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# Determinants of Customers' Intention to 'Port' Mobile Phone Numbers in Times of Proliferating use of Multi-Sims

**Obinna C. Ojiaku[1], Aihie Osarenkhoe[2] and Daniella Fjellström[3]**

[1]*Department of Marketing, Nnamdi Azikiwe University, Awka, Nigeria. Email: obeena@gmail.com*

[2]*Corresponding author, Professor, Department of Business & Economic Studies, University of Gävle, Sweden. Email: Aihie.osarenkhoe@hig.se*

[3]*Department of Business & Economic Studies, University of Gävle, Sweden. Email: Daniella.fjellstrom@hig.se*

## ABSTRACT

This paper investigates factors that influence customers' intentions to "port" mobile numbers in the Nigerian mobile telecommunications market. The study specifically investigates the effects of service quality, customer satisfaction, switching barriers and multiple SIMs on customers' intentions to port their numbers to a new provider. A sample of 363, a cross-section of mobile phone subscribers in Anambra State, Nigeria, was surveyed and their responses analysed using simple percentages and descriptive statistics. Regression analyses were used to test the hypotheses, and the results confirm the effects of service quality, customer satisfaction, switching costs and attractiveness of the alternatives on porting intention. The effect of multiple SIM cards was, however, not confirmed. Demographic effects were also found, with age and occupation influencing subscribers' intentions to port. Implications of the study include that regulatory efforts should be geared towards increasing consumer education on mobile number portability (MNP) and licensing of universal SIM cards to allow porting between operators with short codes. Efforts should also be made to improve service quality and increase brand attractiveness. The paper discusses the contributions and implications for theory, society/policy and managers.

***Keywords:*** Technology adoption, mobile number portability (MNP), service quality, telecommunications, Nigeria.

## 1. INTRODUCTION

Technology is unsettling earlier business processes, and customer behaviour is undergoing cataclysmic change (Buchanan-Oliver, et. al., 2010; Marius, et. al., 2015; Frederick, 2016). The prevailing business environment

has made it possible to create offerings that are modular and systemic (Pynnönen et. al., 2011), meaning that customers can be offered several services that work together seamlessly. Even if a firm is able to deliver a multitude of products and services to its customers, some of them are likely to be more valuable than others. Consequently, as services and products become *pari passu* and intertwined, and competition increasingly global, delivering customer value is not as simple as it used to be. This is more noticeable in many information and communications technology–related industries, where the value is not necessarily in the product but in the services channelled through it, such as mobile internet-based services (Bowman & Ambrosini, 2000; Leisen & Vance, 2001; Ulwick & Bettencourt, 2008; Pynnönen et. al., 2011).

Technological innovation in context has been studied economists and sociologists of technical change and innovation (Rip, 2010; Frederick, 2016). Moreover, technology acceptance research (e.g. Davis, 1989; Coeurderoy, et. al., 2014; Marius, 2015; Kim, 2016) has mainly focused on the assumptions that perceived usefulness and perceived ease of use are drivers of usage intentions, with salient features of technology as pivotal external. Behavioral sciences, however, suggest that social influences and personal traits such as individual innovativeness are potentially important determinants of adoption as well, and may be a more vital element in potential adopters' decisions (Lu et. al., 2005).

Innovations in mobile telecommunication industry, inter alia, Wireless Internet via mobile technology, mobile internet facilities, mobile money and mobile payment facilities, mobile number portability (MNP) policy adoption and implementation, has been growing exponentially in recent years (Birgul, 2013). In today's competitive telecommunications environment, a service provider should be able to prepare for dynamic nature of customer needs and other environmental factors including regulation and technology. In many developing countries across Africa and the Middle East, the most recent technological change in Global System for Mobile Communications (GSM) environment is the Mobile Number Portability (MNP) (ibid). Mobile number portability is a service that enables mobile telephone users to switch from one mobile network operator to another, in search of better quality, whilst retaining their original telephone numbers. MNP facility is intended to enable effective service delivery and provide consumers considerable freedom to switch between and among service providers in an attempt to increase consumer empowerment (Buehler & Haucap, 2004; Lin, Chlamtac, & Yu, 2003; Reinke, 1998).

As the service options are wide, customers become less committed to a particular provider and might easily shift from one operator to another (Bojei and Abu, 2014, p. 169). Customer switching behaviour is thus a serious threat to the achievement of long-term relationships (Ganesh, et. al., 2000; Maicas Lopez et. al., 2006). Hence, if firms are to manage their customer bases successfully, they need to study the processes determining switching decisions carefully (Bansal et. al., 2005; Thaichon and Quach, 2014). Switching operators has become normal practice and a critical issue faced by mobile service firms, leading to relationship dissolution (Sahi, Sambyal & Sekhon, 2016). When customers leave one service provider in favour of another, the original provider loses future profits and incurs the cost of acquiring new customers (Keaveney, 1995; Chuang & Tai, 2016). It is therefore paramount for service providers to pay attention to customer retention, which is vital for industries based on customer subscriptions and memberships, "because these companies commonly rely on economies of scale and require a large number of customers to share the fixed costs" (Chuang & Tai, 2016, p. 925).

While an unprecedented corpus of researchers have focused their studies on customer switching behaviour in the area of goods (Day et. al., 1979; McAlister & Pessemier, 1982; Kumar & Shashi, 1989;

Menon & Kahn,1995; Heide & Weiss 1995; Hans et. al., 1996; Shukla, 2004; Thaichon and Quach, 2014; Bojei and Abu, 2014), comparatively little attention has been given to the switching behaviour of consumers when it comes to services. Studies of the latter are scant and mainly in the field of financial services (Friedman & Smith, 1993; Keaveney, 1995; Mittal & Lassar, 1998; Grace & O'Cass, 2003). It is pertinent to mention that, in services, switching behaviour is different due to the salient features of services, i.e. their intangibility, perishability, heterogeneity, inseparability and ownership (Clemes et. al., 2000). Even within the services domain, individual services can differ significantly based on the extent of customer participation (Grace & O'Cass, 2003).

There are a small number of studies that have addressed the switching behaviour of mobile phone customers in the African context, or Nigeria in particular, one of them being Shai et. al., (2016), who call for research on the topic, especially considering the comparatively expensive and greater challenge for firms of attracting new customers, rather than retaining the ones they already have. The telecom industry plays a fundamental role at the micro, meso and macro levels of society: at the micro level, it facilitates communication between individuals; at the meso level, it encourages entrepreneurs and small business to interact with authorities; and at the macro level, the industry's infrastructure contributes to the economy. When MNP is introduced to a market, it increases competitiveness (Sahi et. al., 2016) in the telecom industry.

Understanding customer intentions and MNP is therefore important in emerging African economies. MNP was implemented in Nigeria to allow customers to switch from one GSM (global system for mobile communication) provider to another without changing their phone number. It was hoped that introducing MNP would also improve the quality of services, encourage healthier competition, reduce switching costs and address the problem of multi-SIMs. Despite its launch, however, the rate of MNP adoption has been dismal and, as such, service quality has yet to improve and the multiple-SIM culture has continued to surge.

This paper investigates factors that influence customers' intentions to "port" mobile numbers in the Nigerian mobile telecommunications market. The justification for such an investigation in Africa, and Nigeria in particular, is laid by tracking the scenario that plagues the Nigerian telecommunications industry and the changing consumer behaviour in the telecommunications industry as discussed above. An analysis of existing literature relating to the Nigerian context also identifies a gap with respect to the study of switching behaviour.

## 2. BACKGROUND

The liberalization and deregulation of the Nigerian telecommunications industry in 2001 brought about unprecedented growth in the telecom market. Now, with over 148 million active mobile lines, the tele-density had risen to 104 percent, contributing more than 10 percent to the nation's gross domestic product (GDP) (Okonji, 2014). In recent years, the industry has witnessed increased competition on one hand and, on the other, consumer dissatisfaction with the quality of service, tariff rates and network coverage has begun to emerge, as evidenced in the growth of multi-SIM handsets that enable consumers to switch between providers in order to enjoy better deals and services as they fluctuate (E.g. Ogwo & Igwe, 2012, and Sahi et. al., 2016). Consequently, in order to improve service quality, encourage perfect competition, and address the multi-SIM scenario, in April 2013 the country's regulatory authority launched mobile number portability.

Lee, et. al., (2007) define mobile number portability as the ability of telecom service users to retain their existing telephone numbers, including the prefix, with no impairment of quality, reliability or convenience when switching from one carrier to another. Due to its low adoption rate, however, the introduction of MNP has had minimal impact on competition. Nigerian Communications Commission data demonstrates that between May 2013 and January 2015 only about 234,880 subscribers ported their numbers, a figure described as dismal and incongruous compared to other countries considering Nigeria's approximately 148 million active mobile lines (NCC Q1 Report, 2015). The slow progress of the scheme has been attributed to a number of things, including a slow porting process, the multiple-SIM culture among subscribers (Okwuke, 2014), and a perceived homogeneity of network operators.

Most subscribers typically use multiple SIM cards to switch between GSM providers to escape service quality issues and take advantage of discounted pricing (Sutherland, 2008). This development has led to the growth and proliferation of dual-SIM handsets, enabled in large part by the low cost of obtaining a new SIM. Anecdotal evidence shows that the multi-SIM phenomenon makes it difficult for mobile operators to track switching behaviour. On one hand, it impedes the success of customer retention programs, directly impacting profitability and effectiveness; on the other hand, from a subscriber perspective, only one mobile number can be recalled from memory, which is often referred to as the "main line" (i.e. the mobile number the subscriber is most accustomed to). Subscribers use the other lines to take advantage of better services or promotional offers (Tiamiyu & Mejabi, 2012). Notwithstanding the rationale for the multi-SIM scenario, the introduction of MNP was expected to reduce the incidence of multi-SIMs since subscribers can now switch between operators to enjoy improved service quality and promotional offers, and still retain their numbers (Sutherland, 2008). The incidence of multi-SIMs has, however, continued to surge.

Successful implementation of MNP has been associated with a high porting rate, confirming the demand for the service and utilization of the facility (Lago, 2007; Iqbal, 2010). Iqbal (2010) argues, however, that successful implementation of MNP cannot be measured by high porting rates alone. Better competition, improved service quality and lower tariffs are also factors. Be that as it may, competition and service quality may not have improved, nor tariff rates dropped significantly. Moreover, enabling MNP is costly from a technical standpoint, with the benefits achieved by its introduction far lower than the costs. As such, subscribers must be willing to port their mobile numbers, otherwise adopting the MNP facility becomes merely an economic waste (Iqbal, 2010).

The present study advances the knowledge frontier in global marketing by contributing to the ongoing scholarly debate on mobile telephony and services switching literature regarding MNP (see Sahi et. al., 2016). The study also validates the determinants of customer switching, such as satisfaction, switching barriers, service quality and consumer demographics, in a mature telecom market in an emerging economy. In addition, the study examines the effect of multiple SIMs on customer switching intention. To the best of our knowledge, this is the first paper to empirically investigate the effect of multi-SIM usage on MNP adoption in Africa. In other words, we examine the likelihood that customers who subscribe to more than one network provider will port their number from one provider (i.e., the provider of their "main line") to another, or whether they will continue to switch between operators? We argue that, as long as it is cheaper to acquire a new SIM card and manage parallel accounts, multiple SIMs will negatively affect customers' intention to port an existing number to a new provider.

It is thus imperative to ascertain the determinants of customers' intentions to port their current number when switching to a new carrier, especially in the era of proliferation of multi-SIMs. We therefore pose the question:

**RQ:** *To what extent has MNP, allowing customers to switch from one provider to another without changing their phone number, helped to alleviate the incidence of multiple SIM cards – a scenario that distorts the efficacy of customer retention management efforts?* To meet the objective of our study, the paper is structured as follows: we first present a review of the literature and previous studies to provide a richer understanding for the coming hypotheses. Secondly, the research design and regression analysis are presented. This is then followed by the findings, conclusions and implications.

## 3. LITERATURE REVIEW

### In Search for Theories to Predict Human Behavior

In the social and decision-making sciences, understanding the fundamental determinants of behaviour is the paramount goal for many theorists and practitioners. One of the robust theories that helps researchers to predict human behavior is the theory of planned behavior (TPB) (Fishbein and Ajzen, 1975; Ajzen, 1985 and 1991; Madden and Ajzen, 1992; Chatzoglou and Vraimaki 2009; Cordano and Frieze 2000). According to TPB, attitudes, subjective norms, and perceived behavioural control (PBC) predict behavioral intentions, and, in turn, intentions explain an individual's behavior. On the other hand, Behavior Reasoning Theory (BRT) (Thompson and Thompson, 1996; Marius et. al., 2015) proposes that reasons serve as important linkages between beliefs, global motives (e.g., attitudes, subjective norms, and perceived control), intentions, and behavior. An underlying theoretical assumption in this framework states that reasons impact global motives and intentions, because they help individuals justify and defend their actions (Westaby, 2005). BRT has been applied lately by, among others, some Ghanaian researchers (e.g. Tweneboah-Koduah, 2014) Social Marketing: Using Stages of Change Model to Assess HIV/AIDS Testing Intentions Among University Students in Ghana, published in *Journal of Nonprofit & Public Sector Marketing*, 26:3, 208-225). Others have used the theory to operationalize social marketing issues related to the propensity to use condoms in developing countries.

It is pertinent to mention that Technology Acceptance Model (Davis, 1989) is an adaptation of the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975). Technology Acceptance Model (TAM) as a theoretical foundation is not only parsimonious but also has extensive empirical support including several studies in the areas of hospitality research (Morosan, 2012; Morosan, 2014; Kim, 2016). Furthermore, TAM can be easily extended to capture specific technology and business contexts (Lee et. al., 2003; Kim, 2016) such as the context this study is anchored. Thus, TAM has informed theoretical background for this study, while clarifying additional relevant variables for the specific context of this study. It proposes two concepts as determinants of attitude toward usage intentions and information technology (IT) usage. The first concept is PU defined as a prospective user's subjective probability that using a specific technology or system will increase the user's performance. The second concept is perceived ease of use (PEOU) defined as the degree to which a prospective user expects a specific technology or system to be free of effort (Davis, 1989; Lu, et. al., 2005; Coeurderoy, et. al., 2014; Frederick, 2016). Attitude refers to a prospective user's favorable or unfavorable feelings toward using a specific technology or system. Behavioral intention is the

direct determinant of a prospective user's technology or system usage, a necessary precursor to the actual behavior (Fishbein and Ajzen, 1975; Schwarz and Ernest, 2008). Davis et. al., (1989) also conducted a longitudinal study to predict user behavior after a brief period of interaction with a system.

## Studies on Switching Services and the Adoption of MNP in Different Contexts

Creating and maintaining long-term relationships with customers, technology adoption in the telecom industry, and the unique characteristics of an emerging market, such as Nigeria, fall within the scope of global marketing. A number of studies have been conducted on switching services and the adoption of MNP in different contexts. Previous studies in the service switching literature have taken either a Western or Asian (e.g. Shai et. al., 2016) perspective. One stream of empirical research has focused on the effect of MNP on consumer behaviour. For instance, Shin and Kim (2008) investigate switching barriers in the case of MNP using structural equation modelling, finding that customer satisfaction, switching barrier and customer demographics have a significant effect on subscriber switching. In a similar study, Shin and Kim (2007) used data collected from actual switchers and non-switchers to investigate the effect of MNP on mobile subscribers' switching behaviour in Korea, in that case finding that even though MNP lowers the cost of switching, subscribers still perceive the switching barrier as high, and that mobile operators develop strategies to lock in customers.

Furthermore, the study by Bühler et. al., (2005) focuses on the causes and effects of mobile number portability (MNP) and provides a survey of its implementation in Europe. The starting point of, Dewenter and Haucap´s (2005) study entails the competitive effects and the costs of introducing MNP. Thereafter, they discussed how to charge for MNP. A price cap regime starting from the average cost of porting is likely to provide appropriate incentives (*ibid*). The point of differences in the use of MNP across European countries is speed of porting and porting charges (ibid). Against this background, the big question is, in the context of mobile telecommunication, where customers' use multiple-SIM as a variety seeking behaviour, will implementation of Mobile Number Portability enable customers to escape from problems associated with service quality and pricing structure and take advantage of deals from operators (Sutherland, 2008; Tiamuyi & Mejabi, 2012)?

In a more recent study, Sahi et. al., (2016) found that attitudes toward MNP, loyalty and switching barrier related negatively with switching intention. They also found a positive correlation between the intention to switch and actual switching behaviour, while identifying a negative correlation with customers' actual staying behaviour. Their study was conducted in India, after MNP was introduced to the market. The fact that India's infrastructure and economy is much more developed than Nigeria's poses a challenge for drawing comparisons with an African market. In India, the implication was that customers who had no intention of switching providers would stay with the same provider. Another study investigated the factors that influence customer switching in the context of one-way MNP in China (Shi, Zhou & Liu (2010). They found customer satisfaction, switching costs and attractiveness of the alternative to be predictors of customer switching intention. Tiamuyi and Mejabi (2012) examine subscriber attitudes toward the implementation of MNP in Nigeria using data from a cross-section of respondents across geo-political zones, and find support for MNP implementation among subscribers though tariffs were believed to be unaffected by MNP implementation. Nimako et. al., (2014) assess the effect of MNP adoption on consumer switching intention using data from subscribers in Ghana, finding that factors such as consumer knowledge of MNP,

perceived usefulness of MNP, attitude toward MNP and MNP-induced self-efficacy to be predictors of MNP adoption.

Another set of studies addresses the effect of MNP on competition and consumer welfare. Lyons (2006) investigates MNP's impact on market outcomes using international time-series cross-section data. They found that MNP reduces average prices and encourages churn when the switching process is rapid (i.e. less than 5 days) but not when it is slower. In another study, Buehler and Haucap (2003) investigate the consequences of introducing number portability. They argue that consumer information on pricing structures for on-net and off-net calls are eroded with MNP. They further posit that while new entrants may benefit from MNP, incumbents may suffer. Similarly, Aoki and Small (2010) investigate the impact of MNP on consumer and societal welfare, finding that MNP reduces switching costs but affects consumers and firms differently. They show that in well-developed telecommunications markets with high penetration rates, as a group, consumers can receive discounts based on a reduction of the costs of switching between carriers. Furthermore, Reinke (1998) asserts that even if number portability can increase competition in the telecommunications market, the means by which MNP is implemented can either foster or threaten competition.

In the service switching/retention literature, Bansal et. al., (2005) investigated the applicability of the push-pull-mooring migration model from human geography as a unifying framework for service switching. They reported significant direct effects and some moderating effects of the push, pull and mooring variables on service switching. In a similar study, Chuang (2011) investigates subscribers' intentions to switch carriers in the context of mobile telephony in Taiwan. He found subscribers' satisfaction, switching costs, and habit strength to negatively influence switching intention, constituting a "sucking" effect that influences subscriber retention and alternative attractiveness, comprised of a pulling effect that positively influences switching intention. In a study on the structural relationships between customer retention, satisfaction and loyalty, Gerpott et. al., (2001) found customer satisfaction to significantly impact customer loyalty, which in turn influences customers' intentions to terminate or extend their contractual relationship with a mobile service provider. Building on Gerpott et. al.'s (2001) model for Korean mobile telecommunications, Kim et. al., (2004) found that customer satisfaction and switching barrier significantly impact customer loyalty.

## Mobile Number Portability

Mobile number portability is a network capability that allows mobile subscribers to retain their phone number, a unique identifier for customers, when moving from one service provider to another. According to Park et. al., (2007), MNP enables users of telecommunication services to retain their existing numbers, including the prefix, with no impairment of quality, reliability or convenience. The implication of this is that, with MNP, network prefixes will no longer identify their respective networks, especially in the case of ported numbers, as the proprietary rights to phone numbers will now be transferred to the customers (Buehler, Dewenter & Haucap, 2005).

MNP became necessary as a matter of regulatory imperatives to enhance competition and improve customer welfare by lowering switching costs (Sutherland, 2007; Dick & Basu, 2004). Empirical evidence suggests that MNP enhances competition in the supply of value-added services and, as competition intensifies, service quality improves, tariffs and the multi-SIM culture are reduced, and the market grows (Viard, 2007; Ovum, 1997; Oyeniran & Akinsola, 2012). MNP provides a number of benefits to customers,

including the cost savings of retaining their phone numbers, cost savings arising from switching to a more efficient or better operator, improvements in service quality, and price reductions arising from increased competition (NERA/Smith, 1998). On the other hand, MNP makes it difficult to identify the network a caller is calling from and also erodes consumer price information with respect to termination charges for on-net and off-net calls (Buehler & Haucap, 2003). In countries where MNP has been implemented, however, the benefits have been reported to outweigh the costs for customers (NERA/Smith, 1998; Buehler & Haucap, 2003).

## Evolution of MNP in Nigeria

In April 2013, MNP was introduced in Nigeria by the Nigeria Communication Commission (NCC) to enhance competition following mobile providers' compliance with mobile number registration exercise. The Nigerian mobile telecommunication market currently consists of four major players including Airtel, Etisalat, Globacom and MTN. Following the MNP introduction, all the mobile service providers indicated readiness to implement the scheme. Consequently, the NCC implemented number portability symmetrically across the mobile operators. In order to improve consumer welfare, MNP implementation was recipient-led. In other words, customers initiate the porting request following the MNP procedure at a zero cost to the customer. However, in about two years the scheme was introduced, less than 1 per cent of active subscribers have utilized the service. The MNP regime came after a decade the Nigeria Telecommunication Industry was liberalized. Thus, the uptake of the scheme has been contrary to expectations as data from NCC indicate that from May 2013 to December 2016, only about 650,000 porting activities has been recorded representing less than 1% of active mobile numbers in Nigeria. The table below shows the summary of porting activities across the four mobile providers for the periods May 2013 to December 2016.

The data shows that MTN has consistently had the highest loss with a net loss of 274,812 while Etisalat (301,548) and Airtel (34,804) had the most gains from the period respectively (NCC, 2017). Anecdotal evidence suggests attempts by some mobile operators to forestall the scheme by not releasing porting data or delaying release of ported lines (Nigerianeye April 16, 2017). Such attempts have been met with appropriate sanctions by the regulatory authority. Suffice to say therefore, that the mobile number portability regime in particular and the Nigerian mobile telecom market generally is highly regulated. The NCC in its mandate protects and promotes consumers interest, promotes fair competition and amongst other functions provides regulatory framework for the operation of MNP in Nigeria. The commission ensures effective and efficient porting regime and safeguards subscribers rights and satisfaction with the MNP process.

## Hypotheses Development

### *Service Quality*

The quest for service quality has been a *condicio sine qua non* or essential strategic component for firms attempting to succeed and survive in today's fierce competitive environment (Phillips et. al., 1983; Parasuraman et. al., 1985). It has thus become a strategic issue for many managers and the subject of an increasing amount of academic and practitioner literature (Grönroos, 1984; Parasuraman, Zeithaml & Berry, 1985; Cronin & Taylor, 1992; Getty & Getty, 2003; Torres, Adler, Lehto, Behnke & Miao, 2013; Amin et.

al., 2013; Dedeoglu & Demirer, 2015). Previous studies have commonly explored two issues (Osarenkhoe & Byarugaba, 2016), one of which is the dimensions of service quality (Amin et. al., 2013; Wu, 2013) and the other service quality as perceived by customers, by focusing mainly on customers' quality evaluations (Akbaba, 2006; Bojanic & Rosen, 1994; Getty & Getty, 2003). It is, in addition, logical that, besides quality dimensions and customer evaluations, differences in service quality perceptions among stakeholders should be included in the research agenda – a gap in the related literature previously noted by Torres et. al., (2013, cited in Osarenkhoe & Byarugaba, 2016, p. 686).

Service quality is evaluated on the basis of the magnitude and direction of the gap between customer expectations regarding a service and customer assessments (perception) of the service actually delivered (Parasuraman, Zeithaml & Berry, 1988). Service quality consists of five dimensions (Parasuraman, Zeithaml and Berry, 1988) – reliability, tangibles, responsiveness, assurance and empathy – which have been empirically demonstrated to be valid and reliable constructs for measuring perceived service quality (Cronin & Taylor, 1992; Soteriou & Chase, 1998). Several empirical studies have confirmed that a higher level of service quality is related to a higher level of customer satisfaction (Brady & Robertson, 2001; Cronin, Brady & Hult, 2000). Earlier studies on mobile telecommunications services have measured service quality by call quality, pricing structure, mobile devices, value-added services, convenience in procedures, and customer support (Kim, Park & Jeong, 2004; Gerpott, Rams & Schindler, 2001; Shin & Kim, 2008). Accordingly, the following hypothesis is proposed:

**$H_1$:** Poor service quality will correlate with customers' intentions to port mobile numbers.

## *Switching Barrier*

The paramount goal for many theorists and practitioners in the social and decision-making sciences is to understand the fundamental determinants of behaviour. One of the robust theories that help researchers to predict human behaviour is the theory of planned behaviour (TPB) (Fishbein and Ajzen, 1975; Ajzen, 1985 and 1991; Madden and Ajzen, 1992; Chatzoglou & Vraimaki, 2009; Cordano & Frieze, 2000). According to the theory, attitudes, subjective norms and perceived behavioural control (PBC) predict behavioural intentions, and intentions, in turn, explain an individual's behaviour. Bansal and Taylor (2002) apply TPB (Fishbein and Ajzen, 1975; Ajzen, 1985 and 1991; Madden and Ajzen, 1992) in a study on service provider switching in retail banking, focusing specifically on mortgage services. In their study, they adapt the concept of PBC to the context of switching service providers, referring to it as "switching costs", arguing that switching costs, as conceptualized in service marketing research, are related to the concept of perceived behavioural control. Examples of switching costs are the costs of breaking customer habits, psychological risks, or the cognitive effort involved in switching.

Switching barriers are the difficulties that dissatisfied customers are confronted with when changing providers, or the financial, social and psychological burden experienced by customers when switching to (in the case of telecommunications) a new carrier (Fornell, 1992). As long as they continue to encounter switching barriers, consumers feel forced to remain with their existing operator. In the present study, the barriers to switching are the cost of switching and the attractiveness of alternatives.

Switching costs are the cost borne by customers when changing providers, such as time, money and psychological costs (Dick & Basu, 1994). With respect to mobile telephony, customers' switching intentions

drop due to perceived time, energy, money and the hassle involved with switching. For new entrants to the market, the prevalence of switching costs reduces the chances of winning over subscribers from other networks. Though MNP is believed to lower switching costs, it does entail the costs of porting time and procedures (switching costs), and the psychological cost customers incur when porting their number (switching barrier). Accordingly, the following hypothesis is proposed:

**$H_{2a}$:** Higher switching costs will have a significant negative effect on customers' intentions to port mobile numbers.

Attractiveness of alternatives refers to the extent to which a competing service provider is superior to one's existing service provider with respect to aspects such as image, reputation, value-added services, promotions and prices (Kim et. al., 2004). When customers perceive alternative providers to be similar and few, they feel constrained to remain with their existing provider. Conversely, when alternative service providers are perceived to be attractive, consumers are less likely to feel locked in with their current service providers, increasing the likelihood that they will switch (Bansal et. al., 2005; Kim et. al., 2004). In a study on customer churn, the reasons defected customers gave for switching included better prices and promotions (Lawford, 2005). Accordingly, the following hypothesis is proposed:

**$H_{2b}$:** The greater the attractiveness of alternative providers, the stronger the customers' intention to port mobile numbers.

## *Satisfaction*

Satisfaction is the consumer's fulfilment response (Andreassen, 2000). It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfilment, and includes levels of under- or over-fulfilment (Tronvoll, 2010). In other words, it is the customers' assessment of all interactions or use situations they have with a product or service relative to their expectations (Jeng & Bailey, 2012). From the above definitions, it is understood that satisfaction relates to a subjective evaluation of emotions. Satisfaction is a function of confirmation (or disconfirmation) of a customer's expectations, i.e. relative output compared to input. The end-result is a positive or negative feeling of fulfilment. Satisfaction can therefore be considered the consumer's evaluation of the product or service received. The importance of such customer evaluations lies in the impact satisfaction is posited to have on consumer behaviours such as loyalty (Ibid. Cited in Komunda & Osarenkhoe, 2012, p. 88).

Customers evaluate their satisfaction with a service based on their cumulative experience of the service provider (Olsen & Johnson, 2003). This evaluation can be based on the service consumed or a comparative with alternate brands (Chuang, 2011). Customers might experience dissatisfaction with specific encounters or service usage, such as dropped calls or poor network coverage, but may not churn (Ahn, Han & Lee, 2006). However, when customers retrospectively evaluate all of their encounters or usage of the service and compare these with alternate brands, their intention to churn increases or decreases (Gerpott et. al., 2001). Previous studies have identified a relationship between customer satisfaction and consumers' attitudes or behaviour toward switching mobile carriers (Shin & Kim, 2008; Kim et. al., 2004; Gerpott et. al., 2001; Chuang, 2011). Accordingly, we propose the following hypothesis:

**$H_3$:** Higher customer satisfaction will negatively influence customers' intention to port mobile numbers.

## *Multiple SIMs*

In the context of mobile telecommunications, customers use multiple SIM cards as a variety-seeking behaviour. Multi-SIM usage enables customers to escape the problems associated with service quality and pricing structures, and to take advantage of deals from different mobile operators (Sutherland, 2008; Tiamuyi & Mejabi, 2012). While the introduction of MNP was expected to reduce the incidence of multi-SIMs, the situation seems instead to have been exacerbated. Multiple-SIM scenarios distort the success of customer retention programs and have a direct impact on profitability and effectiveness (Tiamuyi & Mejabi, 2012) and, from the policy perspective, impede a proper accounting of mobile penetration (Sutherland, 2008). Given that the cost of obtaining a new SIM and running parallel accounts is cheaper in comparison to porting one's mobile number, we expect multiple SIMs to negatively affect consumers' porting intentions. Therefore, the following hypothesis is proposed:

**$H_4$:** Multiple SIMs will negatively influence customers' intentions to port mobile numbers.

## *Consumer Demographics*

Consumer demographics include a number of individual socio-economic characteristics that distinguish consumer groups. A considerable body of empirical research has construed demographics as predictors of technology adoption with differing results (Kolodinsky, Hogart & Hilgert, 2004; Naseri & Elliot, 2011; Okeke, Opara & Ojiaku, 2015; Shin & Kim, 2008; Gilbert, Lee-Kelley & Barton, 2003). For instance, Shin and Kim (2008) found age to have a direct impact on switching intention, with younger subscribers being more prone to switching. However, Ranaganathan, Seo and Babad (2006) found a negative link between age and switching. With respect to gender, men are more likely to adopt technology than women are. Female consumers tend to have heightened anxiety when it comes to adopting new technologies (Gibert et. al., 2003), and are less likely to switch. Generally, gender has not been found to be positively linked with technology adoption or switching (Shin & Kim, 2008; Kolodinsky et. al., 2004; Okeke et. al., 2015; Nimako & Nyame, 2015). Research has also linked higher education with technology adoption, with educated consumers showing more self-efficacy and being more likely to adopt (Naseri & Elliot, 2011; Kolodinsky et. al., 2004; Shin & Kim, 2008). However, Nimako and Nyame (2015) found education had a non-significant effect on switching. Occupation is rarely included in studies on technology adoption or switching intention, but Naseri and Elliot (2011) did find that consumers in managerial or professional occupations were more likely to adopt technology. We expect occupation to influence porting intentions. Therefore, we propose the following hypotheses:

**$H_5$:** Age exerts a negative influence on mobile subscribers' porting intention.

**$H_6$:** Male subscribers are more likely to port mobile numbers than female subscribers are.

**$H_7$:** Subscribers with higher levels of education are more likely to port mobile numbers than subscribers with lower levels of education are.

**$H_8$:** Subscribers' occupations will have a significant influence on porting intention.

## *Porting Intention*

In the context of MNP, "porting intention" refers to the intentions of consumers to switch service providers and take their number, their unique identifier (e.g., mobile numbers, personal identification numbers, or

accounts numbers) with them. Porting transfers the rights associated with these specific identifiers from the provider to the consumer. Zeithaml, Berry and Parasuraman (1999) defined consumers' switching intentions as the indicators that signal the chances of a customer remaining with or defecting from a service provider. The intention to switch providers involves discontinuing the use of the services of a current provider in exchange for those of another provider (Bansal & Taylor, 1999). With MNP, consumers retain their identity (here, their mobile number) acquired from their current service provider when they move their subscription to another service provider. It is thus expected that the factors that influence customers' switching intentions will also influence customers' porting intentions.

## 4. METHODOLOGY

This design employed in the current study is a survey method using individuals as the unit of analysis to test the proposed model. The survey was conducted on a cross-section of participants, comprising mostly residents of Anambra State in southeast Nigeria.

### Sample and Procedure

The survey was self-administered to a proportionately stratified sample of mobile telecommunication subscribers for voice services across Awka, Onitsha and Nnewi in Anambra State. Anambra State is located in South-Eastern Nigeria, with Awka, Nnewi and Onitsha as the major cities. The towns are commercially and administratively viable with one of the lowest poverty indices in Sub-Sahara Africa (Akire & Robbles, 2015). Anambra State is the 11$^{th}$ largest State with mobile voice subscription accounting for 4.2million subscribers and teledensity of 101 percent (National Bureau of Statistics, 2016). Since subscription data by town is not available, the sample was proportioned according to census figures for the towns under investigation relative to the total population of the three towns. That is, Awka (42%), Onitsha (36%), and Nnewi (22%). The data was generated from 386 respondents in July and August 2015. The survey was restricted to mobile phone users, of voice services mainly. The survey setting is characteristically diverse with respect to participants' socio-economic profiles. The sample was fairly well distributed, with 57% males and 43% females, 60% with a bachelor´s degree or higher, most (53%) between 25-40 years of age. About 40% are civil servants and 22% self-employed.

### Research Instrument & Analysis

The instrument used was designed specifically for the study and uses a 5-point Likert scale, ranging from *5 - Strongly agree* to *1 - Strongly disagree*, with survey items adapted from previous studies. Service quality was measured using four items adapted from Kim et. al., (2004); switching costs measured with seven items adapted from Chuang (2011); and attractiveness of alternatives measured with five items adapted from Chuang (2011) and Kim et. al., (2004). Satisfaction was measured with four items, which is consistent with extant literature approaches for measuring customer satisfaction. Multi-SIM usage was measured using a scale adapted from variety-seeking orientation literature by Jung and Yoon (2011) and Bansal, Taylor and James (2005), along with items developed specifically for the study by the researchers – for a total of five items. Porting intention was also measured using a total of five items adapted from Shin and Kim (2008) and Bansal et. al., (2005). The data were analysed using SPSS Version 17 to generate the necessary information and findings using descriptive statistics. Principal component analysis was also performed to reduce the data and test for commonality. Following Shin and Kim (2008), multiple regression analysis was run for H1

through H4 while Logistics regression was used to test H5 through H8. In other words, respondents were asked to indicate their probability of porting their mobile number on a scale of 1 to 5 on one hand. On the other hand, respondents were asked to if they would be willing to port (1 = yes, 0 = No). The construct reliability was tested using confirmatory factor analysis (CFA) with Cronbach alpha >. 70.

## 5. EMPIRICAL FINDINGS

### Factor Analysis

The principal component analysis was computed with varimax rotation, set at eigenvalue greater than 1 and factor loadings greater than 0.5. Table 1 shows that the measured items explained more than 60% of the variance in the construct and the reliability for all measurement items was above 0.70. Three items with loadings below 0.5 were deleted to enhance and improve the constructs reliability and to also obtain an optimal result. A summary of the factor analysis and reliability measurement is shown in Table 1.

**Table 1**
**Factor loadings, explained variance and reliability of the construct**

| *Component Label* | *Items* | *Factor Loadings* | *Explained Variance (%)* | *Cronbach alpha (α)* |
|---|---|---|---|---|
| Satisfaction | Sat1 | .863 | | |
| | Sat2 | .843 | | |
| | Sat3 | .690 | | |
| | Sat4 | .680 | | |
| | Sat5 | .658 | 24.6 | .86 |
| Alternative attractiveness | AA1 | .860 | | |
| | AA2 | .802 | | |
| | AA3 | .788 | | |
| | AA4 | .777 | 13.5 | .87 |
| Switching costs | SC1 | .786 | | |
| | SC2 | .761 | | |
| | SC3 | .698 | 11.3 | .74 |
| Multi-SIM | MSM1 | .882 | | |
| | MSM2 | .860 | | |
| | MSM3 | .752 | 8.8 | .80 |
| Service quality | Sq1 | .789 | | |
| | Sq2 | .758 | | |
| | Sq3 | .668 | 5.5 | .80 |

***Note:*** *Extraction method:* Principal Component Analysis
*Rotation method:* Varimax with Kaiser Normalization.
*Total variance explained:* 63.6%.

### Hypotheses Testing

The hypotheses stated were tested using SPSS multiple regression and logistic regression. The multiple regression results show that the multiple correlation coefficients *(R)* using all the predictors simultaneously

is. 42 and the adjusted $R^2$ is 17%. This means 17 percent of the variance in porting intention was accounted for by the predictor variables. The *F*-statistics from the ANOVA (Table 2) show a statistically significant relationship between porting intention and porting antecedents (F = 13.52, p. 0.001) and verifies the research model's goodness of fit. Table 2 shows the regression coefficients of the constructs. Satisfaction ($\beta = -0.14$, $p < .05$) and service quality ($\beta = -0.21$, $p < .001$) were found to be statistically significant with negative regression coefficients, suggesting that as customer satisfaction and provider service quality decreases, customers' intentions to port their mobile number increase. Thus, we found support for $H_1$ and $H_3$.

Alternative attractiveness was also found to be statistically significant, with positive regression coefficients ($\beta = 0.21$, $p < .001$). As expected, the greater the attractiveness of alternative providers, the stronger the customers' intentions to port their mobile numbers. Thus, $H_{2b}$ was supported. We also found a surprising result for the effect of switching costs, where the regression coefficient shows a positive and statistically significant relationship with porting intention ($\beta = 0.12$, $p < .05$), suggesting that as the cost of switching increases, customers' porting intention also increases. A possible explanation for this effect could be that, because mobile number portability is free, customers may be willing to pay a price to port their mobile numbers. As such, they may be willing to expend time and effort and go through the procedural hassle of porting. Thus, we found support for $H_{2a}$. The effect of multi-SIMs, however, was not statistically significant. Thus, $H_4$ was not supported. The non-significant result could be due to the dominance of the use of a particular GSM provider in our data set. Furthermore, customer churn between operators occurs when multi-SIM handsets are used. Thus, multi-SIM is used as an alternative to porting.

**Table 2**
**Multiple regression results for test of hypotheses**

| | *Model* | *Unstandardized Coefficients* | | *Standardized Coefficients* | *T* | *Sig.* |
|---|---|---|---|---|---|---|
| | | *B* | *Std. Error* | *Beta* | | |
| 1. | (Constant) | 3.059 | .425 | | 7.192 | .000 |
| | Satisfaction | –.160 | .065 | –.142 | –2.45 | .015 |
| | Alternative attractiveness | .221 | .056 | .209 | 3.950 | .000 |
| | Switching costs | .127 | .055 | .119 | 2.303 | .022 |
| | Multi-SIM | .038 | .061 | .032 | .616 | .538 |
| | Service quality | –.289 | .076 | –.211 | –3.80 | .000 |

***Note:*** R = .42, $R_2$ = 17.3, F = 13.52, $p < 0.001$.
[a]*Dependent variable:* Porting Intention.

To test hypotheses 5, 6, 7 and 8, logistic regression has been used to ascertain the effect of customer demographics on porting intention. Logistic regression gives an estimate of the probability of porting, since our dependent variable is dichotomous with the values of 0 (No) or 1 (Yes), *and the independent variable – the demographic variables of age, gender, education and occupation.*

Table 3 shows the estimates for the logistic regression analyses. The results indicate that the model is a good fit ($\chi^2 = 26.28$, $df = 4$, $p < 0.001$). The H-L goodness of fit test also supports our model with a significant fit of ($\chi^2 = 30.32$, $df = 7$, $p < 0.001$). The results support hypotheses 5 and 8, suggesting that age and occupation influence porting intention: the direction of the relationship indicates that, compared to older subscribers, younger subscribers show a greater propensity to port. Also occupation significantly influenced porting intention, and the negative direction of this relationship suggests that civil service employees and

self-employed were less likely than students to port their numbers. The effects of gender and education, however, were not found to be significant. Thus, hypotheses 6 and 7 were not supported.

**Table 3**
**Logistic regression estimates**

| | *B* | *S.E.* | *Wald* | *Sig.* | *Exp (B)* |
|---|---|---|---|---|---|
| Age | –1.242 | .277 | 20.69 | .000 | .289 |
| Gender | .326 | .243 | 1.800 | .180 | 1.385 |
| Education | .024 | .127 | .036 | .850 | 1.024 |
| Occupation | –.555 | .178 | 9.706 | .002 | .574 |
| Constant | 2.504 | .776 | 10.413 | .001 | 12.229 |

*Model:* $\chi^2$ 26.28, *df* 4, $p < 0.001$.
*H-L test:* $\chi^2$ 30.32, *df* 7, $p < 0.001$.
[a]*Dependent variable:* Porting Intention.

## 6. DISCUSSION AND CONCLUSIONS

This study investigated factors that influence customers' intentions to switch service providers in the context of MNP. The study thereby contributes to the literature by examining the effect of the phenomenon of multiple SIM cards and other porting antecedents and demographics, such as customers' occupations, on switching intention in the context of MNP. In line with previous findings (Andreassen, 2000; Basal et. al., 2005; Gyasi Namako, 2014; Sahi et. al., 2016; Shin & Kim, 2008), our results provide support for the antecedents of customer switching in this context, finding that customer satisfaction, alternative attractiveness, switching costs and service quality are related to porting intention. The effect of switching barriers (switching costs and alternative attractiveness) on customers' switching intentions confirms previous studies in the service switching literature (Sahi et. al., 2016; Bansal et. al., 2004; Chuang, 2011; Shin & Kim, 2008). Our findings also suggest that, contrary to Shin and Kim (2008) findings, switching costs and the attractiveness of alternative providers have a positive influence on porting intention. The implication of the current findings is that as competitors' offerings become more attractive to customers, the customers' intention to port also increases. Paradoxically, our findings also suggest that high switching costs may not necessarily prevent customers from porting when the offerings of alternative mobile service providers are perceived as more attractive (Bühler et. al., 2005) Moreover, MNP is implemented with the expectation that it will reduce switching barriers by lowering switching costs.

The significant effects of customer satisfaction and service quality on porting intention are consistent with previous studies (e.g., Shin and Kim, 2008; Bansal et. al., 2005; Chuang, 2011). In relation to this, Sahi et. al., (2016) and Ahn et. al., (2006) confirm that customer dissatisfaction heightens the probability of churn. Furthermore, Kim et. al., (2001) and Gerpott et. al., (2001) demonstrate the importance of service quality on customer satisfaction and customer satisfaction on customer loyalty and retention. Service quality is a major factor in porting intention, implying that service quality, network quality and call quality are all factors that subscribers' consider important when porting. In a similar vein, when satisfaction levels drop, customers may adopt MNP. However, a non-significant effect on customers' porting intention was identified for multi-SIMs. To the best of our knowledge, this is the first study that examines this concept empirically.

Multiple-SIM users switch between operators to avail themselves of better deals. However, we had expected multi-SIMs to negatively affect porting, since subscribers who switch between operators may not consider porting, especially "non-number-loyal" subscribers; just as switching intention is likely to be strong for customers who demonstrate high-variety seeking tendencies (Bansal et. al., 2005). This implies that multi-SIMs remain an option to porting. In other words, customers can either port or use different providers simultaneously. Finally, of the demographic variables, only age and occupation have a significant effect on the intention to port one's number. Age exerts a significant influence on porting intention; when all other factors are constant, younger subscribers are about 0.29 times more likely to 'port' than older subscribers.

The non-significant effect of gender on porting intention supports previous findings (Nimako & Nyame 2015; Kolodinsky et. al., 2004; Okeke et. al., 2015) while it contradicts Shin and Kim (2008). In other words, female subscribers as well as their male counterparts may be willing to port. The significant effect of occupation contradicts Park et. al.'s (2007) findings on the effect of respondents' occupation. It is plausible that respondents in the higher occupation status (i.e., civil service and self-employed) were less likely to adopt MNP than respondents in the lower occupation status. The busy nature of high status occupation suggests the unwillingness to go through the procedural hassle of porting. Also, in our data set, level of education does not have a significant effect on porting intention.

## 7. IMPLICATIONS FOR THEORY, POLICY AND MANAGERS

An understanding of the predictors of porting intentions will afford telecom operators opportunity to design strategies for customer acquisition and retention and also provide policy-makers an understanding of the necessary framework to implement in order to foster competition and improve consumer welfare.

One of the theoretical implications of this study is that it advances the knowledge frontier and our understanding of global marketing practices, through validating the antecedents of service switching in the context of MNP. The study extends, in addition, knowledge on MNP and service switching by empirically testing the effect of multi-SIMs on customers' switching intentions. Although we did not find support for a multi-SIM effect, it contributes to the overall model. Consequently, we build on the work of Sahi et. al., (2016) by examining customer intention in the African context. We furthermore confirm previous findings by Shin and Kim (2008), though contradict Park et. al.'s (2007) findings. The effect of switching barrier on customers' switching intentions confirms Bansal et. al., (2004), Chuang (2011) and Shin and Kim (2008). This implies that switching costs and the attractiveness of alternatives positively influence porting intention, contrary to Shin and Kim's (2008) findings. This suggests that the intention to port increases when competitors' offerings become more attractive. It also implies that high switching costs may not necessarily prevent customers from porting when alternatives are perceived as superior.

From a policy perspective, there is need to heighten the awareness of MNP and porting procedures. Such awareness needs to be intensified periodically for it to register in the consciousness of subscribers. This is necessary to increase the level of consumer perception of the scheme. For society, this implies that policy-makers need to invest in critical infrastructure such as power and security, to enable service providers to improve the quality of their services. Additionally, incentives should be offered to subscribers to encourage porting when necessary, rather than the use of multiple SIMs. Despite MNP having been

implemented principally to improve consumer welfare, one could argue that if subscribers benefit more from using multi-SIMs, then the aim of introducing MNP may be defeated. However, the problem of improper accounting related to of SIM cards may surge unnecessarily, as was experienced recently in the slamming of mobile subscribers by the dominant carrier in Nigeria. Regulators may need to license the use of universal SIM cards that can allow subscribers to port between network providers with short codes. This could occur in such a way that would allow subscribers to operate on a network of choice for a specified period, with a charge for subscribers who wish to terminate their contract before the expiration of that period. Regulators could also consider licensing new entrants to the mobile telecommunications market, to leverage on the MNP scheme to capture a segment of the market. This might further enhance competition and improve service quality.

From a managerial perspective, service quality has been found to be the major factor with a direct impact on porting intention. Thus, GSM service providers need to improve the quality of their service delivery (Osarenkhoe & Byarugaba, 2012 & 2016). Efforts should be made to improve call- and network quality of mobile voice services. This is necessary as GSM carriers perceived to have better service quality may win more "port-ins" and retain existing customers. Furthermore, GSM service providers need to manage subscriber satisfaction effectively. Subscribers with unfulfilled expectations might port their mobile numbers. GSM service providers should consider realigning competitive strategies by improving their brand image and offerings. They may also need to segment the market, along socio-economic and demographic lines such as age and occupation, for different customer groups in order to serve them more efficiently. Younger subscribers can be targeted with incentives perceived as more attractive than those of the competitors to encourage them to port.

## 8. LIMITATIONS AND DIRECTIONS FOR FUTURE STUDIES

This study investigated antecedents of mobile phone subscribers' porting intention with a focus on the effect of multi-SIMs in this context. Service quality and the attractiveness of alternatives are strong predictors of porting intention, the cost of switching has a reverse effect on intention to switch service providers, and lower levels of satisfaction increase porting intention. The phenomenon of multi-SIMs does not have a direct impact on porting intention, which implies that subscribers churn between GSM providers using two or more mobile networks rather than adopting MNP. Most subscribers are furthermore not aware of MNP or how it works and have consequently shown no interest in porting. This places the necessity of the scheme in question. Despite these important findings, this study is not without limitations. Firstly, due to the setting of the study, the results of our analysis reflect the dominance of a particular GSM provider in the sample. Future studies may consider sampling a cross-section of subscribers that reflects a broader spread of current market players in the industry to increase the generalizability of the results. Secondly, only direct effects of porting antecedents were studied. Future studies might consider investigating the moderating effect of multi-SIMs on service quality, alternative attractiveness and customer satisfaction. In addition, the effect of multi-SIMs on switching intention in the context of MNP may be affected by inertia. Future studies could consider including inertia in the model. Finally, consumer income and service usage patterns may also have an impact on customer churn (Ahn et. al., 2006). Future studies could consider investigating these variables in the same context.

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## *Appendix A*

**Table A**
**GSM Usage and MNP Awareness**

| | | *Frequency* | *Percent* | | | *Frequency* | *Percent* |
|---|---|---|---|---|---|---|---|
| Primary network for calls | MTN | 294 | 81.0 | Duration of use | < 1 year | 18 | 5.0 |
| | Globacom | 16 | 4.4 | | 1 to 3 years | 51 | 14.1 |
| | Airtel | 34 | 9.4 | | 4 to 7 years | 110 | 30.5 |
| | Etisalat | 19 | 5.2 | | 7 to 10 years | 95 | 26.3 |
| | Total | 363 | 100.0 | | > 10 years | 87 | 24.1 |
| One or more SIMs | Yes | 286 | 80.3 | | Total | 361 | 100.0 |
| | No | 70 | 19.7 | Knowledge of MNP | Not very good | 163 | 46.0 |
| | Total | 356 | 100.0 | | Slightly good | 85 | 24.0 |
| Other network for calls | None | 65 | 18.1 | | Somewhat good | 42 | 11.9 |
| | MTN | 74 | 20.6 | | Very good | 53 | 15.0 |
| | Globacom | 54 | 15.0 | | Extremely good | 11 | 3.1 |
| | Airtel | 79 | 22.0 | | Total | 354 | 100.0 |
| | Total | 359 | 100.0 | Knowledge of MNP procedure | Not very good | 197 | 54.3 |
| | | | | | Slightly good | 92 | 25.3 |
| Willingness to port | No | 220 | 61.1 | | Somewhat good | 24 | 6.6 |
| | Yes | 140 | 38.9 | | Very good | 42 | 11.6 |
| | Total | 360 | 100.0 | | Extremely good | 8 | 2.2 |
| | | | | | Total | 363 | 100.0 |