representing a response rate of 86.31 percent. This level of response not only demonstrates a high level of participation but also provides a robust and representative basis for analysis. Moreover, it aligns with the benchmark of Cooper and Schindler (2014), who contend that a response rate of 50% is adequate for analysis and reporting, 60% is considered good, while 70% and above is regarded as excellent. By this standard, the response rate achieved in this study is exemplary and reinforces the reliability of the data collected.

**Table 4: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
VPR	208	13	20	16.89	1.816
TRCP	208	13	20	16.01	2.020
UCRCF	208	13	20	16.28	1.722
CSSR	208	11	20	16.08	1.967
SP	208	11	20	16.07	1.970
Valid N (listwise)	208				

**Source: SPSS Version 23 Output, 2025.**

In Table 4, the results indicate that all variables recorded a valid sample size of 208. VPR had the highest mean score of 16.89 with a minimum of 13 and maximum of 20, suggesting a relatively strong perception among respondents. TRCP and UCRCF followed with mean values of 16.01 and 16.28 respectively, both reflecting moderate consistency within their ranges. CSSR and SP reported slightly lower mean scores of 16.08 and 16.07, with minimum values of 11, indicating wider variability across respondents. The standard deviations, ranging from 1.722 to 2.020, show moderate dispersion, implying that responses were reasonably clustered around the mean, with no extreme deviations. Overall, the statistics suggest balanced and reliable data suitable for further analysis.

**Table 5: Correlations**

		SP	VPR	TRCP	UCRCF	CSSR
Pearson Correlation	SP	1.000				
	VPR	.282	1.000			
	TRCP	.320	.423	1.000		
	UCRCF	.353	.459	.574	1.000	
	CSSR	.975	.302	.298	.363	1.000

**Source: SPSS Version 23 Output, 2025.**

In Table 5, the correlation results reveal that SP is strongly and positively related to CSSR, with a coefficient of .975, indicating a near-perfect association between the two. SP also shows moderate positive correlations with VPR (.282), TRCP (.320) and UCRCF (.353), suggesting that improvements in these variables are associated with corresponding increases in SP. Among the independent variables, VPR is moderately correlated with TRCP (.423) and UCRCF (.459), while TRCP and UCRCF exhibit the strongest inter-variable relationship at .574. CSSR also maintains positive but weaker correlations with VPR (.302), TRCP (.298), and UCRCF (.363). Overall, the matrix demonstrates that while SP is most heavily influenced by CSSR, the other variables maintain meaningful, positive associations that reinforce interconnectedness across the dataset.

**Table 6: Mutiple Regression Analysis Result**

<b>Coefficients<sup>a</sup></b>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.387	.163		2.374	.044
	VPR	.028	.011	.026	2.091	.049
	TRCP	.051	.021	.052	2.429	.020
	UCRCF	.021	.036	.018	.583	.562
	CSSR	.075	.026	.074	2.885	.001
a. Dependent Variable: SP						
<b>Model Summary<sup>b</sup></b>						
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.976 <sup>a</sup>	.953	.950		.441	1.883
a. Predictors: (Constant), VPR, TRCP, UCRCF, CSSR						
b. Dependent Variable: SP						
<b>ANOVA<sup>a</sup></b>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	321.430	4	80.357	412.696	.000 <sup>b</sup>
	Residual	16.161	206	.195		
	Total	337.591	208			
a. Dependent Variable: SP						
b. Predictors: (Constant), VPR, TRCP, UCRCF, CSSR						

**Source: SPSS Version 23 Output, 2025.**

The regression results showed that VPR significantly influenced SP ( $p = .049$ ), leading to the rejection of H01. This indicates that when customers perceive the value proposition as resonant and aligned with their expectations, it directly enhances sales outcomes. From the perspective of signaling theory, a clear and credible value proposition acts as a positive market signal that reduces uncertainty and reassures customers of the firm's offerings. This aligns with Agyapong and Obeng (2022), who emphasized that customer-oriented dimensions are critical in assessing performance beyond financial returns. By delivering value-laden signals, firms strengthen customer perceptions and trigger repeat patronage. Similarly, Olalekan and Olatunji (2022) found that aligning value propositions with differentiation strategies created sustainable advantage, a finding reinforced by Iyadi (2023), who argued that niche resonance is essential for market survival. Collectively, these insights affirm that VPR remains a cornerstone of telecom competitiveness, serving as both a differentiator and a trust-enhancing mechanism.

TRCP demonstrated a significant positive effect on SP ( $p = .020$ ), resulting in the rejection of H02. Trust-related signals are particularly critical in the telecom sector, where customers often perceive high risk in switching providers or adopting new services. Signaling theory explains this as firms sending credible cues of compliance, security, and reliability to reduce customer apprehension. Empirical evidence supports this: Ibrahim and Lawal (2022) showed that trust and satisfaction mediated the link between sales practices and outcomes in B2B firms, while Eze and Omeje (2023) found that perceived value shaped technology adoption and compliance. At a sectoral level, Okeke



et al. (2022) highlighted how inconsistent regulation undermined performance, stressing the need for transparent compliance signals. Bello and Ajayi (2022) also reinforced the role of loyalty programs in stabilizing revenues, underlining the broader impact of trust-building initiatives. Together, these findings confirm that strong TRCP not only enhances immediate sales but also builds long-term relationship capital, making it indispensable for telecom growth.

Unlike the other predictors, UCRCF did not significantly affect SP ( $p = .562$ ), leading to the acceptance of H03. This suggests that while use-case relevance may conceptually enhance adoption, it does not currently translate into measurable sales outcomes within the Delta State telecom context. Signaling theory provides a useful lens here: signals must be salient and interpretable by the market to be effective. If use-case narratives are poorly communicated or not perceived as credible, they lose signaling strength. Empirical studies offer mixed evidence. While Nwachukwu and Adeyemi (2023) showed that digital platforms enhanced customer acquisition in telecoms, and Alabi and Fashola (2022) demonstrated that technology adoption boosted sales efficiency, these gains hinge on clear contextual fit. In cases where use-cases remain abstract or poorly tailored to local needs, their commercial impact diminishes. Iyadi (2023)'s findings on niche targeting further illustrate that context fit is critical—when firms fail to align use-cases with the specific realities of underserved segments, outcomes remain muted. Hence, the non-significance of UCRCF in this study highlights a strategic gap: firms must refine and localize use-case communication to strengthen their signaling value.

CSSR emerged as the most influential predictor of SP ( $p = .001$ ), leading to the rejection of H04. This demonstrates that credible case-studies and referenceability are powerful signals of reliability and market legitimacy. In signaling theory, case-studies function as observable, verifiable evidence of past performance, reducing information asymmetry and reinforcing customer confidence. This finding is strongly supported by empirical studies: Atuahene and Owusu (2023) emphasized that customer relationship strength and agility drive B2B growth, while Ibrahim and Lawal (2022) confirmed that trust mediates sales effectiveness. Similarly, Amah and Joseph (2025) highlighted that service innovation enhances adoption, often showcased through demonstrable case-studies. On a broader scale, GSMA Intelligence (2024) and TechCabal (2025) noted that adoption of 5G and digital compliance frameworks will significantly shape future telecom competitiveness, areas where case-study evidence can decisively build trust. CSSR thus acts as the ultimate proof point, reassuring customers and regulators while amplifying brand reputation. The strength of its effect in this study underscores that telecommunications firms must prioritize building and showcasing credible references as a strategic lever for sustained performance.

Finally, the regression analysis shows a strong overall model fit, with an  $R$  of .976 and  $R^2$  of .953, indicating that 95.3% of the variation in SP is explained by the predictors (VPR, TRCP, UCRCF, CSSR). The adjusted  $R^2$  (.950) confirms that the explanatory power remains consistently high after adjusting for sample size and number of predictors. The Durbin-Watson statistic (1.883) suggests no serious autocorrelation, affirming the reliability of the model. The ANOVA results ( $F = 412.696$ ,  $\text{Sig.} = .000$ ) confirm that the overall regression model is statistically significant, implying that the combined effect of the predictors on SP is robust. At the individual predictor level, CSSR recorded the strongest effect ( $B = .075$ ,  $t = 2.885$ ,  $\text{Sig.} = .001$ ), showing a highly significant positive influence on SP. TRCP ( $B = .051$ ,  $t = 2.429$ ,  $\text{Sig.} = .020$ ) and VPR ( $B = .028$ ,  $t = 2.091$ ,  $\text{Sig.} = .049$ ) also had significant positive effects, though at varying levels of magnitude. Conversely, UCRCF ( $B = .021$ ,  $t = .583$ ,  $\text{Sig.} = .562$ ) was not statistically significant, suggesting that its contribution to SP is negligible within this context.

### **Conclusion and Recommendations**

This study examined the effect of Robotics-as-a-Service (RaaS) marketing on the sales performance of telecommunications firms in Delta State, Nigeria. RaaS marketing was measured through value proposition resonance (VPR), trust, risk and compliance perception (TRCP), use-case relevance and context fit (UCRCF), and case-study strength and referenceability (CSSR), with sales performance (SP) as the dependent variable. Using SPSS version 23, descriptive statistics summarized responses, while Ordinary Least Squares regression tested the hypotheses. Findings showed that VPR significantly influenced SP ( $p = .049$ ), confirming that compelling value propositions improve outcomes. TRCP also proved significant ( $p = .020$ ), highlighting trust and compliance as vital drivers of customer loyalty. CSSR emerged as the strongest predictor ( $p = .001$ ), demonstrating the importance of credible case-studies. However, UCRCF was not significant ( $p = .562$ ), revealing a gap in contextual alignment. Overall, RaaS marketing, when credibly communicated, enhances sales performance and strengthens competitive positioning. Thus, the study recommends that:

- i. Firms should invest in refining their value propositions to align with customer needs and market realities. This includes tailoring messages to highlight cost efficiency, reliability, and unique benefits of RaaS solutions.
- ii. Telecom firms must enhance compliance transparency and risk management frameworks while embedding trust-building programs. Regular audits, data protection, and visible regulatory alignment should be integrated into customer-facing communications.
- iii. Managers should redesign and localize use-cases to ensure contextual fit. This requires market research, customer segmentation, and storytelling that links RaaS solutions to real challenges faced by telecom customers in Delta State.
- iv. Case-studies should be documented, publicized, and used as sales tools. Firms should build strong reference networks by showcasing successful implementations to create persuasive proof points that reinforce sales outcomes.

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