

The Telecommunication We Should Experience: How Service Reliability, Assurance and Empathy Influence Customer Engagement

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Abstract

The network inconsistencies in the telecommunication sector and recurring customer complaints about the quality of services have become a rising concern. Customers' ownership of multiple network lines as a gateway to meeting their utilitarian and hedonic needs, although temporary, has not mitigated the complaints. The study focused on the dimensions of reliability, assurance, and empathy on customer engagement in the telecommunications sector. While the study adopted a cross-sectional design, convenience sampling was utilised. PLS-SEM through SmartPLS4 was adopted in analysing 315 validated samples. The findings showed the significant effects of reliability, assurance, and empathy on customer engagement, while service assurance was confirmed as the most important predictor among the variables in predicting customer engagement. The implications bordered on enhanced customer trust, improved customer loyalty, increased positive word-of-mouth, and greater customer participation, while the managerial implications point to organisational investments in employee training and professional development in ways that enable employees to demonstrate competence and credibility during service encounters. Therefore, it is recommended that organisations leverage technology to support service assurance while also implementing effective customer feedback mechanisms in addition to the development of relationship marketing programs.

Keywords: Telecommunication, service quality, SERVQUAL, customer engagement, service dimensions

Introduction

Customer engagement has become one of the most discussed concepts in marketing literature. It is the contribution that a company receives from a customer either directly (through purchases) or indirectly (via referrals) (Kumar et al., 2025). It is a burning discussion in the corporate world, either among the practitioners or researchers (Lim et al., 2022), following over 100,000 publications on customer engagement as of 2022 (Web of Science, 2023). What is known about customer engagement provides insight into its drivers (Ng et al., 2020), although the insight into the link between customer engagement and service contexts has received less attention (Hollebeek, 2013; Kumar et al., 2019). While there is evidence of customer engagement in services such as fashion and others that involve a combination of tangible and intangible features of the offering (Alvarez-Milan et al., 2018; Barret et al., 2025), others emphasise the importance of service context in customer engagement. For instance, extant literature shows how customer engagement connects to value co-creation, especially in customers' contributions that positively affect the ability of companies to engage with their stakeholders (Kumar et al., 2025), while in utilitarian service contexts such as financial services that offer pure practical utility, customers' connection is based on consumption following the functional nature of the service (Collier et al., 2014), and it is entirely different from hedonic service contexts such as music festivals, where the link between customer engagement and performance of firms is three times stronger for hedonic service contexts (De Oliveira et al., 2020). The indication is on the different results between utilitarian service contexts and hedonic service contexts with respect to customer engagement. Therefore, understanding the drivers of customer engagement is important in the management of relationships and service industries (Tedja et al., 2024), such as the telecommunications industry.

However, the notion of services is often approached from the SERVQUAL model developed by Parasuraman et al. (1988), with service reliability, service assurance, and service empathy as the critical aspects of the model in addressing service quality. The importance of these dimensions is traceable to the intangibility, subjectivity, and flexibility of services, while the quality of the service is connected to the consumption process and the experience of the customer during the service interaction (Yi et al., 2025). The success of organisations is connected to the quality of their services as businesses continue to compete on services, given their importance in facilitating customer loyalty, satisfaction, and profitability. The quality of services is linked to dimensions of service quality such as service reliability, service assurance, and service empathy (Yi et al., 2025), as they can influence consumer behaviour, such as customer loyalty, participation and continuous interactions (Tedja et al., 2024). Among the service dimensions, service reliability, service assurance, and service empathy are vital aspects with significant results on consumer behaviour, such as in customer satisfaction (Widagdo et al., 2023). Service reliability is considered vital among other dimensions, given the expectations of customers on the services remaining consistent without errors or delays, especially in the contemporary digital age, where customers can switch services because of numerous available alternatives. As organisations meet the expectations of customers through the reliability of their services, studies reveal a positive influence on customer satisfaction and loyalty (Widagdo et al., 2023; Babu et al., 2025). Besides, service assurance is essential in a service industry, given the existence of customers' risk perception and the complexity of services. Extant literature indicates that when service assurance is established, it can improve customer satisfaction and usage intentions (Babu et al., 2025). Similarly, service empathy that encompasses care, individualised customer attention, understanding, and emotional support communicates the willingness of companies to understand and address the needs of the customers in addition to their preferences and desire to provide personalised solutions. Customers expect organisations to recognise their needs and provide

solutions to the identified needs, as this makes customers develop a bond with the company as well as positive customer experiences (Xia et al., 2025).

In the telecommunications industry, service quality is essential given the competitiveness of the sector. NCC (2015) recognised the existence of stiff competition in the sector. Naturally, the sector is a critical utility service sector that is similar to water, given its functional necessity; goal-oriented value, such as network reliability; and low emotional engagement, as customers are primarily not in search of emotional excitement or sensory pleasure from their cellular signal (American TV, n.d.). The prevalence of network failures, especially on calls, and complaints of customers on a faster rate of data disappearance have become a rising concern recently. Organisations are seeking to build strong networks and strong customer relationships in the competitive sector. The quality of services rendered by a telecommunication firm can be linked to the consumption process and impacted by the experience of the customer during the service encounter (Yi et al., 2025). Thus, the study seeks to examine the link between service reliability, service assurance, service empathy, and customer engagement in the telecommunication industry.

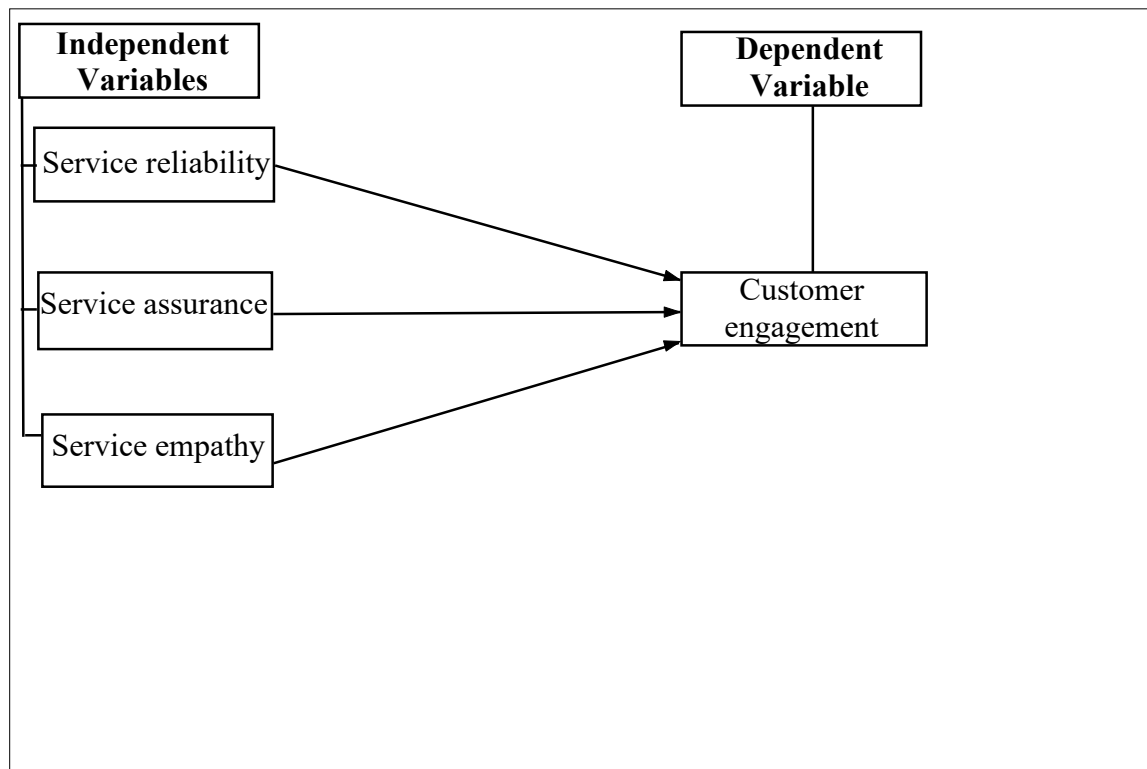
In the telecommunication industry, service reliability, service assurance, and service empathy are essential. Therefore, the following hypotheses are proposed:

H1: Service reliability significantly influences customer engagement in the telecom industry

H2: Service assurance significantly influences customer engagement in the telecom industry

H3: Service empathy significantly influences customer engagement in the telecom industry

Figure 1: Conceptual Model



Literature Review

The emergence of customer engagement in service marketing follows its significance in customers' cognitive behaviour and emotional investments during service encounters with a service provider. It is essential in service marketing because, unlike tangible product marketing, where the producer is separate from the product, services are highly inseparable, perishable, intangible, and heterogeneous. Customer engagement is about customers' increasingly active role with brands, manifesting through emotions, cognitive involvement, or behavioural investments that extend beyond purchase activity. It encompasses psychological, emotional, cognitive, and behavioural perspectives that customers develop with the service providers or the company's brand. It is important to firms because it establishes lasting relationships that require a strong link between a company and its customer. When customers are engaged, the chances of participating in the activities of a firm increase as they provide feedback, share experiences, and engage in a longer customer-brand relationship.

Customer engagement is critical in the service industry. For instance, studies reveal the opportunities of organisations strengthening customer engagement and attaining a sustainable competitive advantage through personalised interaction, predictive service delivery, and responsive customer support (Liu et al., 2026; Yi et al., 2025). However, there are circumstances where customer engagement does not always benefit companies (Beckers et al., 2018), as studies show that customers and companies are vital components or actors in customer engagement (Kumar et al., 2025), although firms have never stopped recognising the role of customer engagement as a strategic asset in business. This is because the engagement of customers with the brand of companies can translate to company growth via avenues such as repeat purchases, co-creation activities, brand advocacy, or positive word of mouth. Brodie et al. (2019) posit customer engagement as a multi-dimensional concept that involves cognitive, affective, and behavioural aspects that reflect the willingness of an individual to invest in focal interactions with engagement objects (Barret et al., 2025). Although spiritual engagement has been added to the multidimensional constructs of customer engagement (Karpen & Conduit, 2020), the behavioural dimension is often assessed in literature (Barret et al., 2025). The concept explains customer relationships in modern markets and is often credited with positive results such as profitability and improvements in customer-brand relationships (Barrett et al., 2024). The importance of customer engagement is shown in the rising research interest following publications that totalled 135007 as of 2022 (Web of Science, 2023). Over time, studies on customer engagement show the importance of context, as studies such as Barrett et al. (2025) posit that the hedonic and utilitarian perspectives of services in customer engagement are different. Generally, customer engagement behaviour encompasses resources such as finance and time invested in a service provider (Kumar et al., 2019).

A company's offering to the public is not only about the tangible offer but also the associated services, and in some cases, such as the telecommunication industry and banking industry, the services are primary offerings. The services, although being primarily utilitarian, are increasingly evolving to include significant hedonic elements through the inclusion of value-added bundles such as Netflix, experiential consumption such as online gaming, and emotional connectivity such as video calling that shifts from a functional service perspective to emotional and social gratification. However, the reliability of the network, service assurance, customers' feelings of disconnection to service providers' services, exemplified in rising customer complaints, and customers' ownership of multiple network carriers are indications of customers' mistrust of the services of service providers. Significantly, services in the telecommunication industry are

highly intangible, while the customer evaluations of the quality of the services are not only subjective but also adaptable.

Service Reliability

Service reliability is one of the vital aspects of service quality that relates to a service provider's ability to deliver promises in a dependable, accurate, and consistent manner over time. In service firms such as banking and education, where consistency is a watchword, Akbar & Wadud (2024) reveal the influence of reliable service on customer confidence, such that it leads to the minimisation of risks and uncertainties. For instance, reliance on the service provider expresses service delivery without error and delay and is widely considered a vital aspect of service quality because of its importance in driving customers' intentions to actual purchases, repeat purchases, and referrals. Customers' trust and confidence improve when the service they receive from a service provider is consistent over time. The trust encourages deeper interactions, improved relationships, and enhanced attachment to an organisation. For instance, customers are likely to engage with organisations that provide consistent customer support systems, prompt responses to customers' needs, and fulfilment of the promises accurately, effectively, and consistently. This can improve the relationship between customers and organisations, thereby fostering a competitive advantage. According to Barrett et al. (2025), engaged customers are strategic assets given that they contribute to long-term organisational performance.

Service Assurance

The essence of service assurance is the knowledge and competence of service providers, in addition to their courtesy and actions that inspire trust and confidence in their teeming customers. In service industries such as the telecommunication sector, where there are customers who encounter uncertainties with service outcomes, Parasuraman et al. (1988) indicate that assurance should encompass professionalism, responsiveness, and communication skills in ways that mitigate how customers perceive risk and uncertainties surrounding the service in a service encounter.

Customers' need for assurance is important given the data security and protection's rank as a major consumer concern in engaging with services (Nigerian Communication Commission, 2021; Oloveze et al., 2025). Customers that engages with a brand interact with the brand, join in co-creation while also providing feedback and demonstrating brand loyalty and encouraging repeat patronage (Brodie et al., 2019). Assurances can enhance customer confidence, which eventually impacts customer loyalty and advocacy (Rather et al., 2022), especially when they perceive a service provider to be knowledgeable and capable of effectively providing solutions to their needs. The contemporary digital age demands that companies reassure customers in aspects of data privacy and protection. In this case, professionalism, expertise, and communication skills are essential aspects that demonstrate assurance in service encounters.

Service Empathy

In service industries, understanding, recognising, and responding to the feelings, needs and concerns of customers is paramount and requires being done in a caring and personalised manner. The concept of service empathy embodies this idea. It relates to the technical performance, emotional support, and understanding in the course of service encounters. Wirtz & Lovelock (2022) identify the essence of attentiveness, demonstration of genuine concern and tailoring of customer solutions to their specific individual needs as means of building and fostering positive customer experiences. When customers are engaged with a service provider, interactions improve,

feedback is provided, recommendations are enhanced, and a long-term relationship becomes possible (Hollebeek et al., 2019). In marketing literature, service empathy and customer engagement buttress the importance of valuing and understanding customers' perception concerns while expressing willingness to help, given that it can promote trust and create emotional attachment. Islam et al. (2022) reveal the role of empathetic service interactions in mitigating the fear and anxieties customers encounter, in addition to increasing satisfaction and strengthening the quality of the relationship, which impacts engagement.

Methodology

The study adopted a descriptive survey design to explore the service quality and customer engagement among the Nigerian telecommunication firms in Southeast Nigeria. The population of the study consists of consumers of GSM telecommunication service providers in the Southeast, Nigeria. Following the infinite population, Topman's formula for sample determination of infinite populations was used. It is stated as:

$$n_o = \frac{z^2 p x Q}{e^2} \text{ where } Z \text{ (Z value)} = 1.96; P \text{ (estimate of population)} = 0.5; e \text{ (margin of error)} = 0.5$$

$$= \frac{(1.96)^2 (0.5)(0.5)}{0.05^2} = \frac{0.9604}{0.0025} = 384.4 = 384$$

The approach is consistent with extant literature (Oloveze et al., 2022a). A structured questionnaire was used in collecting data from the field using a 5-point Likert scale that ranged from one extreme of strongly agree (5) to another extreme of strongly disagree (1). The variables that were measured include reliability, assurance, empathy, and customer engagement, with a total of 18 scale items. Service reliability was measured with 4 items, service assurance was measured with 5 items, service empathy was measured with 4 items, and customer engagement was measured with 5 items. Convenience sampling was adopted in sampling, while an intercept strategy was adopted in administering the questionnaire at different telecommunication businesses. The instrument was subjected to reliability tests and validity measures.

Results

Upon completion of data collection, 315 validated copies of the questionnaire were used out of 384 copies. The analysis was executed through SmartPLS4. This represents about an 82% response rate, which is acceptable for further analysis. The sample characteristics show that 53% were male, while 47% were female. About 63.5% were married, while 36.5% were single. The majority of the participants were civil/public servants (55.6%); businessmen/women were 28.3%, while students' representation in the sample was 16.2%. The composition of the service providers shows that about 44.4% of the participants use MTN, 24.8% use Glo Mobile, 20% of participants use Airtel, and about 10.8% are users of Etisalat. The mean analysis of the variables indicates that the mean scores of each of the items for each of the variables were above 3.0. This suggests a positive opinion of the participants of each of the items in measuring the respective variables. In evaluating the reliability, Cronbach's alpha and composite reliability were used, while the validity was assessed through face validity by three (3) experts and average variance extracted (AVE) as indicated in Table 1.

Table 1: Reliability and Validity Measurement

Variables	Variable items	FL	CA	CR	AVE
Service reliability (SR)	SR1: Service provider renders the service as promised	.740	.77	.85	.59
	SR2: I can rely on my service provider for a stable network service	.818			
	SR3: My service provider is reliable in maintaining error-free records	.706			
	SR4: My service provider is reliable in rendering services whenever it is needed	.793			
Service assurance (SA)	SA1: My service provider makes me feel safe in my transactions with them	.791	.75	.83	.49
	SA2: My service provider has employees that instill confidence in customers	.628			
	SA3: My service provider has employees who are knowledgeable enough to answer customer questions with assurance	.773			
	SA4: Whenever I have network issues, my service provider is always sympathetic and reassuring	.695			
	SA5: Employees of my service provider are consistently polite when attending to me	.608			
Service empathy (SE)	SE1: Protecting customers' interests is the main priority of my service provider	.780	.65	.79	.48
	SE2: My service provider makes up time to attend to customers	.698			
	SE3: My service provider has employees that cares so much for their customers	.696			
	SE4: My service provider renders services to customers whether it is convenient or not for the employees	.580			
Customer engagement (CE)	CE1: I like to know more about my telecommunication service provider	.595	.62	.77	.40
	CE2: I pay a lot of attention to my telecommunication service provider	.684			
	CE3: I am passionate about my telecommunication service provider	.689			
	CE4: My telecommunication service provider offers me the opportunity to connect with others who are in the same network	.608			
	CE5: Using my telecommunication service provider is fun for me	.570			

FL: Factor loadings; CA: Cronbach's alpha; CR: Composite reliability; AVE: Average variance extracted

Cronbach's alpha (α) of ≥ 0.60 (Nunnally, 1978; Oteh et al., 2021) and composite reliability of (α) ≥ 0.70 (Hair et al., 2006; Oloveze et al., 2022b) were used to investigate the reliability. This was satisfied as indicated in Table 1. The factor loadings were used to investigate validity, which should be ≥ 0.60 (Bagozzi & Yi, 1988; Oloveze et al., 2024). While three (3) experts validated the

instrument following the face validity approach, the statistical process, as revealed in Table 1, indicated that all items except SE4 and CE5 were satisfied.

Analysis of Hypotheses

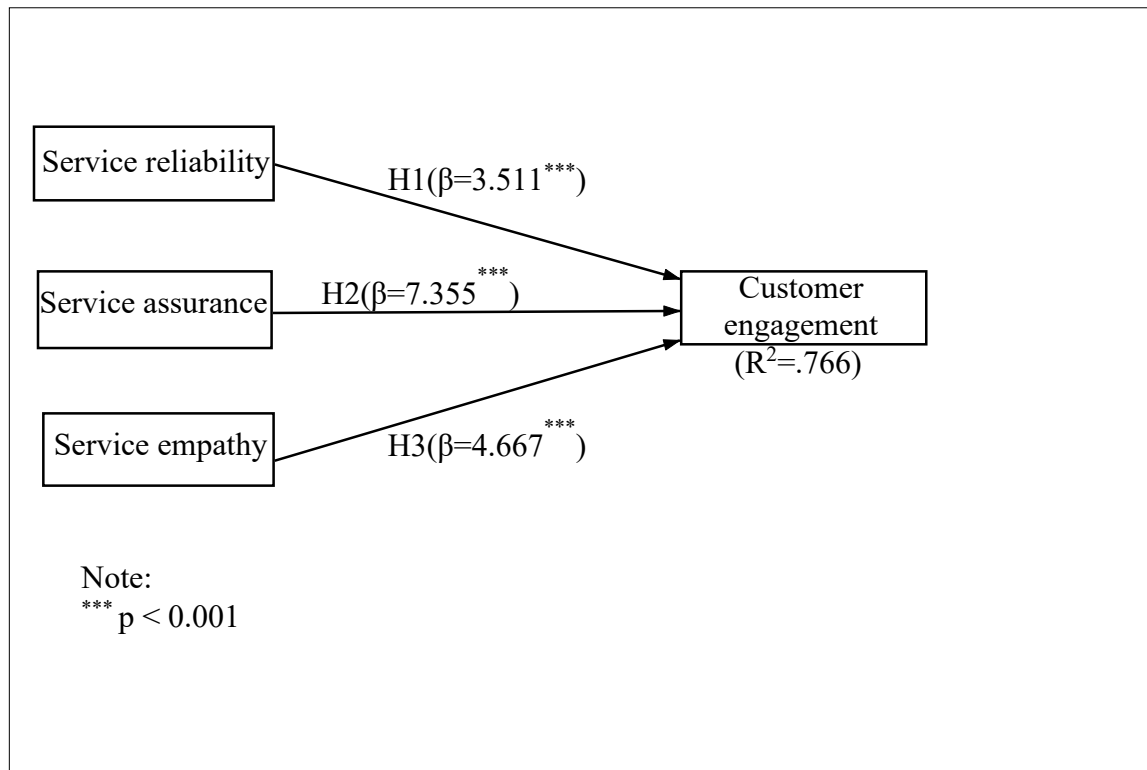
The hypotheses were tested with the partial least squares structural equation model (PLS-SEM) procedure, which aided the analysis. Focus was on the p-value and the t-test. The results of the hypothesised relationships are indicated in Table 2 and Figure 2.

Table 2: Test of Hypotheses

Hypothesized Relationships	Path Coefficients	Standard Error	t-values	Results
Service reliability → customer engagement	0.228	0.065	3.511***	Supported
Service Assurance → customer engagement	0.357	0.049	7.355***	Supported
Service empathy → customer engagement	0.274	0.059	4.667***	Supported

Notes: $R^2 = 0.766$; *** $p < 0.001$

Figure 2: Results of Conceptual Model



Generally, the results in Table 2 and Figure 2 indicate that the three hypothesised relationships were significant, given the p-values and t-test, while the standard errors were significantly low. The model was evaluated through the coefficient of determination ($R^2 = .766$). The implication is that about 76.6% of the variance in customer engagement was explained by the predictors in the model. The H1 that is from service reliability ($\beta = 0.228$, $t = 3.511$, $p < 0.01$) was confirmed as a significant predictor of customer engagement. H2 from service assurance ($\beta = 0.357$, $t = 7.355$, p

< 0.01) was also confirmed as a significant predictor of customer engagement. H3, which is from service empathy ($\beta = 0.274$, $t = 4.667$, $p < 0.01$), was confirmed as customer engagement.

Discussion

The study focused on the service reliability, service assurance, and service empathy, which are the critical aspects of service quality. SmartPLS4 was adopted in the analysis, focusing on the t-values and the statistical significance. The R-squared explained sufficient variance in customer engagement from the three predictors included in the model, while the F-statistics confirmed the statistical significance of the result. The hypothesised relationships were confirmed to significantly influence customer engagement in the telecommunication sector. The telecommunication sector in Nigeria has matured as customer expectations are becoming thinner, and statistics as well as subscriber numbers are growing rapidly. Controversies over services such as USSD and service quality debates never abate, further widening frustration even as the sector has been heavily burdened by fibre-optic cable cuts, soaring operational costs, and infrastructure vandalisms (Eromosele, 2026). Therefore, the results of the study provide a direction in arresting some of the challenges, especially the debates on service quality.

Service reliability was confirmed to significantly influence customer engagement in this study. In essence, as the reliability of the telecommunication services increases, customers become more engaged by 3.511 units, holding other variables constant. This is consistent with extant literature (Barrett et al., 2025; Akbar & Wadud, 2024), although the result confirmed that it has the weakest effect on customer engagement compared to the other variables included in the model. However, the finding provides evidence that when the services are reliable, it transmits trust, dependability, and confidence to the customers. Customers become more attracted to service providers that are able to deliver quality services over time accurately and consistently.

Engagement with the services of a telecommunication service provider is a function of the utilitarian benefits as well as hedonic benefits, although the key aspect is the utility derived from the service. Service providers that commit their resources to ensure customers receive the services as promised are more likely to engage customers and retain them. Reliability, such as reliable connectivity, is no longer a luxury perception of several consumers (Ezra, 2025); rather, it is a necessity for modern living as Nigerians are calling for consistent access to data, voice, and digital services that drive progress and connection, especially in the age of rising content creation in Nigeria.

The result of service assurance is also confirmed to significantly influence customer engagement in this study. The result shows that an increase in service assurance translates to a positive increase in customer engagement by 7.355 units, holding other variables constant. Compared to the other variables included in the model, service assurance is the most important predictor of customer engagement in the telecommunications sector. The finding corroborates the results of extant literature (Rather et al., 2022; Barrett et al., 2025) while also demonstrating the ability of customers to engage with a service provider's brands (Brodie et al., 2019) when the employees of the service provider can transmit confidence and competence during service encounters. Service assurance is indicative of professionalism and the ability to communicate in ways that show understanding of the needs of the customers, as well as the provision of tailor-made individual solutions to the needs of the customer. The telecommunications sector deals with customer data, which demands that the service provider be cautious in data privacy and protection. Service assurances are more likely to lead to customer loyalty, recommendations, and advocacy, but it is possible when the service provider indicates the ability and capability to provide solutions to customer needs.

In the context of service empathy, although the findings show that its effect is weaker than service assurance on influencing customer engagement, the p-value confirms that it is a significant predictor of customer engagement. In other words, a unit increase in service empathy will result in a significant positive increase in customer engagement by 4.667 units, holding other variables constant. The finding supports extant literature on service empathy (Hollebeek et al., 2019; Islam et al., 2022). Service empathy relates to the emotional connections of a service provider with the customer. It is necessary, especially when it is buttressed through candid expressions that portray understanding of the feelings of the customer, concerns regarding the needs of the customer, and care expressed in providing a personalised solution that addresses the needs. The importance of service empathy in telecommunications indicates the need for close attention and attentiveness to the customers' needs while tailoring solutions to their needs and developing strategic measures to enhance interactions that foster positive experiences.

Generally, the Nigerian telecommunications sector is dealing with a myriad of challenges that hamper its ability to sustain the quality demands, following cases of increasing operational costs, vandalism, and fibre cuts that affect connectivity (Ezra, 2025). However, the implications of service reliability, service assurance, and service empathy are essential in sustaining customer engagement in the service-troubled sector.

The implications of the results suggest that customers who believe that a service provider is professional and competent are more likely to engage with the service provider via repeat patronage and participation in the service provider's activities. Further, when customers are engaged following higher levels of assurance, reliability, and empathy, they are less likely to switch to competitors, given their feelings of security and confidence in the service provider's ability to meet their service needs and demands. In addition, advocacy behaviour increases when they are satisfied, as they will recommend the service provider to friends, family, and colleagues, such that it contributes to customer acquisition. Further indications from the significant results call for investments in personnel training, development, and communication by the service providers, given that it facilitates the development of appropriate competence and credibility during a service encounter.

Conclusion and Recommendations

The study identifies the existence of problems such as network failure and inconsistency as poor-quality service issues in the telecommunication sector, while also showing service reliability, service assurance, and service empathy as important aspects of service quality that relate to customer engagement. The motivation for concentrating on the variables emanated from results of existing literature that confirmed the variables as the most important variables of Parasuraman et al. (1988) SERVQUAL in service assessments, which is also justified in the study. However, service assurance is proven to be the most significant predictor of customer engagement, while service reliability and service empathy are also significant factors that influence customer engagement. While these variables are necessary, the importance of customer engagement is established through their repeat patronage, participation in the activities of service providers, and their advocacy roles. In other words, it is concluded that service reliability, service assurance, and service empathy are significant predictors of customer engagement, while service assurance produces a stronger effect on customer engagement compared to the other variables.

Following the findings, it is recommended that service providers in Nigeria's telecommunication sector should invest in continuous employee training that will equip them to inspire customer confidence and foster engagement; strengthen customer trust-building practices via trust-building initiatives such as adoption and promotion of ethical conduct that enhances

customers' perception and stronger engagement; enhance professionalism in service delivery via establishment of service standards that emphasize reliability, assurance, empathy, and responsiveness; implement customer feedback mechanisms such as ones that provide employee competence and areas of improvement; leverage technology to support service assurance via platforms such as online support channels and service tracking tools such as customer relationship management (CRM) that help to provide consistent, reliable, and trustworthy service experiences; and develop relationship marketing programs such as loyalty programs and customer appreciation activities that reinforce confidence, trust, and support in ways that encourage the customers to engage strongly with the service provider.

However, the study has some limitations, which basically include the adoption of cross-sectional designs, which provide a snapshot of a population at a single point in time. Therefore, a longitudinal survey is recommended in future studies. Also, the roles of gender and education as moderators should be considered in future studies.

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