

# CHALLENGES AND SOLUTIONS OF PORTING SIM FROM ONE NETWORK TO ANOTHER IN NIGERIA

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**Abstract—** Porting has become an important evaluation method in the area of communication industry and it is a welcome development. Porting of Sim from one network to another, with the help of mobile number portability MNP one can easily enjoy better quality and cheaper rates on another network without changing your mobile number and still retain your old number but will enjoy the network service and load network you are changing to. Porting of SIM, MNP gives you the ability to switch a network provider but, only once in 90 days. With an explosive growth of the mobile applications and emerging of cloud computing concept, Mobile Cloud Computing (MCC) has been introduced to be a potential technology for mobile services that integrates the cloud computing into the mobile environment and overcomes obstacles related to the performance of Sim porting

**Index Terms—** porting, MNP, Sim and Network

## I. INTRODUCTION

Mobile devices (e.g.; smartphone, tablet pcs, etc) are increasingly becoming an essential part of human life as the most effective and convenient communication tools not bounded by time and place. Mobile users accumulate rich experience of various services from mobile applications (e.g. iphone apps, Google apps, etc), which run on the devices and/or on remote servers via wireless networks. The rapid progress of mobile computing (MC) becomes a powerful trend in the development of IT technology as well as commerce and industry fields. However, the mobile devices are facing many challenges in their resources. The limited resources significantly impede the improvement of service qualities. Cloud computing (CC) has been widely recognized as the next generation's computing infrastructure [1]. The implementation of MNP is intended to decrease the consumer's switching costs that MNP would minimize inconvenience and porting costs for consumers, allowing them to choose the provider that best meets their needs without being encumbered with unfair switching costs

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[2]. The National Economic Research Associates (NERA) described a list of four main switch costs in the mobile telecommunications industry; compatibility, transaction, contractual and search costs. Compatibility in MNP might refer to network compatibility and device compatibility. Network compatibility implies compatibility between the different provider's networks to enable the transmission of messages without delay. Device compatibility means the ability of the consumer to use handsets with multiple provider networks. Loss of long-term contract discounts implies the cost of abandoning customer credits, and other benefits of a long-standing relationship with the original carrier in terms of transaction cost, a consumer wants to change his/her service provider may need to pay a fee for the new number and an early termination fee to his/her original carrier. Transaction cost are also created by the consumers' need to investigate the service quality and network coverage of the new carrier.

Identity switching cost arise because a mobile phone number represents a person's identity, and called parties can recognize calls and texts by caller's phone number identity. There are also instant messaging (IM) applications that use the current phone number, so mobile numbers are of great value to customers as identifiers [3]. More recently, some mobile applications in Smart phones directly use the cell phone number as an identifier, to connect with their social network service. Given these multiple uses of cell phone numbers, changing an existing number is indeed accompanied by significant effort and cost to consumers. Unless the benefits of moving to another mobile operator are significantly more costs of abandoning the current number, consumers would not cancel their current subscription at any time.

Not all these switching costs might be expected to be mitigated by MNP. For example, consumers may still be expected to spend considerable time and effort investigating the fee structure, bundling plans, call quality and coverage areas of the new carrier [3]. However by making it easier for consumers to port their numbers, MNP reduces many of the other switching cost including the identity switching cost. The widespread implementation of MNP implies that barriers due to the mutual incompatibility of mobile applications would need to be removed. Similarly, device compatibility should also need to be addressed by limiting the ability of providers to have a handset.

## II. CHAPTER TWO LITERATURE REVIEW

The GSM technology has changed lives in Nigeria since its introduction in 2001. It has created thousand of jobs, made life and communication easier. It has enhanced business

operations which Nigerians have also embraced it with open arms.

According to the Nigerian Communication Commission (NCC) figures, at the end of January 2013, Nigeria had 154 million connected lines out of which 114 million were active. These made Nigeria’s tele-density to rise from the 80.85percent it stood at by the end of January 2013. Tele-density is the percentage of connected lines in relation to the population in a given period of time and its growth in telephone subscriber base. Between December 2012 and January 2013, 1.3 million phone lines were added. Between January 2012 and January 2013 18.3 million lines were added to the subscriber base on phone users in Nigeria, which was a 19.1 percent rise.

So, Nigerians have embraced mobile phone use heartily in these 13 years, in spite of some disappointments they face in terms of service quality and call charges. These two points of service quality and call rates seem to be the two most important areas of concern to most Nigerian subscribers. Since the inception of NCC has stopped the barrage of promos and lotteries that some GSM offering ridiculous prizes. After 13 years, the GSM companies should have gone beyond their teething problems. They should be cruising at an attitude of excellent call service by now. Nigerian subscribers want to port, but not from one network to another, rather they want port from run-of-the mill telephone service quality to excellent service. They deserve it for their long years of loyalty and patience.

Since its initial implementation in Singapore in 1997, mobile number portability (MNP) has been found to bring considerable benefits to consumers, such as lower prices, greater choice, higher quality, broader social networks and a larger range of services [1]. Many have argued that MNP is an effective policy instrument for creating a more competitive market, specifically by giving new entrance an important competitive opportunity [4].

In order to check feasibility of mobile number portability (MNP), China has set up a trial run in Tianjin and Hainan province since 2010. The governments MNP rules were set up asymmetrically, to help weaker carries compete more effectively with the market leader. But after two years of the trial run, surprisingly, the number of applicants is very small (2010 thousand out of 20 million subscribers, roughly 1%), and the successful switching ratio is how (70 thousand out of 210 thousand, roughly expectation, and dramatically different from the situation in other countries where MNP has been implemented [5].

With these despite the government’s efforts to promote MNP, switching is impossible for most subscribers because of the rigorous barriers imposed by the carriers. The barriers are very specific in the Chinese context, for example, the lack of credit monitoring system, local culture, and the carrier’s local marketing strategies [6]. China, the world’s largest mobile phone market, saw 1.14percent monthly increase in mobile subscribers to 1.05billion in June 2012. However, Chinese mobile market is dominated by China mobile for many years, while China Telecom and China union were very weak competitors before the 2008 restructuring and the 2009 3G rollout. Even now, China mobile has about 700 million subscribers, twice of the sum of the other two. One of the objectives of the Chinese government in implementing MNP was to study experimentally how this competitive imbalance could be redressed.

Accordingly, somewhat different plans were implemented in two locations where MNP trials were begun in December 2010. In Tianjin city, users were free to take their numbers province, an asymmetric “one-way” number portability plan was adopted! China mobile 2G users were allowed to port their numbers to the other two operators, but not on the opposite direction. This reflected a preferential policy to help China Unicom and China Telecom to catch up with the market leader [7].

**Table 2.0 summarizes the number of applicants and successful rates [6]**

**Table 2.0: Overall MNP Statistics in Last two years**

	2011.5	2012.1	2012.6	2012.12
Applicant Number	110,000	158,631	180,000	210,000 <sup>2</sup>
Successful Number	48,327	58,260	64,654	70,000
Successful Rate	43.6%	36.7%	35.9%	33.3%

However, MNP has met with a cold reception according to public published data, the number of applicants is very small, 210 thousand out of 20 millions subscribers roughly 1%, and the successful switching ratio is low, 70 thousand out of 210 thousand, roughly 33.3% [8]. This is because, contract duration has not finished, so MNP applicants must have been staying as customers for an adequate period before being allowed to switch. MNP firms, are better able to follow a strategy of “bargain then rip off” they initially offer attractive terms in terms of device discounts and usage pricing to attract the new consumers, and then charge a higher price taking advantage of the lock-in effect.

**III. CHAPTER THREE MOBILE NUMBER PORTABILITY**

MNP is the acronym for mobile number portability which had been the trends in mobile telephoning across the world was recently made possible for Nigeria’s GSM phone subscribers by the Nigeria communication commission. Every Nigerian knows that the telecoms regulator in Nigeria, the NCC have long been promising MNP to Nigerians for a long time now. The more Nigerians expected this process to begin within the telecoms operators in Nigeria, the more it appears that it can never be possible. Anyway, it seems to be over now with the green light NCC gave that, it implementation have began on 26<sup>th</sup> March, 2013. Although the four major telecoms operators to begin with the MNP have not release any guidelines on their website, Nigerian are truly looking up to a time they will have the power to live or fire any operator at will, for this is the major essence of the MNP implementation.

Now, every individual telecoms service subscriber to Glo, MTN, Airtel and Etisalat in Nigeria knows too well that, these four operators have one things in common – poor service delivery. With the continuous deteriorating services these telecoms are offering Nigerians and coupled with the fact that, you are sometimes locked-out by these operators from legally using the service you have subscribed, it therefore make no sense for one to migrate under this MNP regime. The issue of drop calls, over charging on calls, SMS failures and charged data subscription yet unusuable, exorbitant data tariff, unable

to call with airtime availability, USSD transaction failures, party called unreachable, yet charges for services not rendered ranges among the challenges we currently face from these operators.

Ordinarily, one would think that with the huge profits these telecos are presenting at the end of every year from their investment, it will present a situation of normal business environment satisfaction from the contributors (subscribers) of these huge gang with quality service delivery but the reverse is the case. The trend has always been that the subscriber is at the receiving end while the operators keep smiling to the banks at their detriment. MNP somehow will address this but not ultimately.

Although, NCC is enthusiastic about SIM card subscribers had since recanted them being a solution for the improvement of service quality, since they were yet to feel the impact of improved service quality, through the just-concluded SIM registration exercise and the recently launched number porting scheme.

Nigeria, under the MNP (Mobile Network Portability) if you port from network A to network B, you still retain your network A's mobile number, but you will now enjoy network B's service and you load network B's recharge cards et cetera. Its very straight forward and flexible. Migrating or switching from your current network operator to another (e.g. from MTN to GLO, GLO to MTN, Etisalat to Airtel etc) is referred to as mobile number portability (MNP). This service, MNP allows all Nigerians to migrate from their current network service to any other network of their choice within Nigeria, they can also migrate to their old network operation if they so desire. Migration from one network operator to another can only be done after 90days of your last porting. When you request to change your service provider, the recipient provider will issue you a new SIM card but you will still retain your phone number. This simply means a subscriber can keep his/her phone number when changing from one service provider to another despite the change in the SIM card of the subscriber.

Nigeria communication commission (NCC) says that between April 22 2013 to February 2014 about 197,000 subscribers have so far ported from one network to another, since the introduction of the mobile number portability into the country on April 22 2013.

Table 3.0: Total Number of subscriber ported in March & April 2014

	MTN	GLO	ETISALAT	AIRTEL
No of subscribers ported in march 2014	1,780	3,212	3,016	5749
No of subscribers ported in April 2014	552	7,955	3280	2819
Total No of subscribers ported in march & April 2014	2,332	11,167	6296	8565

Source: Nigeria communication commission (NCC) Report 2014

From the table porting out activities of mobile Network Operators, Glo recorded 11,167 subscribers who ported into the Network from other Operators in the two months of March & April. Airtel came second with a total gain of 8,565 for the two months. Etisalat was next with 6296 new customers from other networks. Largest operator, MTN came fourth with 2332 subscribers who ported into the network from other service providers. No fewer than 14,183 telcom users engaged in porting – out activities across the networks in April, as against 13,383 recorded in March.

The poring activities shows that telecom users were most comfortable with the services of Globacom hence, these makes the movement of most subscribers from other networks to its network.

### 3.1 How to Switch from one mobile phone network to another and Retain your old phone number in Nigeria

Nigeria Communication Commission (NCC) have done what we can be proud of, you can now switch from one telecom network to another and still retain your phone number. Assuming you have an MTN number 080333449779, if you want to port out and start using GLO network you simply move on to GLO network and port in and you continue to use your number 08033449779.

When you request to change your service provider, the recipient provider will issue you a new SIM card but you will still retain your phone number. This simply means a subscriber can keep his/her phone number when changing from one service provider to another despite the change in the SIM card of the subscriber.

#### 3.1.1 Processes Involved in MNP with the terms below:

**Port in:** joining a new service provider

**Port out:** leaving a service provider

**Subscriber:** The customer that owns the number to be ported

**Recipient:** The service provider that a subscriber is changing to

**Donor:** The service provider, a subscriber is changing from. If you want to change your service provider, you will have to visit a recipient operator via one of its points of sale or authorized dealer. For example, if you want to change from MTN to GLO, you have to visit a Gloworld outlet of Glozone shop to request for MNP. When you get to the office of the recipient, you will be issued MNP request form to fill. You must have a valid proof of identity with visible photograph, your SIM must be active, you must be able to provide the serial number of your SIM card and you must have registered the active SIM card.

A new SIM of the recipient provider will be issued to you and the SIM will be registered at the office. You will be informed to text "PORT" to 3232. If you fail to send the text, the request will not be honoured. The recipient provider will forward your request to NPC (Number Portability Clearing House) where validation will be carried out. If validated Ok, the SIM will be activated and you will be informed, your port will be completed within 48 hours. Once your new SIM is activated, any airtime left on your old SIM will be wiped off and calls you make thereafter will be billed, according to the default tariff plan of your new service provider, but your phone number will still remain the same.



Fig 3.0: shows the MNP circuit device

**3.2 ADVANTAGES OF MOBILE NUMBER PORTABILITY**

1. No necessity to carry more than one phone. Instead of acquiring another phone to house your extra SIM or getting double or triple-SIM phone, you port into another network and stick to a simpler one-phone one-Sim lifestyle. You charge only one battery, protect only one phone from stolen, carry around only charger, have a single ringtone.
2. Funding, if you have more than one line, you have to buy recharge cards for all your lines. But on only one line, you buy less recharge cards.
3. If you land in a place where, you have an MTN line and service is not available, but you can find Glo, you can port into Glo permanently, or for the duration of your stay in that area, then return to your MTN after you leave the area.
4. Businesses can change phone numbers without altering call cards, sign or billboards, repainting vehicles etc.
5. It challenges GSM companies to sharpen their survival instincts.
6. Introduced into the sector in order to deepen the telecommunication market in terms of service delivery, innovations and improvent in the quality of service.
7. it is an effective tool for removing existing obstacles faced by customers who wish to switch mobile service providers, thus intensifying the already fierce competition in the communication markets.
8. Enhance network coverage by providing in-building solution.
9. it challenges Operators to improve an efforable services-failure to which they risk loosing their customer.
10. customer can now encounter less of the shabby treatment and malpractices they have been suffered in the hands of GSM companies, because the scope of their choice of service provider has been expanded.

**3.3 DISADVANTAGES OF MOBILE NUMBER PORT**

1. New telecoms entering the market will find it easier to snatch subscribers from already existing telecom.
2. You will no longer be able to tell which network a phone number belongs to by simply studying the digits because the owner might have ported out to another network.

3. The number of active phone lines in the country will reduce because some people will abandon some of their sims.
4. Tied down for a period of 90 days, too long for subscriber.
5. Once you port out of a network, any unused credit and megabytes, you loose them.
6. Many subscribers will experience reduced number of calls to their lines.
7. The customer care lines of all service provider’s will be flooded with complaints of overcharging.
8. It came into effect when most Nigerians had embraced other alternatives.

**3.4 CHALLENGES AND SOLUTION IN QUALITY OF SERVICE**

The problem of service quality, apparently runs deeper than most people think. Thirteen years down the line and in spite of heavy investments, service quality is still not at per with that of the developed countries. One of the biggest inhibitors of service quality is the inability of operators to match supply with demand This is not because operators are not investing heavily in network roll out and expansion, but because of the numerous administrative and environmental bottlenecks that they face on a daily basis in their bid to expand the capacity of their networks. Multiple regulations, vandalism, theft, occasional shutdown of base stations by local, state and federal environmental protection stations by local, state and federal environmental protection agencies, multiple taxation, and insecurity among others are some of the reasons these investments are not impacting positively on network quality.

According to Goodluck, the issue of service quality is an industry problem but the reality is the SIM card registration and MNP go beyond service quality problems. Apart from the ability to leave one network for another. Customers also look out for other value-added services including value for money, customer relation, pockets friendly tariff, network reach and other key indication.

**3.5 SOLUTIONS IN QUALITY OF SERVICE**

Cloud computing is known to be a promising solution for mobile computing due to many reasons.

- (i) Mobility
- (ii) Communication and
- (iii) Portability

Mobile cloud computing refers to an infrastructure where both the data storage and data processing happens outside of the mobile device from mobile phones and into the cloud, bringing application and mobile computing to not just smartphone users but a much broader range of mobile subscribers. Mobile cloud computing as a new paradigm for mobile applications whereby the data processing and storage are moved from the mobile device to powerful and centralized computing platforms. These centralized applications are then accessed over the wireless connection based on a thin native client or web browser on the mobile devices.

**3.6 MOBILE NUMBER PORTABILITY**

MNP simply means that you can change from your current mobile service provider to enjoy better quality and cheaper rates on another network without changing your mobile number. As a solution for improved



Service, MNP will give subscribers the freedom to switch out from the service providers who offer poor services. Mobile Number portability will give subscribers lots of choice and freedom. MNP will bring a new dimension to the competition in the industry. All network operators will have to work harder to earn the trust of subscribers because they will now have choices.

### CONCLUSION

Number portability is a key facilitator of consumers choice and effective competition in a competitive telecommunications industry. Porting of SIM from one network to another is achieved through the means of mobile number portability. With MNP one can port from one network say MTN to another network GLO and still retain his/her old number. The dominant operator might take advantage of the MNP to enhance its position in the market. A close supervision of the implementation process of the MNP is necessary, since any change in network involves two operators, anti-competitive behaviour is not uncommon at the port-out part. The regulator needs to make the porting process as transparent and simple as possible to avoid any intentional and unnecessarily barriers set by the operators.

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