An Empirical Analysis of Factors Inhibiting the Expansion of Mobile Number Portability in Nigeria

Odii Juliet N
Dept of Computer Sc.
FUTO
jnodii@yahoo.com

Osuagwu O.E
Dept of Computer Sc
Alvan Ikoku College of Edu
drosuagwu@yahoo.com

Ejiofor V.E.
Dept of Computer Sc.
NAU AWKA
virjuche2004@yahoo.com

Abstract

Mobile Number Portability (MNP) is not necessarily a new development in the mobile Telecommunications industry as it has been in existence since its initial implementation in Singapore in 1990. MNP enables subscribers to change their service providers without changing their telephone numbers. This novel technology was launched in Nigeria in 2013 by the Nigerian Communications Commission (NCC) and was expected to deepen competition among telecom service providers by improving the quality of service but has unfortunately failed to produce the desired impact. Two years after the implementation of MNP in Nigeria nothing has changed and as such subscribers are still reluctant to port their numbers due to envisaged restrictions. The objective of this research therefore is to identify these MNP restrictions, analyze them and ascertain if they are actually responsible for the non adoption of MNP in Nigeria. The methodologies that we deployed in this research include hypothetic deductive methodology to extract the field data using questionnaire method and the statistical analysis methodology using multiple regressions and ANOVA of collected field data to extract the P-value . From the analysis, the f-cal $\alpha 0.05 = 4.63609013$ is greater than F-critical = 2.102384 and the P-value of 0.000108001 being less than $\alpha = 0.05$ indicates that the null hypothesis which says that "MNP has no relationship with the factors…" is rejected and we then accept the alternative which states that "MNP non adoption in Nigeria has relationship with factors…". This has empirically shown that the identified factors are actually responsible for non workability of MNP in Nigeria. This research has shown that if government still allows the existing restrictions, subscribers may not be motivated to port.

Keywords: *MNP, Subscriber, Service Provider, Donor Network, Recipient Network*

INTRODUCTION

There has been rapid growth in the penetration of mobile telephony services in the last few years. Growth, however has neither been exponential in the quality of service offered nor has it provided an open platform for fair competition for smaller telecommunication operators. Subscribers are not satisfied with the operators' services and their frequent derailment from meeting their service level agreements has become more challenging. Before the advent of MNP, subscribers are required to give up their mobile numbers on changing service providers. This has not only led to untold inconveniences to subscribers but also the service providers have capitalized on this lapse to either exploit the subscribers or impose unreasonable charges to subscribers. In addition, when mobile numbers have been used in multiple important correspondences, it becomes nearly impossible to give up the number for fear of missing important calls from old contacts. The picture has now changed dramatically with the introduction of mobile number portability (MNP) technology. Mobile Number Portability gives the subscribers the privilege to easily change from networks that are not serving them well and also return when the network improves, ensuring greater flexibility and mobility across networks. The essence of this number portability is to further stiffen competition among network providers and at the same time ensure better quality of service. In MNP terminology, the operator who loses a customer is known as the Donor Operator while the one receiving a ported number is referred to as the Recipient Operator. As an illustration, before the introduction of MNP in Nigeria, all numbers prefixed with 0805 were routed to Globacom, 0803 to MTN and 0802 to Airtel, 0809 to Etisalat. With the implementation of MNP, 0803 numbers for example, can now be ported to any network. The Nigerian Communication Commission (NCC) launched MNP in Nigeria in 22 April 2013 making Nigeria the 64th country of the world to embrace the scheme. This much awaited scheme at last came to be four years after the initial target, (Adekunle, 2013).

However, contrary to expectations, GSM service providers have latched on to the MNP scheme just to broaden the scope of their promos and advertisements rather than improve services as earlier envisaged, (Adekunle, 2013). From observations thus far, little has changed in terms of network coverage and the volume of dropped calls and intermittent service seizures, and other quality of service concerns. Thus the

expectations raised by the MNP scheme are not being fulfilled and Nigerians again are looking to the NCC to rein on the GSM operators who have merely capitalized on the scheme to indulge in a wild medley of promos without improving their services. Indeed, MNP seems not to be recording expected success in Nigeria with only a handful of subscribers that switched networks within two months of its launch (Adekunle, 2013). Subscribers' lamentations on the traffic lull in the process of porting seem to be hindering the scheme. Hence, it is pertinent to state that up till date the launch of MNP in Nigeria, seemed not to have recorded expected success. The scheme is meant to compel the mobile network operators to be more accountable to subscribers and treat them as kings. It is expected to enhance billing integrity, since operators would not want to lose customers who may be willing to shift to another network if they feel short-changed by the network's billing system. In spite of these envisaged benefits of MNP, most subscribers have not embraced the scheme. This work therefore tries to explore some of the factors why MNP is yet to succeed in Nigeria, analyze the factors and at the time prove or disprove their responsibility for the non adoption of MNP in Nigeria.

RELATED LITERATURES

The history of MNP started in 1990s with Singapore implementing a limited version of this functionality in 1997, Hongkong implemented in 1999, Spain in 2000, and Australia in 2001 and so on and so forth that as at September 2008, a total of 48 countries around the world had launched MNP, (Maicas, Polo & Sese 2009). The number of countries implementing MNP continued to increase rapidly that by 2011 also there were 63 countries that had implemented MNP, (Muchiri, 2011). This wind of the MNP, which was only blowing in Europe and America over a decade ago has even cut across the African continent and Nigeria in order not to be left behind the wheel joined in April 22, 2013 to become the 64th country of the world to embrace the MNP scheme,(Adekunle, 2013). Mobile Number Portability (MNP) can be defined as the ability of subscribers to retain their phone numbers when changing from one mobile service provider to another (Shin & Kim, 2007). It allows customers who wish to switch mobile operator to keep their mobile numbers, avoiding the costs of switching to new numbers (Khan, 2012). MNP entails a lot of processes such as porting processes, code of conduct between Donor Operator and Recipient Operator, technology used for porting, competition, and customer standards to determine the success or failure of MNP depending on how they are implemented by mobile operators. Mobile number portability is simply keeping mobile phone number when moving from the existing service provider to a new service provider (Bluehler et al, 2003). There are basically three (3) types of number portability currently being implemented around the world as identified by Atiya, 2010 and they include: (a) Location portability (LP), (b) Service Portability (SP) (c) Service provider portability (SPP).

Location portability: This is the ability of a subscriber to retain his/her number when changing from one physical location to another within the same calling area.
Service Portability: This is the ability of the subscriber to retain his number as he changes from service provider to another, example from mobile to fixed services or from PSTN to ISDN services.
Service Provider Portability (SPP): The most commonly deployed number portability type, service provider portability enables end users to retain their telephones numbers when changing service providers. This allows a subscriber to retain his /her number when changing from one provider to another. Service provider portability can be Introduce in three ways: geographic, mobile and non-geographic.

Mobile Number Portability in Nigeria

The Nigeria Communications Commission (NCC) on April, 22nd 2013 launched the takeoff of the Mobile Number Portability (MNP) scheme (Adekunle, 2013). This is the most collaborative programme embarked upon by both the NCC and GSM service providers. The scheme is meant to deepen competition among telecoms companies and challenge them to offer improved and affordable services. The GSM companies bristled with excitement and Nigerians were full of expectations. The policy took off three years after the initial target set in 2009.

MNP considered a revolutionary step in the development of telecommunications services in Nigeria, the policy in a nutshell, enables phone subscribers in a multi-network environment to change from one network to the other without changing their telephone numbers, following the granting of a porting request. It was meant to make GSM companies sit up and raise their standards, failure of which they risk losing their customers. So far, however, the porting game is yet to spiral into a full-scale competitive storm. The excitement and expectation which trailed the launch of the scheme has all but died out. On their part, GSM

service providers have merely used the MNP scheme to broaden the scope of their promos and advertisements, changed in terms network coverage and the volume of dropped calls and intermittent service seizures, and other quality of service concerns.

But the importance of MNP cannot be over emphasized in the development of effective competition in telecommunication sector. Xavier (2008) stressed that the importance of MNP is very paramount, if any country's telecommunication must grow. On Evaluation of Subscriber Attitude to Mobile Number Portability Implementation in Nigeria, Tiamiyu and Mejabi (2012) assessed the attitude of mobile telephone subscribers to the implementation of mobile number portability (MNP) in Nigeria. Findings revealed that while most subscribers supported the implementation of MNP in Nigeria, a significant proportion believed that tariffs would not drop as long as the power problem continued. Furthermore, it was found that of the demographic variables, age had the strongest influence on subscriber attitudes and this was identified as a strategic focus for network operators and the regulatory authority. Based on the above findings and conclusions, they recommended that future work should determine empirically the knowledge of MNP of the subscribers in Nigeria and capture the respondents' intention to port**.**

In another research, Nnochiri and Okafor (2014) developed a conceptual framework on user perspective on factors of quality of service(QoS) for Mobile SIM networks using 3D fuzzy logic approach as a means of enhancing the MNP scheme in Nigeria. They presented a chronological procedure for the implementation for both the network integration and the customer perspective on quality of service. The work was designed as an initial exploration to demonstrate the feasibility of a flexible trusted platform. However, the study did not explore or empirically determine extent of improvement. Another limitation is that the study did not capture the Key Performance Indices (KPIs) of the network regulators for switching as a result of mobile Number Portability availability. And as such they suggested that these shortcomings could be examined in further studies.

THE RESEARCH PROBLEM

Despite the fact that MNP has been introduced in the Nigerian telecommunication industry, it has neither produced the desired effect nor provided the needed impact on the sector. Subscribers are still unwilling or reluctant to embrace the MNP scheme. And as a result, subscribers are still facing switching costs associated with informing people about new number change, printing new business cards, missing valuable calls from people that do not have the new numbers, etc. Some subscribers for fear of losing contacts are forced to stay with a particular service provider irrespective of the cost, or poor service.

OBJECTIVES OF THE RESEARCH

The objective of this research is to find out why Nigerians have not fully embraced the deployed Mobile Number portability, identify the factors responsible for the non expansion of MNP in Nigeria analyze the factors and come up with recommendations on the way forward towards the success of MNP in Nigeria.

SIGNIFICANCE OF THE RESEARCH

The importance and the inevitability of this research are very obvious. Though there is a growing disillusionment by Nigerians on MNP because of the prevailing poor quality of service, network failure, increment in call tariffs etc and the inability of MNP to help resolve these issues which is affecting business transactions that are dependent on communication. And as such many subscribers and operators have kicked against MNP in different ways. For instance some subscribers believe that instead of waiting for 48hrs to port their numbers, they would rather purchase a new SIM and start using almost immediately. They have forgotten that a new SIM implies a new identity and cost of informing friends and business associates about a new number change will at the end of the day be more than the cost of porting a number. Operators on the other hand have claimed that Mobile Number Portability is unnecessary and that it is an unwarranted expense, using assertions that the sector is already highly competitive and have suggested alternatives such as personal numbering and Universal Personal Telephony (UPT). But, these are not substitutes to MNP, but are rather expensive, value-added services. The sector may be competitive as they claim but with Mobile Number Portability in place, the remaining barriers to competition between operators would be removed thus paving way for a more dynamic and fully competitive market. Mobile Number

Portability has a lot of advantages to offer. If not, why would both the developed and developing economies of the world embrace it? Embracing the MNP will position Nigeria to catch up with other developing economies like Ghana already investing in the scheme. And since other countries of the world are trying to keep pace with ever growing technological innovations, Nigeria should not be left behind.

RESEARCH QUESTIONS

In a research of this nature the importance of hypothesis cannot be over emphasized. And in this research the following research questions were formulated.

i) Why have Nigerians not fully embraced the deployed Mobile Number portability?
ii) What are the factors responsible for why MNP is yet to succeed in Nigeria?
iii) What can be done to enhance MNP adoption in Nigeria?
iv) Finally, the ultimate question: Is it possible to design a predictive model that will predict the growth trend of MNP in Nigeria

To answer the above questions, data needed to be gathered, and to gather these data questionnaires are distributed to a total of 500 subscribers in Imo State Nigeria. And out of the 500 questionnaires only 356 were returned. From the data, the following factors were isolate as the factors hindering the non expansion of MNP in Nigeria.

They are:

(i) No formal education to the public on the benefits of MNP
(ii) Clumsy porting administrative procedure,
(iii) poor quality of service,
(iv) Switching costs,
(v) Difficulty in porting,
(vi) Loss of contact due to migration
(vii) 48hr duration for porting to be achieved,
(viii) 90-days lock-in period,
(ix) The need to be physically present in any of the network outlets in order to initiate a port.

RESEARCH METHOD

The methodologies that we deployed in this research include hypothetic deductive methodology to extract the field data using questionnaire method and the statistical analysis methodology using multiple regressions.

RESEARCH HYPOTHESIS

To test the data the following the hypothesis was postulated.

H_{01}: MNP failure in Nigeria has no relationship with the inhibiting factors: lack of formal education to the public on the benefits of MNP, clumsy porting administrative procedure, poor quality of service, switching costs, difficulty in porting, 48hr duration for porting to be achieved, 90-days lock-in period, and the need to be physically present in any of the network outlets in order to initiate a port.

$H_{A1:}$ The above factors in the null hypothesis have relationships with the failure of MNP in Nigeria.

DATA COLLECTION AND ANALYSIS

Questionnaires were distributed to five hundred (500) respondents in all the 27 Local Government Areas in Imo State, out of which a total of 356 respondents returned their questionnaires. The questionnaire was meant to carry out a survey that identifies the demographic profile of subscribers in Nigeria, find out the factors responsible for why Mobile Number Portability is yet to succeed in Nigeria, All these factors were identified as shown above are the factors responsible for why Mobile number Portability is yet to Succeed in Nigeria and they were subsequently subjected to a five point Likert scale 0-4 comprising 0=> not important; 1=> less important; 2 => marginally important; 3 => important; 4 => very important. The data collated were analyzed using multiple regressions (ANOVA) and the result is as shown in table 1

RESULTS AND DISCUSSIONS

From table 1 the f-cal α0.05 = 4.63609013 is greater than F-critical = 2.102384 and the P-value of 0.000108001 being less than α= 0.05 indicates that the first null hypothesis which says that "MNP has no relationship with the factors…" is rejected and we then accept the alternative which states that "MNP non adoption in Nigeria has relationship with factors…". This has empirically shown that the above factors are actually responsible for non workability of MNP in Nigeria. And based on this the NCC, in collaboration with the government should look into these factors in order to achieve functional porting of numbers in Nigeria.

Table1: Regression Analysis

Regression Ho1 Cluster 2

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Averag*	*ariance*
Column 1	346	802	2.32	1.21
Column 2	343	730	2.13	1.12
Column 3	344	672	1.95	1.29
Column 4	333	712	2.14	1.32
Column 5	341	708	2.08	1.39
Column 6	342	659	1.93	1.38
Column 7	341	694	2.04	1.27

ANOVA

Source of Variatio	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	35.70805568	6	5.95	4.64	0.000108001	2.102384188
Within Groups	3059.053869	2383	1.28			
Total	3094.761925	2389				

Anova: Single Factor Ho 2: MNP I
Poor quality of service even with th
numbers, 48-hour duration before a
Poor quality of service even with th
the need to be physically present in any of the networks outlet in order to initiate a port.

RECOMMENDATION

Government should encourage the viability of MNP by removing most of the restrictions identified as inhibiting user patronage of MNP.

2. Government should provide meaningful procedure for user migration.
3. Encourage telecommunication industry to reduce tariff for users willing to migrate by placing a uniform tariff to all network operators.
4. National orientation agency should be mandated to educate the public on the benefits of migration to MNP.

CONCLUSION

Mobile Number portability is undoubtedly the concept that can bring about the desired growth in the Nigeria`s telecommunication market, not only because it can provide improvements in the quality of services but also , as uncovered in this dissertation, it will proliferate creativity among service operators to embrace value added services to remain competitive. As Nigeria is playing catch-up in the evolution of the MNP scheme already successful in many countries, the government has a strategic role to play. Government's role should focus on providing strategic directives using functional by-laws that will provide enlightenment and trust by the members of the public. The research conducted in this dissertation has indicated that subscribers are more privy to embrace the MNP scheme if the government ameliorates the bottlenecks in the mobile number portability process.

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