

Implications of Product Quality and Customer Satisfaction in Nigeria Telecommunications Sector: Covid-19 Pandemic Experience

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Abstract

Product quality which is significant to the growth of telecommunication sector could not be waived by the hand. The result of product quality has augmented the revenue base; active voice and active internet subscriptions for the Nigeria telecommunication industry during the pandemic period. Notwithstanding this recorded achievement, the Nigeria telecommunication sector is faced with the challenge of complicated tariffs (89.0%); network disruption (78.9%); calls drop (82.4%); wrong calls destination (78.9%); and indiscriminate erection of GSM mast (65.7%). The foremost objective of this study is to review literature related to implications of product quality and customer satisfaction in Nigeria telecommunications sector during covid-19 pandemic. Narrative review of existing literature were used in the study and secondary source for data collection from publications such like journals, magazines, newspapers and similar sources was used. Quantitative and deductive methods were used for the analysis of this study. The reviewed papers' findings for this study found significant relationship between product quality and customers' satisfaction. It was concluded that management of the Nigeria telecommunication firms particularly, the mobile phone will find this study beneficial in their decision concerning customers' satisfaction if the findings of this paper are used during turbulent economic situations. It is recommended that Nigeria telecommunication operators should attend to customers' needs as quickly as network failures occur to evade frustrations on the side of valued customers.

Keywords: Covid-19 pandemic, Telecommunications, Customer satisfaction, product quality and Nigeria experience

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1.0 Introduction

Product quality is the base to construct customer satisfaction. Customer satisfaction is a function of product quality preferred by the customers (Bei & Chiao, 2001, p. 125). Kotler and Armstrong (2012) postulated that product quality means whatsoever that is presented to the market for consideration, acquisition, use or consumption that could gratify a want. It is posited that the quality of a product is revised in the point of customer and not in the standpoint of the company. If perceived product quality is in line with customer's expectation, then the customer will remark the product to be of superior quality. However, if the perceived product quality is conflicting to the expectation of the customer, it is considered to be poor and the customer is displeased. Customers that are contented with a product display a minor inclination of swapping to other products (Rehman & Bilal, 2012). Customer satisfaction is a marketing parameter that regulates whether a product or service meets or surpasses predicted results (Nora & Zahyah, 2023, p. 121). Higher customer satisfaction leads to a higher return on investment (Fornel et al., 2006).

In today's competitive world, Nations which want to develop and be part of the global village make strenuous effort to develop their telecommunications' sector. Telecommunications plays key role in economic, political and social advancement of a country (Englama & Bamidele, 2002). Thus, telecommunications is a science of transmission of information in oral, telegram, cable, radio, television etc (BGL, 2001).

KPMG (2020a) argued that the covid-19 pandemic has certainly and significantly affected on every sector of the Nigerian economy of which telecommunications, media and technology (TMT) sector are not exception. Thus, telecommunications (Telecoms) products across the sphere have seen upsurge in demand since the outburst of the covid-19 pandemic. Expectedly, the escalation in demand for data and voice associated services got higher at the rouse of the lockdowns in the main cities of the world (KPMG, 2020b). KMPG furthermore observed that, with the dawn of the pandemic, the Nigerian telecoms industry looks to be feeling affluent like its colleagues in the developed economies. This is as a result of the lockdown that has been forced on some main metropolises of Nigeria (Lagos, Abuja, Ogun, etc). Schools from Nursery to University converted to e-learning boards in order to keeping education working with insignificant interruption. One of the interesting structures of the recent Covid-19 pandemic is the rapidity at which the major sectors

of the economy swapped from the regular physical nature of business interaction to the virtual business mode (Adegbite, 2020a). Accordingly, working from home, isolated working and virtual meeting has now become the order of the day among workers universally and in Nigeria.

There exist studies on product quality and customer satisfaction such as: role of service quality in improving customer satisfaction to telecom companies in Hungary throughout Covid-19 pandemic (Farheen et al., 2021). Also, a study conducted by Jose and Sandarina (2021) on the experiences of customer satisfaction in the Portuguese telecommunications sector. However, none has incorporated implications of product quality and customer satisfaction in telecommunications sector with Covid-19 as an experience. Considering the addition of Covid-19 pandemic, product quality and customer satisfaction in Nigeria telecommunications sector has filled the gap. Despite efforts by the telecommunications operators to gain patronage of the customers in Nigeria, the sector is fronting challenges such as: difficult tariffs (89.0%); network distraction (78.9%); calls drop (82.4%); wrong calls endpoint (78.9%); indiscriminate building of GSM mast (65.7%) (Damilola & Micah, 2016, p. 44). The objective of this study was to determine the extent to which product quality affect customer satisfaction in Nigeria telecommunications sector during covid-19 pandemic. To attain the objective of this study, the following research question was asked: to what extent does product quality affect customer satisfaction in Nigeria telecommunications during covid-19 pandemic? This study's scope is concerned with implications of product quality and customer satisfaction in Nigeria telecommunications sector during covid-19 pandemic particularly, the Global System of Mobile telecommunication (GSM) or mobile telephone. To broader the coverage of the (GSM) in Nigeria, the Federal Government had issued operational licenses to: (MTN); (GLO); (AIR TEL) and (ETISALAT). The choice of telecommunication was made for this study because the industry was one of the few sectors that was functional during the lockdown in the country.

2.0 Literature Review

This section focused on the review related literature such as covid-19 crisis, telecommunications and product quality and customer satisfaction in the context of the study.

2.1 Product Quality

Furthermore, product quality qualities refer to the signs that could be used by consumers to conjecture some projected and/or experienced product quality; experienced quality denotes the outcome of physical appraisals of the product when feeling, using, or consuming the product, whereas anticipated quality refers to the point of purchase, before experiencing or consuming the product. Likewise, Kotler and Armstrong (2012) posited that product quality is the capacity of a product to accomplish its functions; it comprises the product's overall durability, reliability, precision, ease of operation and repair and other valued attributes. Kotler (2012) observed that the quality of product is the totality of features and uniqueness of a product that bear on its ability to satisfy stated or implied needs.

2.2 The Performance of Telecommunications sector before the Advent of Covid-19 crisis in Nigeria.

Service providers were licensed to operate GSM/digital mobile services in compliance with the adoption of the National Telecommunication Policy of the year 2000 with the basic objectives of: (i) enhancing national economic and social development and integrating Nigeria internally and into the global telecommunications environment; and (ii) making telecommunication services efficient, affordable, reliable and available to all (Adegoke & Babalola, 2011, p. 707). Leading in fulfilling these objectives today in Nigeria are the four biggest GSM service providers specifically, MTN, Globacom, Airtel and Etisalat. The license permits the operators to install their own transmission network as well as lease transmission capacity from NITEL or any authorized long distance or multi-access operators and service providers to international destination.

Similarly, before the advent of GSM in 2001, the total functional lines in Nigeria were just about 458,619 lines. The beginning of GSM services marked the epoch of important growth in the telecoms subscription rate in Nigeria. Within 3 months of launching in 2001, the two networks, (MTN and Econet) already had 266,461 lines. By the end of year 2001 the subscription stood at

866,782 which represented an increase of 89% (NCC, 2010; Abayomi, (2011a). By 2002, there was about 162% upsurge in the number of GSM subscribers for the functional lines to stand at 2,271,050. Year 2003 recorded another phenomenal growth of 77% over that of 2002 for the nation to have 4,021,945 functional GSM lines. By 2004, it was already a spectacular performance that became noticeable in the world for there was 153% growth over the previous year for the subscribers figures to upsurge to 10,201,728 (NCC, 2013a).

Besides, the performance correspondingly advanced in year 2005 for the sector recorded another 91% improvement over the preceding year to poll a subscriber figure of 19,519,154. Year 2006 recorded 73% growth and 2007 recorded 23% growth with the subscriber figures of 33,858,022 and 41,975,275 separately. As at December, 2008, the subscriber figure was already 64,296,117 for the GSM sector; an upturn of 53% over the performance of 2007. The sectoral advance of the GSM services became so astronomical to a kind that has not been so recorded in any country of the world. This made the Nigerian telecom sector to receive a world-wide assertion of the fastest growing mobile markets in the world (NCC, 2013b). The subscribers' figure improved by about 10 million to a screaming sum of 74,518,264 in year 2009. The figure saw more increase in the subsequent years and as at December 2015, the figure stood far above 147 million with a teledensity of 91.15%. This global triumph was predominantly driven by the GSM/digital mobile services providers in which MTN, Globacom, Airtel and Etisalat are the major players.

Nevertheless, the explosive growth rate in the GSM market has thrown up intense competition among the operators and necessitated the need to engage in marketing activities that would enable them retain a large number of their customers and attempt to make them loyal. This is more so as the market has become saturated and with little opportunity to attract new customers (Abayomi, 2011b; Longe, 2012). The resultant competition has led to the reduction in tariff, introduction of new and innovative products, advertising blitz, rising sales promotion, and innovative customer service (care). All of these are tailored at both attracting new customers and retaining the existing ones.

2.3 The performance of Telecommunication sector after Covid-19 Pandemic in Nigeria

Before the advent of covid-19, Nigeria already had a weak and underdeveloped digital economy. Currently, Nigeria has eight (8) operational telecom service providers, specifically, MTN Nigeria, Globacom, Airtel, 9Mobile, M-Tel, Telkom, Econet Wireless and Vodacom. Nigerian Communications Commission (NCC) suggested that the number of mobile phone subscribers in Nigeria reduced by 49,060 in April to 173.38 million from 173.43 million in March. Also, MTN, the biggest telecom provider, had 64.73 million users in April which is a drop of 302,448 from 65.03 million in March. Also, Statistics reports that there are 96 million internet consumers in Nigeria. Hitherto, during the covid-19 pandemic, there were barely any University or School that presented a full educational program online from start to finish. Many businesses operated using the traditional 'come-to-the office-to-work' model as contrasted to the 'working-from-home' model. The prevalent of the corona virus brought trials to the business environment in Nigeria. It impacted on industries and markets in the little term. The operations of these markets and industries would have been marginally affected if they had a huge digital infrastructure. The only services that were handy through the prevailing digital infrastructure throughout the covid-19 occurrence were telecommunications services, digital bank transfers and internet services.

In the same way, since the introduction of GSM in Nigeria, there has however been a significant improvement on total active subscriptions. Nigeria Communication Commission (2020) theorized that, telecoms data for Q4 2019 reflected a total of 184,699,409 subscribers were active on voice as against 179,176,930 in Q3 2019 and 172,824,239 in Q4 2018. This represented 3.08% increase in voice subscriptions Quarter-on- Quarter and 6.87% Year-on -Year. Likewise, a total of 126,078,999 subscribers were active on internet as in contradiction of 123,163,027 in Q3 2019 and 112,065,740 in Q4 2018. This represented 2.37% growth in internet subscriptions Quarter on-Quarter and 12.50% (Adegbite, 2020b). Additionally, KPMG stated that Nigeria's biggest telecoms service provider, MTN Nigeria, freshly released its unaudited financial result for the first quarter of 2020, displaying enlarged data revenue by 32.4%, Fintech revenue by 22.9%, voice revenue by 12.7% and service revenue by 13.4%. This suggests an average growth in revenue of nearly 20.3%. While, the results of the other service operators in the sector are hitherto to be released.

Nonetheless, the digital economy would have played a foremost role in driving retrieval from the economic crisis if Nigeria's digital economy was strong and well-developed. For example, in Nigerian Schools, Universities and educators can put coursework online so that students quarantined at home don't have to miss out on key aspects of their teaching whereas school is locked or when students can't get to school. E-commerce apps that permit online buying and selling can allow buyers and sellers to make purchases and sales although staying in their homes. Also, tele-health apps for health and wellness checks can allow individuals in all affected areas to take extra protections to screen their vital signs and learn how to decrease their risk of infection. Also, family members can visually check on their parents, grandparents and siblings without physically visiting them which conveys a level of luxury that would be unbearable over the phone. Online supply businesses can use virtual assistants to help safeguard that goods purchased from online grocery stores are sent when customers want them. Businesses that don't want their workforces to travel or whose employees are uncomfortable taking journeys can stay linked with team members, clients and potential customers around the world using online video conferencing technologies. All these are feasible when there is a healthy and well-functioning digital economy.

Besides, outside Nigeria, digital technology abetted many businesses in advanced countries to persist the effect of the covid-19 eruption and it produced an opening to advance the country's digital economy. In the future, a well-developed digital economy in Nigeria is accomplished through powerful digital technology penetration, will play a greater role in reducing the effect of downturns in the country, and will likewise aid in supporting economic activities, social activities and the advancement of decent healthcare systems.

2.4 Analysis of Active Subscriptions and Revenue for the Telecommunications sector before and after Covid-19 Pandemic in Nigeria.

The tables below clarify the products and financial presentation of the specific telecommunications firms during and after the covid-19 period in Nigeria. Therefore, comparative analyses of active voice subscription, subscription by internet and revenue from each product of the numerous service operators are as shown in the tables.

Table 1: Analysis of Active voice subscribers by network

Telecom Companies	Analysis of active voice subscription by network (Q1 2020 vs Q1 2019)		Growth Rate (%)
	Active voice Q1 Jan - Mar 2020	Active voice Q4 2019 Jan-Mar 2019	
Mtn	73,573,788	65,034,615	13.13
Glo	51,856,114	46,203,703	12.23
Airtel	51,298,878	45,283,355	13.40
9 Mobile	12,123,185	16,838,403	(28.00)

Source: Developed by the authors

Besides, from Table 1 it shows that all the telecommunication companies documented percentage rise in the number of active subscribers for voice product. Airtel network recorded the highest growth rate of (13.40 percent). This followed by Mtn with (13.13 percent); Glo (12.23 percent) and finally 9Mobile with (28.00 percent negative). The distribution by active voice consumption showed that Q1 (Jan-Mar 2020) during the covid-19 crisis is higher than Q1 (Jan-Mar 2019) before covid-19 pandemic. It could be agreed that the subscription for the active voice product for the network providers during the covid-19 period is higher than the subscriptions before the covid-19 era.

Table 2: Analysis of Active subscriptions of internet by Network

Telecom Companies	Analysis of subscription internet by network (Q1 2020 vs Q1 2019)		Growth Rate (%)
	Active internet Q1 Jan-Mar 2020	Active internet Q1 2019 Jan-Mar 2019	
Mtn	57,282,123	46,552,185	23.05
Glo	33,871,456	28,436,386	19.11
Airtel	36,827,677	31,243,185	17.87
9 Mobile	7,762,068	9,642,393	(19.50)

Source: Developed by the authors

Also, Table 2 shows completely the key telecom companies recorded percentage increase in the figure of active subscribers for internet product. Mtn recorded the maximum advance rate of (23.05 percent). It is perceived that 9Mobile network recorded undesirable and smallest growth rate of (19.50 percent). Others are Glo with (19.11 percent) and Airtel with (17.87 percent) growth rates for the Quarter-on-Quarter evaluation between Q1 2020 and Q1 2019. Generally, it could be concluded that the subscription for the internet use Q1 (Jan-Mar 2020) during covid-19 is superior to that of Q1 (Jan-Mar 2019) before the covid-19 emergency.

Table 3: Revenue per Products by the Telecommunication Companies in Nigeria during and before Covid-19 crisis in Nigeria.

Revenue per product	Q1 2020	Q1 2019	Growth Rate %
	N'000	N'000	
Voice	194, 038, 017	182, 440, 616	6.36
Data	74, 009, 105	46, 406, 516	59.48
Interconnect and Roaming	3, 337, 005	3, 659, 147	(8.80)
Handset and Accessories	631, 792	560, 862	12.65
Value added Tax Service	11, 381, 195	8, 287, 920	33.93
Other Revenue	2, 871, 378	2, 861, 205	0.36

Source: Developed by the authors

Nevertheless, Table 3 shows the sales revenue generated and the growth rate percent by each of the main telecom companies' products before and after the covid-19 pandemic in Nigeria. The revenue made by voice for Q1 2020 through covid-19 time is (194, 038,017) which is the maximum. While the utmost generated revenue for Q1 2019 is the voice product (182, 440, 616). The uppermost growth rate is data (59.48 percent) and other revenue is the lowest with (0.36 percent). It could be generalized that Q1 2020 products recorded the highest sales revenue during the covid-19 calamity than before Q1 2019 pandemic.

It could be resolved that the vast subscriptions for the active voice by network, active internet and produced sales revenue made were an consequence of customer satisfaction throughout the covid-19 disaster period in Nigeria.

2.5 The Value Perception Theory

The value perception theory was originally proseed by Bryan and Locke (1967) as a substitute to the expectation-Disconfirmation theory propounded by (Oliver & MacMillan, 1983, p. 83). The theory submitted that satisfaction is an emotional answer that activated by a cognitive evaluative procedure in which perceptions of an offer are equated to one's values, needs, wants, or desires (West-Brook & Reilly, 1983, p. 256). The theory detailed that satisfaction which is the contentment of consumer desires, value or wants as opposite to their expectations, has not received much support from scholars. Disapproving the predictive expectations used as a comparison standard in the disconfirmation paradigm, West-Broke and Reilly, (1983) posited that what is expected from a product may or may not parallel to what is anticipated or valued in a product. Similarly, what is appreciated may or may not correspond to what is expected. Thus, value has been projected to be better competitive standard as opposed to expectations in clarifying customer dissatisfaction.

Thus, value perception theory is proposed to improve customer satisfaction in organizations. The telecommunications service providers must try to identify the customer's complications and attempt to implement activities with the vision to fashion customers' satisfaction. Also, the service operators should endeavour to meet the desires and aims of the consumers via the supplies of superior service quality. To achieve this, the theory of value perception becomes overbearing.

2.6 Research Frame work

The research frame work depicts the contributions of the eight product quality dimensions propounded by (Garvin, 1984a).



Figure 1: Proposed research frame work

Source: The frame work developed by the authors

This research framework includes independent and dependent variables. Independent variables represent perceived product quality dimensions in Figure 1, while customer satisfaction represents the dependent variable. The purpose is to assess the functional relationship between product quality dimensions and customer satisfaction in the context of telecommunications sector in Nigeria during coronavirus. The eight dimensions propounded by Gavin (1984b) are: performance, features, Conformity, durability, reliability, aesthetics, serviceability and perceived quality. He introduced eight dimensions of product quality as a frame work for thinking about the basic elements of product quality as depicted in the model.

The research frame work was developed by the authors aiming to assess the functional contribution of product quality dimensions to customer satisfaction in the telecommunication industry. Similarly, this research dimensions aims at measuring the relationship between the variables shown in the theoretical model and explained in the literature review.

3.0 Methodology

The current study is a narrative review of existing literature (Rajkumar, 2020) on the implications of product quality and customer satisfaction in Nigerian telecommunications sector: covid 19 pandemic experience. Qualitative method kijanthy and Vivek (2020) a deductive approach were

adopted for the analysis of data for this study. The use of qualitative in this study became appropriate because of the theoretical foundations of the study and appropriateness of the technique for making sense of the data. Thus, qualitative methodology used was in agreement with (Michael, 2018).

For the fact that conclusions are derived from previous studies (Igwenagwu, 2016). Thus, articles and papers from reputable journals were reviewed using secondary source of data collection in consonant with (Galib, (2013). Therefore, published journals, electronic materials, seminar papers and mimeograph related to this study were used.

4.0 Findings for the Study

Most of the literature on product quality and customer satisfaction have found positive relationships between the two constructs. Yeong-shenn and Chung, (2015), conducted a study on an investigation of the relationship between customer satisfaction and loyalty on brand image of Taiyen's product (A case study of the customer in Pentung Area). The result indicated a positive and significant relationship between customer satisfaction and the product. Also, Asghar et al., (2011) studied the effects of customer service and product quality on customer satisfaction and loyalty. The findings showed that there is significant relationship between product quality and customer satisfaction. Similarly, Agbemabiese et al., (2015) investigated the effects of customers' satisfaction of service delivery on customers' retention of Tigo telecommunication network. The results proved that product quality has significant on customer satisfaction.

Furhermore, Pungecharnchavalit, and Wannu (2014) studied structural equation model of customer perception of service and product quality factors that affect Thai information technology customer's loyalty. The findings signified that product quality has significant effects on customer satisfaction. In addition, Senthlkumar (2012) carried out a research on the effects of customer service and product quality on customer satisfaction in Kenya, Nairobi. The results showed that product quality has positive effect on customer satisfaction. In a related study carried out by Bitta (2009) on service quality and customer satisfaction in banking sector in Kenya, Nairobi. The findings indicated significant relationship between service quality and customer satisfaction.

5.0 Conclusion and recommendations

5.1 Conclusion

This study was conducted with resolve to observe the association between product quality and customer satisfaction in telecommunications sector in Nigeria in the covid-19 pandemic epoch. The main aim of this study is to get a deeper comprehension on factors inducing product quality and customer satisfaction in Nigeria telecommunications sector during and after the Covid-19 pandemic crisis. It has revealed that the revenue generated, active voice and internet subscriptions by the network operators during the corona virus pandemic were high relative to the period before the advent of the outbreak of the disease. This might be attributed to the quality of the products provided by the companies which resulted to more patronage by the consumers. However, the service providers will find this study useful in their decisions towards product quality and customer satisfaction. When judiciously applied, it will lead to customer satisfaction and expansion of profits and growth during any form of challenges in form of economic, social and other shocks.

This study is limited to implications of product quality and customer satisfaction in Nigeria telecommunications during covid-19 pandemic. Future research suggested that implications of product quality and customer satisfaction in telecommunications during covid-19 pandemic can be replicated in any part of the globe by any scholars to add to existing knowledge.

5.2 The following recommendations are made:

Firstly, for quality products to be sure in Nigeria telecommunications sector in order to improve customers' satisfaction it is suggested that service providers should attend to customers' needs punctually; and network failures reports should be conveyed to the knowledge of the customers as fast as possible.

Secondly, in order for Nigeria telecommunications operators to sustain their customers' satisfaction they desire to improve on product quality so that they can remain competitive and be important in the marketplace.

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