

DOI: 10.21767/2349-3917.100015

Factors Influencing Telecommunication Subscribers' Decision to Port among Network Providers in Nigeria

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Received date: February 07, 2018; Accepted date: February 12, 2018; Published date: February 16, 2018

Citation: Nwakanma IC, Uduwala AI, Anyiam KE, Ukwunna ED, Obasi EC, et al. (2018) Factors influencing telecommunication subscribers' decision to port among network providers in Nigeria. Am J Compt Sci Inform Technol Vol.6 No.1:15

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Abstract

Telecommunication subscribers' retention and satisfaction are important goals for telecommunication network operators on their way to superior economic success in the liberalized Nigeria telecommunication market. The tight competition brought about by Mobile Number Portability(MNP) has resulted to the need for telecommunication service providers in Nigeria to constantly tune and fine-tune their marketing strategies to meet the dynamic behaviour and expectations of subscribers on quality service delivery. The Factors influencing telecommunication subscribers' decision to port among network providers in Nigeria, Adopting a cross-sectional survey design, a simple random sampling technique was used to enroll 378 subscribers of the four major network operators (MTN, Glo, Airtel, 9Mobile) aged 18–59 years and above residing in the three geopolitical zones (Owerri Municipal Orlu, and Okigwe) in Imo State into the study. Structured questionnaire was used for data collection, recorded significant facts in relation to subscribers' decision to port among network providers. The hypothesis testing result of regression analysis using SPSS, a statistical software window version 21.0 to analyze and investigate the influence of Service quality, Network coverage, Call rate/tariff/price, Promotion, Customer care/services as independent variables against the dependent variable confirmed that Service quality, Network coverage, Call rate/tariff/price, Promotion has significant influence on subscribers' decision to port among network providers in Nigeria with significant levels less than 0.05 that is (0.000, 0.000, 0.014, 0.018) respectively. The factor identified as not having significant influence on subscribers' decision to port is Customer care/services with significant levels greater than 0.05 that is 0.074. It is recommended that the network operators should assume the adequate control and management focus more on network extensions to various location where there is low network coverage, such that subscribers will be able to operate smoothly. It is also advised that more investment be made to enhance quality service delivery, and sustainable promotions, while also

concentrating on price reduction both for data and call services as a way of increasing subscribers' base.

Keywords: Telecommunication subscribers; Portability; Subscribers' decision to port; NCC

Introduction

Background of study

Nigeria is believed to be one of the largest telecommunication market in the world, having an estimated subscriber base of about 149.2 million (NCC, 2017). The subscriber base is in continuous increase and the sector has delivered strong return on investments year on year. Telecommunication sector in Nigeria is a major contributor to the country's Gross Domestic Products (GDP) accounting for about 9.1% of the Nigerian Gross Domestic Product (GDP) (NBS, 2017).

Prior to 2013, telecommunication network subscribers were required to give up their mobile number for new ones when switching among the few network providers in Nigeria. This approach was not convenient for subscribers because of the attendant costs attached, thus, customers had to make do with the service the providers was offering, even if they were unsatisfied with it. With the increase in number of providers, several service packages and strategies aimed at attracting new customers became common and leading to competition in the sector and with the hands-off of government from regulation of telecommunication sector, competition has become stiffer by the day, as expected of privatization, and subscribers now have a wider choice to justify their pays. Hence, the different network providers strive for the larger market share, making the mobile telecommunication market to be more competitive and dynamic as the need to acquire new customers and retain the existing one becomes a major issue for all competing firms [1-15].

Added to this competition, is the introduction of Mobile Number Portability (MNP) which has changed the competition

landscape. Subscribers can switch/port among network providers without losing the mobile numbers and so it now lies on the providers to improve the quality of service offered to ensure that customers are always satisfied, or losing the customers.

Mobile number porting is a system that enables mobile telecommunication subscribers to switch/port from one network provider to another, in search of better service quality, whilst retaining their original mobile numbers. This service, according to Nigerian Communications Commission (NCC), would empower consumers, stimulate competition between the major service providers and enhance the delivery of their services in the country. In Nigeria landscape, MNP has gained traction since it was deployed in April 22, 2013. The year-on-year statistics shows steady increase in number porting request, the average daily ports completed in 2013, 2014 and 2015 were 225, 405 and 592 respectively (NCC, 2015) [4-10].

Statement of problem

It cost five time more to attract a new customer than it is to sustain and retain current profitable one, Ghaxami and Olyaei [9]. Markets understand that every effort invested in marketing communication was aimed towards the attracting of new customers and creating superior and lasting value for them, Kotler and Keller [15].

In 2001, when GSM was introduced in Nigeria, subscribers had to pay high tariffs to be able to acquire and use the services. Also, consumers of these services had not much choice partly due to limited providers, coverage and lack of much information both on information technology and GSM, hence were ready to accept the service as they were. But as the year went by and with the entrance of more network providers, customers' better knowledge of both information technology and Mobile Number Portability (MNP), subscribers now seek better services and value for their money. Consequently, telecommunication network subscribers are totally tired of network failures, drop calls high tariffs, poor service quality, poor customer care and unsustainable promotions. Thus these factors drives subscribers switching decision among network providers. Based on the above, this research examines the following, service quality, network coverage, tariff, promotion, customer care, and freebies/pull as factors influencing telecommunication subscriber's decision to port among network providers in Nigeria [16-20].

Aim and objectives of study

The aim of this research is to examine some factors that influence telecommunication network subscribers decision to port among network providers in Nigeria, the effects on the providers and who among the providers selected is losing.

The specific objectives include;

- To examine the influence of service quality on subscriber's decision to port among networks.
- To examine the influence of network coverage on subscriber's decision to port among network providers.

- To examine the influence of call/tariff/price on subscriber's decision to port among network providers.
- To examine the influence of promotion on subscriber's decision to port among network providers.
- To examine the influence of customer care/services on subscriber's decision to port among network providers.

Significance of study

This paper and its findings are very important to both subscribers' and operators in the Nigeria's Telecommunication industry. This research will help go a long way in assisting operators in areas of market segmentation and understanding the switching behaviours of their customers with a view to providing services that will keep them. This is so, since the research provides information on how to choose a telecommunication service provider and the factors which influences subscriber's decision to stay or leave a particular service provider to another. By doing so, rendered information will provide guidelines for service providers to help develop appropriate working marketing strategies, putting in consideration these factors in order to satisfy their current customers and attract new ones and maintain a sustainable larger market share. Also, the research study is significant in the sense that it contributes to the body of knowledge about the relationship between factors influencing telecommunication subscribers' decision to port and serves as a reference point for other researchers [21-29].

Literature Review

Historical development of telecommunication and MNP in Nigeria

Telecommunications in Nigeria dates as far back as the nineteenth century with the analog system and was mainly for the promotion of the activities of the regimes in power in the stead of promoting socio-economic well-being of the country. Prior to 2001, the sector was controlled by government total monopoly with little attention paid to telecommunications and the resultant slow pace of work in infrastructural development. Customers were limited to one network namely Nigerian telecommunication Limited (NITEL) with the attendant poor services, Okeke [30].

As at 1999, NITEL's performance was so poor that Nigeria was at a poor tele-density figure of about 0.04 which was one of the lowest in Africa. In 1992, Nigerian Communication Commission (NCC) was formed and made an ACT in 1993. The effective role of NCC and the political will of the then federal Government lead to the liberalization of the telecommunication sector allowing private participation which led to the licensing of Global System of Mobile Communications (GSM) operations in the year 2001. Through this policy, the nation moved from a monopolistic telecommunications market towards a fully liberalized one which allows competition, Adeleke and Aminu [2].

In 2001, three GSM companies namely MTEL, Econet Wireless International (now Airtel) and MTN were licensed by NCC. With their successful infrastructural roll out and the effective

commencement of commercial services in August 2001 (Econet wireless being the first to commence commercial services to the public) the GSM revolution started in Nigeria. In August 2003 Globacom and Etisalat were also licensed bringing the number of operators to five [31-35].

In a bid to deepen competition and force telecommunication service providers to provide better service to their customers, the NCC began the Mobile Number Portability (MNP), to assure freedom for telecommunication subscribers. After much preparation towards the process, April 1, 2013 the Mobile Number Portability process commenced, guaranteeing Nigerian subscribers a right to their number, Abubakar [1]. MNP invariably guarantees freedom among subscribers to move from one operator, who has not met their service expectations, to another who they feel can, without losing their number, Abubakar [1].

However, since the launch in April 2013, the Nigerian telecommunication industry has made sluggish progress, in terms of maintaining a healthy competition in the industry. Considered unimpressive on the initiation of Mobile Number Portability. Nevertheless, the factors influencing telecommunication subscribers decisions to port among operators ranges from high competitive strategic packages to no guarantee on the Quality of Service (QoS), Abubakar [1].

Sequel to the launch of Mobile Number Portability in Nigeria, two months after 13,923 subscribers ported in the months of May and June, (NCC, 2013). Many have blamed the slow porting process on the multiple SIM culture among Nigerians, notwithstanding the popular belief many bore that all networks are same [36-40]. But still, opinions vary on the likely influence on our decision to switch among network providers in the country. In the telecommunications sector, it is significant to ensure a good relationship among customers and mobile service providers as a vehicle to build customer loyalty. Several factors influence customer loyalty such as, service quality, brand image, trends, etc. Aydin and Ozer [4] and Reena [34].

Available statistics for February 2015 to January 2016 revealed that subscribers who ported out of MTN Nigeria and Airtel were higher, given the data as 8,430 (January 2016), 10,737 (December 2015), 10,073 (November 2015), 11,414 (October 2015) and 3,409 (May 2013) as against Airtel Nigeria 4,396 (January), 3,188 (December), 3086 (November), 3056 (October) and 1,190 (May 2013) respectively (NCC, 2016). Although subscribers who ported out of Globacom and Etisalat Nigeria were not many going by NCC's statistics. Etisalat recorded 976 (January), 1739 (December 2015), 1431 (November), 1241 (October), and 768 (May), while Globacom also recorded 1,065 (January), 2,092 (December), 2,377 (November), 1,703 (October) and 1,646 (May 2015) respectively. The good thing about MNP is that it has resulted new dimension to the competition in the industry forcing all network operators to work harder to earn the loyalty of subscribers because they now have choice and many factors drives their decisions. Despite the tight competition and strategic means put in place by the various operators, Nigeria telecommunication subscribers have being influenced by several factors in their decision to leave or stay in a particular network.

Research frameworks

Consumer switching behavior (CSB): According to Nimako (25), "Consumer switching behavior is the process by which a consumer abandons his/her relationship with a current service/product provider and replaces it with a competitor partially or entirely for a given time period." This comprehensive definition suggests several dimensions and typologies of the CSB phenomenon, notably, the fact that switching is a process and could be partial or total. In many research contexts, the idea of switching represents a complete or total switch from one service provider to another Nimako [26]. Previous research in different service contexts indicates that consumer switching intention is influenced by determinants such as high prices, low satisfaction, poor service quality, low perceived value, unethical behavior of service provider, poor corporate reputation, critical incidence, ineffective complaint handling, among others Hsiehb et al. [11] and Oyeniyi and Joachim [35].

Switching motive (SMO): Roos [33] explained that Switching motive refers to the underlying reason for which consumers move or switch from one service provider to another. In the consumer behavior literature, two distinct behaviors, anger and happiness (satisfaction), underpin most reasons for choosing a course of action Belanche et al. [5]. Therefore, a consumer may not switch from a service provider to a competitor even when service quality appears to be somewhat low, until he/she is provoked beyond some tolerance level of service quality and product performance as posited by proponents of zone of tolerance concept Berry and Parasuraman [6] Zeithaml et al. [39]. The customer-switching path is based on actual behavior, and is updated through an anchoring and adjustment process in terms of customer-perceived changes in their own living and their perceptions of the service provider Roos [34].

Factors influencing subscribers' decision to port among network providers

This study examines the factors influencing subscribers' decision to port among network providers in the Nigeria telecommunications sector. Chief among the variables are service quality, network coverage, call rate (price), promotion and customer care to mention but a few.

Service quality: Service quality has a verifiable impact on business performance, customer satisfaction and customer loyalty. Service quality has also been found to have an influence in customer loyalty and benefits companies as it improves customer retention rate Nsiah and Mensah [27]. Quality is a relative factor which can be explained as the comparison of perceived performance and expected performance Kang [10]. It is also the customer's overall impression of the related inferiority/superiority of an organization and its service offerings Bitner et al. [7]. The ability of a telecom operator to create and sustain competitive advantage depends upon the high level of service quality provided by the service provider Yoo and Park [38]. Therefore, providing a consistently high quality service quality can differentiate one service provider from others [21-24].

It can be deduced from the above discussion that with high service quality, customer/subscribers are attracted, thereby causing switching/porting behaviors and when happy and satisfied with the quality of service offered, increases their propensity to stay with that service provider.

Hence, the above literature leads to the conclusion that, whenever the service of a firm are highly regarded by customers, their switching tendencies/decisions will go down. This goes directly to telecommunication network providers in Nigeria to rebrand their services so that customer's expectations are met. When these expectations are satisfied then loyalty of subscribers will eventually increase.

Network coverage: The rate of Network coverage in Nigeria is still adjudged to be very poor even in the urban areas when compared to other nations of the world. Network coverage is the extent to which a telecommunication service, provider provides its network signals all over the nation. Lack of adequate network coverage and capacity are the leading causes that affect QoS (Quality of Service) in Nigeria cellular networks, as it is one of the factors influencing subscribers' decision to switch from one service provider to another. Despite having moderate network coverage in urban areas, the network capacity is still limited with respect to the various networks in Nigeria. However, network related problems (such as network outage, call dropout etc.) are among the reasons why subscribers switch/port among network service providers.

Hence, it implies that low/poor network coverage and capacity influences customers' switching decisions among competitors, who has extensive network coverage in their location. Provision of a strong consistent, non-dropping and non-fluctuating signals in all the nooks and crannies of the country results in customer satisfaction which leads to customer loyalty, through deployment of adequate network infrastructures with high network capacity both in urban and rural areas extensively, hence obtain extensive network coverage.

Call rate/tariff/price: It is a non-disputable fact that service providers are expected to compete on both price and quality of service especially in a competitive market. Price refers to the amount of money charged for a product or service, or the sum of the values that customers exchange for the benefits of having or using the product or service Kotler and Armstrong [14]. Service providers are expected to meet the consumer's requirements and expectations in price and service quality, Melody [21]. Presently, due to breath taking competition in Nigeria telecommunication market, telecommunication service providers tend to offer innovative services as well as at a competitive price/rate just to attract new customers and retain old ones.

Kollmann [13] observed rightly that Price plays a vital role in telecommunication market especially for mobile telecommunication service providers. The price mentioned here, is not only limited to call rate, but also covers the price of recharge voucher, SMS charge, the internet charge (data), and so on. Clearly known, a network with cheaper price has a high tendency of subscribers switching/porting to it. Offering a high

service quality, having an extensive network coverage is not sufficient to attract and retain customers in the telecommunication market, hence offering the services at an attractive and affordable rate is equally necessary to achieve a competitive advantage/gap in the market. Service Providers in Nigeria should charge tariff that is fair and acceptable to their subscribers, taking into cognizance their price sensitivity and effects [25-28].

Promotion: In Nigeria, Promotional strategies has been one of the approaches used by organizations to bring to the notice of both prospective and existing customers information about the organization and its products and services. Promotion involves Companies' effort employed to educate, inform, persuade or remind customers and the general public of its products Kotler and Armstrong [14]. The primary motive of the companies is to use this marketing tool to attract new customers and compel them to make buying decision while the existing customers are targeted for top of the mind recall and repeat purchase and loyalty. Aside Companies and organizations using promotions to penetrate new markets, other motives are: increase sales; maintain or improve market share; create or improve brand recognition; create a favorable climate for future sales; inform and educate the market; create a competitive advantage, relative to competitor's products or market position; improve promotional efficiency, Rowley [35]. The above situation is nowise significantly different from what obtains in Nigeria and most African countries [29-32].

Though it is not settled in literature whether sales promotion can enhance or undermine brand preference beyond the time they are offered, Luk and Yip [20], it is however known that Nigerian consumers will respond more to freebies like free samples, bonus packs, price discounts etc. according to Ndubisi and Moi [22].

Customer care/service: Corroborating from the foregoing, Nigeria Telecommunication Operators are adopting various customer service techniques and strategic means to satisfy and retain potential customers. Customer care is used in a wider sense and goes far beyond the traditional role of customer service and support, it encompasses all the functions along the entire service delivery value chain, Katz et al. [11]. Customer service is a system of activities that involves customer support systems, complaint processing, speed of complaint processing, ease of reporting complaint and friendliness when reporting complaint Kim et al. [12].

Therefore, customer service includes all help and assistance network providers' render/offer to customer directly or indirectly prior to, during, and after purchase to provide exciting customer experience with their products. Companies leverage on customer service to gain competitive advantage *via* retaining of existing customers while winning new ones. In Nigeria, service providers provide customer services through toll free customer care line, help desk and websites, Lucas [19], is of the opinion that by providing excellent customer service and dealing with dissatisfaction as soon as possible, as it is identified, companies can ensure that customers remain loyal and keep switching back. From the foregoing discussion, service providers in addition to the provision of a high service quality and offering of

an attractive and fair price, should also pay more attention to the delivery of high and effective customer service. Through speedy complaint resolution, friendliness by customer care staff, and ease of access to customer care services, which have strong influence on subscribers' choice of service provider [33-38].

Conceptual framework

Smyth [37] defined research framework as a 'framework that builds from a combination of a wide range of ideas and theories

and helps studies identify problems, develop questions and search for relevant literature'. The conceptual model for this paper is indicated in **Figure 1**. The model included six variables, five of which were independent (service quality, network coverage, price, promotion, and customer care/service) and one dependent, namely subscribers' decision to port. Conceivably, these five variables influence subscribers' decision to port as has been presented in the hypotheses developed above.

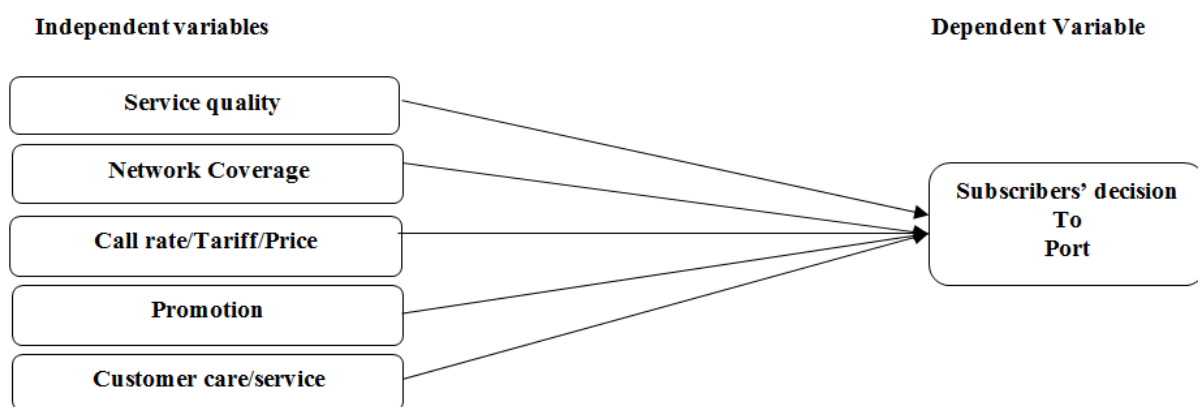


Figure: 1 Conceptual framework

Related works and research gap

In order to know about telecommunication subscribers porting behavior, we should know how mobile subscribers actually take service quality, network coverage, tariff, customer care, and promotion.

Lee and Freick [18], describe in their studies service quality, best relationship with customer, bundle offers, wishes on events are components which makes customer loyal and beneficial for the company for the long time period.

Nwakanma et al. [28], describe in their studies telecom subscribers, private investment, liberalization, market segmentation, tariff system, telecommunication infrastructure, customer satisfaction cultural background, education, interconnectivity, competition and legislation as factors affecting Tele-density growth in Nigeria.

Okeke [30], studied the major factors influencing the choice of GSM Network among oil and Gas workers in Port Harcourt, Nigeria. In his studies, he concluded that network coverage, network quality, tariff and customer care are the four major factors influencing the choice of GSM network among oil and Gas workers in Port Harcourt, Nigeria.

Sawat et al. [36] studied the factors behind brand switching in cellular networks. They identified three independent variables; price, service quality, and trust and concluded in their research work that this three independent variables are responsible for customer switching behavior in cellular networks in Pakistan.

Research gap: Researchers elaborated in their studies how some independent variables influence customer satisfaction and switching behavior in cellular services in Nigeria. They concluded that four independent variables are the major factors behind customer switching behavior and their research was carried out without in depth studies on Mobile Number Porting (MNP) technology.

However, this study provides an empirical knowledge base for this emerging challenge, as it concerns subscribers engaging in mobile number porting in Nigeria. This study identified based on the extant literature, five independent variables as factors influencing telecommunication subscribers' decision to port among network providers in Nigeria. This study is based on quantitative research on mobile subscribers porting behavior, and the effects on the providers, despite the recent development on QoS (Quality of Service) by few among the network providers in Nigeria.

Research Methodology

Research design and sampling procedures

The study adopted quantitative method, employing a cross sectional survey research design with the aid of a structured questionnaire to assess the factors that influences telecommunication subscribers' decision to port from one network to another. The total sample for the study consists of 400 mobile subscribers of the four major network providers (MTN, Airtel, GLO and 9Mobile) in the selected geopolitical

zones (Orlu zone, Okigwe zone, and Owerri municipal) in Imo State. The sample size (400) of the target population was calculated using random sampling method of Yamani's formula, (1967) which is expressed as; $n = \frac{N}{1 + N(e)^2}$.

Where, 'n' is the sample size, 'N' is the population size (total number of active subscribers) and 'e' is the sample error (0.05). From the expression the sample size is obtained as; according NCC 2017, the active subscribers is 149.2million. So therefore, $n = \frac{149,249,510}{1 + 149,249,510(0.05)^2} = 400$.

A simple random sampling design was used to select the three geopolitical zones in Imo State.

Data collection instrument and administration

Data collection instrument is a device for collecting the data or measuring the variables, which are used for answering research question and or testing study hypothesis Nworuh [29]. The main research instrument was a structured questionnaire, which had 2 sections (bio-data and research questions). The questionnaire had 6 constructs, namely network coverage, service quality, promotion, and customer care/service (independent variables), Subscribers' decision to port (dependent variable), each had four (4) related questions on a 5-point Likert scales with 5 point allocated to strongly disagree and 1 point to strongly agree. Questions used in the questionnaire were collected from different literature sources and were adjusted to conform to the study objectives.

The questionnaire was personally administered by the researcher to both male and female telecommunications subscribers of the four major telecommunication network

providers (MTN, Airtel, GLO and Etisalat (presently known as 9Mobile) in Nigeria residing in three geopolitical zones (Orlu zone, Okigwe zone, and Owerri municipal) in Imo State.

Data Presentation and Description

Respondent's profile

The demographic characteristics of the respondents based on the three hundred and seventy eight (378) responses revealed that males accounted for 223 (59.0%), while 155 (41.0%) were females. The largest population of respondents was within the age group of 30-39 years, i.e. 146 (38.6%), 20-29 years were 130 (34.4%), 77 (20.4%) were 40-49 years, 21 (5.6%) were 50-59 years, under 20 years were 3 (0.8%), 1 (0.3%) were over 59 years.

Also, the distribution of the sample according to the educational qualification. Among the different level of qualification of respondents, 8 (2.12%) were O'level holders, 99 (26.19%) were ND holders, 209 (55.29%) were HND/B.Sc/BA holders and 62 (16.40%) were Post graduate/Professional qualification holders. The distribution of the sample according to the occupational level of respondents, 69(18.3%) were Civil/Public servants, Private Company's Employees were 73 (19.3%), 152 (40.2%) were Self-employed, and 84 (22.2%) were students.

Table 1 presents the respondents network preference, porting activity and major reason for porting among the four major functional networks(MTN Nigeria, Glo Nigeria, Airtel Nigeria and 9Mobile) in Nigeria.

Table 1: Respondent's Network Preference, Porting activity and Major Reason for porting (Source: SPSS Analysis of Field survey 2017).

Categories		Frequency (N=378)	Percentage (%)
Network Preferred	MTN Nigeria	118	31.2
	Glo Nigeria	117	31.0
	Airtel Nigeria	119	31.5
	9Mobile	24	6.3
Years on Network	2-4	21	5.6
	5-7	170	45.0
	8 and above	187	49.5
Network Port From	MTN Nigeria	142	37.6
	Glo Nigeria	79	20.9
	Airtel Nigeria	88	23.3
	9Mobile	69	18.3
Network Port To	MTN Nigeria	120	31.7
	Glo Nigeria	117	31.0
	Airtel Nigeria	113	29.9
	9Mobile	28	7.4

Major Reason for Porting	Service quality	77	20.4
	Network coverage	127	33.6
	Call rate/tariff/price	104	27.5
	Promotion	59	15.6

Relationship and interpretation

Correlation analysis: Table 2 below shows the test of relationship between the independent variables and shows the correlation coefficients between the independent variables, which shows normal correlation (less than 0.90) between the independent variables and this does not affect the results of multiple regression that is adopted in this study. Hence, there is a higher correlation problem between the independent

variables (multi-co linearity) when the correlation coefficient is greater than 0.9. Therefore, from the table above the problem of higher correlation is not found between the dependent variable of the study variables. The highest correlation coefficient between the dependent variable and the study variables was found between Subscribers’ decision to Port and Network coverage with relationship strength equal to 0.781 and follow by Service quality of 0.660 [40].

Table 2: Subscribers’ decision to Port (Y) and its independent variables Correlations (Source: SPSS Analysis of Field survey 2017).

		Subscribers’ decision to Port	Service quality	Network coverage	Call rate/tariff/price	Promotion	Customer care/services
Pearson Correlation Port	Subscribers’ decision to	1	0.66	0.781	0.507	0.273	0.112
	Service quality	0.66	1	0.466	0.427	0.282	0.151
	Network coverage	0.781	0.466	1	0.647	0.179	0.142
	Call rate/tariff/price	0.507	0.427	0.647	1	0.133	0.003
	Promotion	0.273	0.282	0.179	0.133	1	0.156
	Customer care/services	0.112	0.151	0.142	0.003	0.156	1
Sig. (1-tailed) port	Subscribers’ decision to	-	0	0	0	0	0.015
	Service quality	0	-	0	0	0	0.002
	Network coverage	0	0	-	0	0	0.003
	Call rate/tariff/price	0	0	0	-	0.005	0.478
	Promotion	0	0	0	0.005	-	0.001
	Customer care/services	0.015	0.002	0.003	0.478	0.001	-

The Model summary from SPSS Version 21 output is shown below in Table 3.

Table 3: Subscribers’ decision to Port (Y) Model Summary (a. Predictors: (Constant), Service quality X₁, Network coverage X₂, Call rate/tariff/price X₃, Promotion X₄, Customer care/services X₅.)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
1	0.856a	0.732	0.729	0.42265	0.732	203.317	0.000

From Table 3, the study found that the independent variables combined were in relationship with the dependent variable of

0.856 which is a strong positive relationship, in addition to the contribution of all independent variables to the dependent variable with R-square of 0.732.

Table 4: Subscribers' decision to Port (Y) and its independent variables Coefficients (a. Dependent Variable: Subscribers' decision to Port).

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Correlations		
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Partial
1 (Constant)	1.584	0.224		7.067	0	1.143	2.025			
Service quality	0.338	0.028	0.381	11.972	0	0.283	0.394	0.66	0.527	0.321
Network coverage	0.675	0.038	0.656	17.715	0	0.6	0.75	0.781	0.676	0.475
Call rate	-0.068	0.027	-0.089	-2.466	0.014	-0.122	-0.014	0.507	-0.127	-0.066
Promotion	0.039	0.016	0.067	2.383	0.018	0.007	0.071	0.273	0.123	0.064
Customer care	-0.044	0.025	-0.05	-1.795	0.074	-0.092	0.004	0.112	-0.093	-0.048

This indicates that the independent variables combined account for 73.2% percentage of the change in the behavior of the dependent variable (Subscribers' decision to Port), and other variables associated but not tested in this research work account for the remaining percentages, while the statistical independents constructs amounted to the impact of these variables combined on the dependent variable through the adjusted R-square 0.072.

Hypothesis testing and results

The hypothesis testing is based on a dependent variable and independent variables. The model is a dependent variable (Y) and its corresponding independent variables. Y is Subscribers' decision to Port with independent variables as Service quality, Network coverage, Call rate/tariff/price, Promotion, and Customer care/services.

HO1: Service quality has no significant influence on telecommunication subscriber's decision to port among network providers. Since the statistical significance-value of 0.000 which is less than 0.05. Hence, the study rejects the HO₁ and accepts the HA₁ and conclude that Service quality has influence on Subscribers' decision to Port. This also mean that service quality variable alone influences subscribers porting behavior in Nigeria.

HO2: Network coverage has no significant influence on telecommunication subscriber's decision to port among network providers. From **Table 4**; the statistical significance-value of 0.000 is less than 0.05. Hence, the study rejects the HO₂ and accepts the HA₂ and conclude that Network coverage has influence on Subscribers' decision to Port. This also mean that Network coverage variable alone influences porting behavior of subscribers in Nigeria.

HO3: Call rate/tariff/price has no significant influence on telecommunication subscriber's decision to port among network providers. Using **Table 4**; the Unstandardized coefficient of Call rate/tariff/price variable X₃ is -0.068 with t-value of -2.466 and at statistical significance-value of 0.014 is less than 0.05. Hence, the study rejects the HO₃ and accepts HA₃ and conclude that

Call rate/tariff/price has influence on subscribers' porting behavior in Nigeria [40].

HO4: Promotion has no significant influence on telecommunication subscriber's decision to port among network providers. Since the statistical significance-value of 0.018 is less than 0.05 from **Table 4** above. Hence, the study rejects the HO₄ and accepts the HA₄ and conclude that Call rate/tariff/price has influence on Subscribers' decision to Port.

HO5: Customer care/services has no significant influence on telecommunication subscriber's decision to port among network providers. Since the statistical significance-value of 0.074 is greater than 0.05. Hence, the study accepts the HO₅ and rejects the HA₅ and conclude that Call rate/tariff/price has no influence on Subscribers' decision to Port.

Analysis of variance (ANOVA)

The ANOVA table report on the general model. As probability value (P) is less than 0.05, the model is significant. Thus, the combination of the variables significantly predicts the dependent variable (F=203.317; P=0.000<0.05).

Table 5: ANOVAb for Subscribers' decision to Port (a. Dependent Variable: Subscriber' decision to port; b. Predictors: (Constant), Service quality X₁, Network coverage X₂, Call rate/tariff/price X₃; Promotion X₄, Customer care/services X₅.)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	181.594	5	36.319	203.317	0.000b
	Residual	66.451	372	0.179		
	Total	248.045	377			

Table 5 above shows that the collective influence of all aspects of subscribers porting behavior variables (Service quality, Network coverage, Call rate/tariff/price, Promotion, and Customer care/services) have significant influence on

Subscribers' decision to Port. It also indicates that the specified model and data are well fit in explaining the influence and reliable for decision making on porting behavior of subscribers in Nigeria.

Regression model for telecommunication Subscribers' porting behavior in Nigeria; Subscribers' decision to Port (Y)=B₀+Service quality(X₁)+Network coverage(X₂)+Call rate/tariff/price(X₃)+Promotion(X₄)+Customer care/services(X₅)+e

Where B₀=1.584 (from **table 5**), and coefficients of the independent variables are below;

$$Y=1.584+0.338 X_1+0.675X_2-0.068 X_3+0.039 X_4-0.044 X_5+0.224 \text{ (Equation 1)}$$

Interpretation: The regression model above show that Subscribers' decision to Port (Y) reduces (increases) by 0.338 for every one measure decrease or increase of Service quality variable X₁, Service quality variable X₁ reduces or increases by 0.675 for every one measure of decrease or increase of Network coverage variable X₂, Network coverage variable X₂ reduces or increase by -0.068 for every one unit reduction or addition of Call rate/tariff/price variable X₃, so is applicable to Promotion and Customer care/services. Hence, X₁ (Service quality), X₂ (Network coverage), X₃ (Call rate/tariff/price), X₄ (promotion) are significant for Subscribers' decision to Port.

Discussion of Results

The research work on factors influencing telecommunication subscriber's decision to port among network providers in Nigeria revealed many predictive results of factors behind Subscribers' decision to Port.

Subscribers' decision to port (Y)

From **Table 2** correlations of independent variables and Subscribers' decision to port (dependent variable, Y), Network coverage (X₁) shows the highest correlation figure compared to other variables and the dependent variable of 0.781 (78.1%), follow by Service quality (X₂) 0.660 (66.0%), Call rate/tariff/price (X₃) 0.507 (50.7) then Promotion (X₄) 0.273 (27.3%) and Customer care/service (X₅) 0.112 (11.2%). **Table 3**, is Subscribers' decision to Port model summary shows the relationship of the independent variables at R-value of 0.856, R²-value 0.732 (73.2%) and Adjusted R-square 0.0729 (72.9%) which indicates that the variables as a whole accounted for 72.9% changes and significance on Subscribers' decision to Port while the remaining percentages is measured by other factors not studied in this work. **Table 5** ANOVA for Subscribers' decision to Port shows the significant of the model as a whole at a p-value 0.000<0.05 the error allowed, indicating the combined effect of the independent variables on Subscribers' decision to Port among network providers in Nigeria.

- **Service quality influence on Subscribers' porting behavior:** Service quality variable was revealed from **Table 4** of p-value 0.000<0.05 error allowed as the second factor that influences Subscribers' decision to Port and also has high correlation relationship with Subscribers' decision to Port accounting for 66.0% influence on subscribers' decisions to

port among network providers in Nigeria supported by the findings of Kumar et al. [16], on Empirical Research on Factors Affecting Mobile Subscriber Intention for Switching between Service Providers in India.

- **Network coverage influence on Subscribers' porting behavior:** **Table 4** revealed the relationship of network coverage and Subscribers' decision to Port on the account of p-value 0.000<0.05 error allowed implies that network coverage variable significantly influences subscriber's decision to port among network providers in Nigeria. **Table 2** indicated that network coverage variable has the highest correlation relationship with Subscribers' decision to Port accounting for 78.1% influence on subscriber's decisions to port among network providers. This result is worthy of all acceptability and confirmation as almost all the telecommunication subscribers are influenced by network coverage in their decision to port among network providers in Nigeria for better operations supported by the findings of Okeke [30] on major factors influencing the choice of GSM network among oil and gas workers in port harcourt in Nigeria.
- **Call rate/tariff/price influence on Subscribers' porting behavior:** **Table 2** revealed that Call rate/tariff/price variable has a moderate correlation relationship with Subscribers' decision to Port in Nigeria accounting for 50.7% influence on subscribers decision to port among network providers. **Table 4** also showed that Call rate/tariff/price at a p-value of 0.014<0.05 error allowed on the account significantly influences subscriber's decision to port among network providers in Nigeria, this result is supported by Okeke [30] findings on major factors influencing the choice of GSM network among oil and gas workers in port harcourt in Nigeria.
- **Promotion influence on Subscribers' porting behavior:** **Table 4** revealed that promotion variable and subscribers porting behavior on the account of p-value 0.018<0.05 error allowed implies that promotion variable has a significant influence on subscribers' decision to port among network providers in Nigeria. **Table 2** indicated that Promotion variable has a lower correlation relationship with Subscribers' decision to Port accounting for 27.3% influence on subscriber's decisions to port among network providers. However, this results shows that promotion variable has a significant influence on Subscribers' porting behavior, but on its own is not enough to drive subscribers to port from one network to another unless when combined with either service quality or network coverage, will be able to determine Subscribers' decision to Port.
- **Customer care/service influence on Subscribers porting behavior:** **Table 4** revealed the relationship of Customer care/service and subscribers porting behavior on the account of p-value 0.074<0.05 error allowed implies that Customer care/service variable has not significantly influenced subscriber's decision to port among network providers in Nigeria. **Table 2** indicated that Customer care/service variable has the weakest correlation relationship with subscribers' porting behavior in Nigeria accounting for 11.2% influence on subscriber's decisions to port among network

providers, indicating that telecommunication subscribers are not influenced by customer care/services in their decision to port among network providers in Nigeria.

Summary, Conclusion and Recommendation

Summary

This research explored empirically the factors influencing telecommunication subscribers' decision to port among network providers in Nigeria.

On the basis of the results obtained from the analysis in the study, we summarize our findings as follows.

- There is great level of relationship between the independent variables as a whole accounting for 72.9% of Adjusted R-square value from **Table 3** and the Subscribers' decision to Port.
- Service quality influence was significant when compared with the Subscribers' porting behavior in Nigeria. It also, has the second high degree of relationship of 66.0% from **Table 2** above, with Subscribers' decision to Port.
- Network coverage was recorded with the highest degree of relationship of 78.1% with the Subscribers' decision to Port when compared with other variables. Network coverage influence was also significant when compared with the Subscribers' porting behavior in Nigeria.
- Call rate/tariff/price factor when compared with the other variables has a moderate degree of relationship with Subscribers' decision to Port. It was also significant to predict subscribers' porting behavior in Nigeria.
- Promotion was recorded with a weak degree of relationship of 27.3% (From **Table 4** above) with Subscribers' decision to Port.
- Customer care/services were also recorded to have the weakest degree of relationship of 11.2% (From **Table 2** above) with Subscribers' decision to Port. It was also found as the only factor not significantly influencing Subscribers' decision to Port.
- Four of among the independent variables were also found to be significant on comparing them individually with Subscribers' decision to Port except Customer care/services.

Conclusion

The Subscribers' decision to Port recorded significant facts in relation to subscribers' choice of network provider. 33.6% (from **Table 1** above) of respondents ported due network coverage compared to 27.5% (from **Table 1** above) of respondents who engaged in porting because of Call rate/tariff/price, followed by 20.4% (from **Table 1** above) of respondents who affirmed for Service quality. Network coverage was recorded as the major factor and one reason why telecommunication subscribers porting from one network provider to another in Nigeria, followed by other variables based on significance level and degree of relationship.

Having, examined the factors influencing subscribers' porting behavior among the major network providers in Nigeria, it was most significant and necessary to note that in spite of the fact that four factors were significant in influencing the porting decisions of telecommunication subscribers, porting behavior of subscribers are in rapid increase and study-demanding as telecommunication subscribers behavior are driven and influenced towards the most available network, wide and extensive quality of service, commensurate price and sustainable promotions. Though, reliability issue is eminent and associated with telecommunication network providers in Nigeria, Subscribers' decision to Port among network providers increase continuously as new strategies are implemented by network providers to attract new subscribers and retain the loyal ones.

Recommendations

In light of the research findings, the following recommendations are proposed:

- The network operators should assume the adequate control and management, concentrate more on network extensions to various location where there is low network coverage, such that subscribers will be able to operate smoothly.
- The network operators should also invest on quality service delivery, and sustainable promotions, while also concentrating on price reduction both for data and call services as a way of increasing subscribers' base.
- With the implementation of Mobile Number Portability (MNP) by Nigerian Communication Commission (NCC), which favors network operator with the best customer satisfaction, the finding of this study would provide these network operators with the factors to focus the business and marketing strategies for better customer satisfaction and high market share.

Further research work in this area should be carried out on other possible factors influencing subscribers in their decision to port, comparative study could be carried out on various competitive strategies by network operators, in order to determine the sustainable strategies. Further studies could concentrate on more factors capable of influencing subscribers' network perception.

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