

The Analysis of the Impact of Mobile Number Portability in Nigeria

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Abstract

Mobile Number Portability (MNP) launched in Nigeria in 2013 was meant to improve quality of service and other service concerns by deepening competition among telecom service providers but has unfortunately failed to do so. Three years after its implementation there is still a growing disillusionment on MNP by Nigerians. The objective of this research therefore is to empirically analyze the impact of MNP in Nigeria telecommunication since its inception. The methodologies that were deployed include hypothetic deductive methodology using questionnaire to collect the field data and the statistical analysis methodology using multiple regressions and ANOVA to extract the P-value. The result obtained shows a P-value of $3.3E-160$ which is greater than zero and $F\text{-cal } \alpha 0.05 = 147.376$ is greater than $F_{\text{critical } \alpha 0.05} = 2.102$, indicating that the null hypothesis should be accepted while the alternative hypothesis should be rejected. This research has therefore empirically shown that MNP has actually failed to produce the desired impact contrary to the expectation of the Nigerian Communication Commission.

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

1.1 INTRODUCTION

There has been rapid growth in the penetration of mobile telephony services in the last few years. But the growth 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.

2.1 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 22nd, 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).

2.1.1 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.

2.1.2 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.

2.1.3 Service Provider Portability (SPP): This is 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 introduced in three ways: geographic, mobile and non-geographic.

2.2 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.

3.1 THE RESEARCH PROBLEM

Though the MNP has been introduced in the Nigerian telecommunication industry, but the question that remains is what impact has it produced since its inception?

4.1 OBJECTIVES OF THE RESEARCH

The objective of this research is to access the impact of MNP on the following:

1. Quality of service,
2. Increased telephone density,
3. Fierce competition,
4. Employment opportunity,
5. Reduced call tariffs,
6. Socio-economic revolution

5.1 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.

6.1 RESEARCH QUESTIONS AND HYPOTHESIS

In this research the following research questions were formulated

- a) To what extent has the introduction of MNP improved the quality of service
- b) Has MNP expanded the employment opportunities for the Nigeria youths?
- c) Has MNP increased Telephone density and internet diffusion in Nigeria?
- d) Has MNP led to socio –economic revolution eg low sales for new phones, dual / multiple SIM phones?
- e) Has MNP any effect on call Charges by the Network providers?
- f) Has it instigated any fierce Competition among the service providers?

To answer the above questions, data needed to be gathered, and to gather these data questionnaires were distributed to a total of 500 subscribers in Imo State Nigeria. And out of the 500 questionnaires only 356 were returned. The collected data were subjected to a five point Likert scale 0-4 comprising 0 => Negative impact; 1 => No impact; 2=> marginal positive impact, 3 => fair impact, 4 => positive Impact

After data collection the following the hypothesis was postulated and tested:

H₀₁: MNP introduction in Nigeria has no impact on: quality of service, increased telephone density/internet diffusion, fierce competition, employment opportunity for the youths, reduced call tariffs, socio-economic revolution.

H_{A2}: MNP has impact on all the issues in the null hypothesis.

7.1 RESULT OF ANALYSIS

Anova: Single Factor		#NAME?					
MNP IMPACT							
SUMMARY							
Groups	Count	Sum	Average	Variance			
Column 1	355	51	0.143662	0.1233707			
Column 2	355	849	2.3915493	1.6908888			
Column 3	355	674	1.8985915	1.7975969			
Column 4	355	709	1.9971831	1.7542293			
Column 5	355	723	2.0366197	1.9675818			
Column 6	355	741	2.0873239	2.0234264			
Column 7	355	967	2.7239437	2.07612			
ANOVA							
Source of Variat	SS	df	MS	F	P-value	F crit	
Between Gr	1444.2696	6	240.7116	147.37599	3.34E-160	2.1022389	
Within Group	4047.3577	2478	1.6333163				

8.1 DISCUSSION OF RESULTS

The result as shown in table above shows a P- value 3.3E-160 greater than $\alpha = 0.05$ and Fcal 0.05 =147.376 is greater than F-critical $\alpha = 0.05 = 2.102$, indicating that the null hypothesis which states that “MNP introduction in Nigeria has no impact on: quality of service, increased telephone density/internet diffusion, fierce competition, employment opportunity for the youths, reduced call tariffs, socio-economic revolution” should be accepted and the alternative hypothesis rejected.

9.1 CONCLUSION

From this research it is pertinent to state that up till date the launch of MNP in Nigeria has not recorded the 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, the impact of MNP is still not felt by Nigerians.

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REFERENCES

- Adekunle A. (2013): Nigeria: "Mobile Number Portability Now live". Retrieved from <http://www.allafrica.com/view/group/main/main/id/00024116.html> 20th Oct 2013.
- Atiya, F.K. (2010): "Mobile Number Portability: Challenges and Solutions" Journal of Emerging Trends in Computing and Information Sciences ©2010-11 CIS Journal. Volume 2 Special Issue ISSN 2079-8407 <http://www.cisjournal.org>.
- Buehler, S. and Haucap J. (2003): Mobile Number Portability, Journal of Industry, Competition and Trade, No. 17, pp 223-238.
- Khan, F. (2012): "Mobile Number Portability; Challenges and Solutions" Journal of Emerging Trends in Computing and Information Sciences ©2010-11 CIS, vol. 3, No.4, ISSN 2079-8407.

Maicas, P, Polo, Y and Sese J, (2009): “Mobile Number Portability in Europe”: International Review of Economics & Finance-INT REV ECON FINANC, Vol. 18, No. 4, pp. 611-623. Retrieved on Dec 2012

Muchiri. T.K. (2011): “The Consequences of Mobile Number Portability in Kenya and its Usage Factors”. School of Business, University of Nairobi. Retrieved from kangani@students.uonbi.ac.ke on March 16th 2012.

Nnochiri I. U and Okafor K. C(2014): A Conceptual Framework on User Perspective on Factors of Quality of Service (QoS) for Mobile SIM Networks. International Journal of Wireless Communications, Networking and Mobile Computing. Vol. 1, No. 4, 2014, pp. 29-42. Available online on (<http://www.aascit.org/journal/wcnmc> 20th June 2015

Shin, D.H, and Kim W. Y. (2007): “Mobile Number Portability on Consumer Switching Behavior”: in Case of the Korean Mobile Market.” Emerald Group Publishing Ltd Vol. 9 No. 4 pp 38-54 Available: http://www.Emerald_insight.com/journals.htm?articleid =1611307 &sho [Retrieved March 2, 2012].

Tiamiyu, O.A and Mejabi, O.V. (2012): “Evaluation of Subscriber Attitude to Mobile Number Portability Implementation in Nigeria” VOL.3, NO. 4, Journal of Emerging Trends in Computing and Information Sciences ©2009-2012 CIS Journal. Retrieved Sept 13th 2013.

Xavier, P. (2008): Fostering Competition in Thailand’s Telecommunications Sector. Emerald

Group Publishing Limited, VOL. 10 NO.1, ISSN 1463-6697, 79-96.