

# MOBILE NUMBER PORTABILITY IN GHANA: SIX YEARS OF CUSTOMER SATISFACTION

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## ABSTRACT

Mobile number porting started in Ghana on 7<sup>th</sup> July, 2011, almost 20 years after mobile telecommunications services commenced in Ghana. At its birthing in Ghana, it was envisaged that Mobile Number Portability (MNP) will eliminate the inability of end users to switch networks while retaining the same telephone number, thereby increasing subscriber choice. For a fact, an increase in subscriber choice means greater competition which should lead to improved customer service and maybe cost reduction to the customer. This study took a look at the statistics on mobile number porting in Ghana in comparison to global figures and the changes if need be that can be effected to improve on the statistics. The principal finding of this research was that MNP is a very welcome relief to mobile telephone subscribers who claimed that it was long overdue. Additionally, the study found that the duration for porting from one network to another had improved significantly compared to the nascent stages when it could take days.

**Keywords:** Mobile Number Portability, Ghana, Cellular Communications, Telco, Number Porting, NCA

## INTRODUCTION

Mobile Number Portability (MNP) is a system whereby a cellular phone subscriber can cross networks and sign on to another competitor network whilst still retaining his or her old cell phone number including the code. Prior to its introduction in Ghana, cellular phone subscribers who wanted to change networks either through unsatisfactory service from their current service provider or other factors had no option than to wholly change their phone numbers and do away with their previous numbers. This situation created a lot of inconveniences to customers any time they wanted a new lease of life much as cellular phone usage was concerned. Some of these inconveniences included missing out on important calls from people who did not have one's new phone number as a result of a change in service provider, switching costs such as the acquisition of the new phone number owing to a change in the service provider etc. In fact, there are quite a number of publications which discuss switching costs and the time and energy one uses to effect changes with regards to change of service providers and hence phone numbers which will require that you inform friends and family about change in contact numbers (Dick & Basu, 1994; Buehler, Dewenter, & Haucap, 2006). The consequences are even far greater in situations where large organizations have to change their telephone contacts all because they want to switch to another mobile phone service provider. This is because they could miss important business calls from business partners unaware of any change in telephone numbers (Beuhler and Haucap, 2003; Smura, 2004). Today, these problems mentioned have all been eliminated as a result of the implementation of MNP. In Ghana presently, there are six

telecommunications companies (Telcos) who are all by law required to implement MNP once a subscriber requests it. These six Telco networks are Tigo, MTN, Vodafone, Airtel, Expresso, and Globacom. The regulator of the telecommunications sector on behalf of the government in Ghana, is the National Communications Authority (NCA). According to the NCA, the sole intent of government is to sanitize the mobile communications landscape in Ghana by increasing competition and with it efficiency of service, hence the implementation of MNP.

Worldwide, Singapore was the first country to implement MNP in 1997 and this was followed by The UK, Hong Kong, and The Netherlands in 1999. However, it must be emphasized that in a country such as Ireland, MNP has been a virtual failure as a result of the lukewarm attitude shown to the service by subscribers. Ireland has only three mobile telecommunications operators, two of which are very competitive and a third operator which is very young on the market and comparatively weaker to the other two operators. As a result, subscribers have not really bought into the porting idea and thus the country has records of very poor porting rates (Iqbal, 2007).

All over the World, MNP is either donor-led or receiver-led. By donor-led, we mean the customer initiates the porting process by first contacting his or her current service provider to request authorization for service transfer. However, for receiver-led porting, it is the prospective service provider which initiates the process by contacting the current service provider on the behalf of the prospective customer. In Ghana, the latter was opted for all in a bid to free the customer from the stress involved in donor-led porting. Also, the NCA decreed that porting should be free of charge to consumers all in a bid to encourage massive participation (Aoki & Small 2000; King, & Woodbridge, 2001; Gans & Haucap, 2003; Cho *et al.*, 2012). In rolling out the MNP service in Ghana, the NCA spelt out the following guidelines to would-be patrons of the MNP service. These guidelines are:

- Firstly, the prospective applicant's personal data must match that in the operator's database.
- Secondly, the applicant must not have any form of contract whatsoever with the donor operator and moreover, the number to be ported must still be in active service at the time of porting.
- Thirdly, in case the donor operator is currently experiencing technical challenges, the application can be denied until those challenges are resolved.
- Fourthly, the same numbers cannot be ported more than once in 30 days even though there is no restriction over the number of times one can port the same number.
- Finally, if the applicant happens to have any prepaid balance left it will be impossible to transfer it onto the new network (Lee *et al.*, 2006; Khan, 2010).

However, the process of porting itself from the customer's viewpoint is quite simple. It involves the following three steps:

- A subscriber walks into the offices of his/her new service provider (Recipient).
- The old service provider (Donor) is contacted by the recipient and the porting process begins.
- In a matter of about 24 hours, the subscriber is informed of the success of the process and he/she starts using the new service.

In Ghana, within eight weeks (end of August) since the commencement of MNP, the market regulator, National Communications Authority (NCA) reported that 64,657 mobile phone subscribers had ported their numbers to another network. However, the NCA's data analysis for only the month of August 2011 showed that 43,598 porting requests were completed in August alone out of which the following observations were recorded.

- 6% were completed in 15 minutes or less
- 30% were completed between 15 minutes and 1 hour
- 29% were completed between 1 and 4 hours
- 34% were completed between 4 and 24 hours
- 1% were completed in more than 24 hours
- The average time was 4 hours, 16 minutes

The above times notwithstanding, it is fair to say that as at July 2012, exactly a year after MNP implementation, the Telcos had reduced porting time to a mere average of between 7 and 8 minutes. Thus, it can now be said that Ghana has achieved "on the spot" mobile number porting.

It is also worth noting that after the expiration of the 30-day mandatory period for a ported number to remain with the new network, 515 subscribers elected to return to their original service providers whilst 67 subscribers ported to a different service provider. This implies that the vast majority of customers who had ported were, for the time being, satisfied with their decision.

#### Aim and objectives of the study

The main aim of this study is to find out from subscribers of all the six mobile phone networks their impressions over the past six years since MNP was rolled out in Ghana and to test the responses obtained using scientific analysis.

The objectives set for the study were:

1. To review the impact MNP has made on the mobile communications landscape in Ghana six years after it was implemented;
2. To use scientific methods to access data obtained from MNP beneficiaries and make deductions from their responses; and
3. To identify the weaknesses, the implementation of MNP has brought onto the mobile communications landscape.

#### Methodology of Research

According to (Dix *et al.*, 1998), the best way to solicit information about a product as to whether it has met requirements or users' expectations is to ask the user. This research therefore uses the methodology of sampling the views of mobile phone users who

have ported their phone numbers at least once from one operator to the other.

The responses analyzed in this study were sourced from varied sources. These include the sampled views of customers of the various networks who were interviewed at customer service offices of these companies, as well as the inputs of some university students where virtually almost all the interviewees fall within the age bracket identified as youthful. Then also, the study tested whether the gender of respondents had any role to play in the type of response obtained with regards to the impressions of MNP.

In Accra, the university used in this research is the University of Professional Studies, Accra (UPSA). Three hundred (300) questionnaires were issued to students who reported that they had ported before since the advent of MNP in Ghana of which 218 of them were returned and the statistical details of some of their responses have been tabled as follows:

**Table 1:** Table of UPSA respondents who expressed their impressions after porting their phone numbers to a new network

Mobile operator	Satisfied with the new provider	Not satisfied with the new provider	Row totals
MTN	58	29	87
Vodafone	36	25	61
TriGo	20	16	36
Airtel	13	13	26
Glo-Mobile	1	5	6
Expresso	0	2	2
<b>Column totals</b>	<b>128</b>	<b>90</b>	<b>218</b>

A chi-square analysis was performed on the compiled data to identify whether there is a relation between the type of network provider and the kind of responses obtained.

The hypotheses for all our chi-square tests throughout this study will be as follows:

*H0:* Consumer impression (views) after changing from one network provider to another is *independent* of the current Network provider.

*H1:* Consumer impression (views) after changing from one network provider to another is *related* to the current network provider.

Next, a chi-square test was performed on the categorical variables *type of network* and *type of response*

The calculations give the test statistic as,

$$\chi^2 = 10.455$$

Table 1 has columns,  $c = 2$  and rows,  $r = 6$ .

Thus degrees of freedom,  $df = (2-1)(6-1) = 1(5) = 5$ .

From tables, at a significance level,  $\alpha = 0.05$  and  $df = 5$ , we get the critical value to be  $\chi^2 = 11.071$ .

The next set of data was obtained from a random selection of customers who were selected at various kiosks of the six cellular service providers within the city of Accra and the views sampled from the patrons of these kiosks were through one-on-one interview sessions as to whether they have ported their numbers to another network before or not since the advent of MNP in Ghana.

**Table 2:** Table of 230 respondents surveyed at selected kiosks of the cellular operators who have experienced MNP before

Mobile operator	Successful porting under one day	Successful porting beyond one day	Row totals
MTN	66	16	82
Vodafone	33	8	41
Tigo	35	5	40
Airtel	24	12	36
Glo-Mobile	18	11	29
Expresso	2	0	2
<b>Column totals</b>	<b>178</b>	<b>52</b>	<b>230</b>

A chi-square test was also performed on the responses from respondents randomly selected at cellular network service centers concerning the duration of their porting.

The calculations yielded a test statistic,  $\chi^2 = 9.8521$

The original table has columns,  $c = 2$  and rows,  $r = 6$ .

Thus  $df = (2-1)(6-1) = 1(5) = 5$ .

Hence at a significance level,  $\alpha = 0.05$  and  $df = 5$ , we get the critical value to be  $\chi^2 = 11.071$  from tables.

To test whether gender had a role to play in the kinds of responses obtained in this particular case of the selected individuals at various kiosks, a test was also performed between gender and responses.

**Table 3:** Table showing the gender ratios of the respondents at selected kiosks of network operators

Gender of Respondent	Number of YES Respondents	Number of NO Respondents	Row totals
Male	122	20	142
Female	56	32	88
<b>Column totals</b>	<b>178</b>	<b>52</b>	<b>230</b>

A chi-square test for the responses from male and female respondents at selected cellular network service centers was also performed.

The test statistic obtained was  $\chi^2 = 15.4123$

The original table has columns,  $c = 2$  and rows,  $r = 2$ .

Thus  $df = (2-1)(2-1) = 1(1) = 1$ .

Hence at a significance level,  $\alpha = 0.05$  and  $df = 1$ , we get the critical value to be  $\chi^2 = 3.841$  from tables.

## DISCUSSION

From the data in Table 1, since the test statistic does not fall within the critical region, there is insufficient evidence to justify a rejection of the null hypothesis ( $H_0$ ); i.e., we fail to reject the null hypothesis that there is a dependence between the type of cellular network provider and response type from the respondents in this survey. In other words, the network provider of the student respondents at UPSA is not related in any way to their responses as to whether they are satisfied with MNP or not. The performance of each network in the implementation of MNP is relatively the same.

The responses obtained from the students of UPSA are indicative of the fact that the implementation of MNP has facilitated the way communications take place in Ghana. Most students, who fall in the brackets of the youth, agreed that phone number porting has

made their lives easier than it was before. Also, concerning the duration within which porting of cellular numbers successfully takes place, the bigger numbers in the responses obtained indicated satisfactory trajectory that could only get better provided the Ghana National Communications Authority (NCA), the regulator of the telecommunications sector, will be ready to crack the whip heavily should any of the network providers engage in infractions of the law.

Also from Table 2, the test performed from the responses of patrons of various mobile telephony kiosks gave a test statistic does not fall within the critical region, indicating that there is insufficient evidence to justify a rejection of the null hypothesis ( $H_0$ ); i.e., we fail to reject the null hypothesis that there is a dependence between the type of cellular network provider and response type from the respondents in this survey. In other words, the network provider of the customers interviewed are not related to the duration of the porting (porting time). It appears the porting times of these customers who have all experienced MNP before have no bearing whatsoever on the kind of network provider.

From Table 3, our calculations yielded a test statistic that lies within the critical region, and thus we rejected the null hypothesis that whether a person answered yes or no about having experienced MNP before is independent of that individual's gender. It appears that whether a person answered yes or no and whether that person is a male or female are dependent variables. Hence we conclude that the gender distribution of responses obtained also does factor into the kinds of responses obtained from respondents.

## Conclusions

The implementation of MNP has facilitated competition in a saturated market such as Ghana's mobile communications landscape, and also reduced subscriber cost of switching networks because there is no need to circulate new numbers. The increase in subscriber choice has glaringly led to greater competition which has also to some extent improved customer service from the various networks. For a fact, the previous situation where there were claims and counter-claims by the competitors as to who had the best network have all been laid to rest following the implementation of MNP as subscribers now decide which network is best suitable for them.

Notwithstanding the varying results obtained above, MNP has more or less been a good paradigm shift for Ghana's telecommunications landscape. The fact that network providers risk losing patrons for poor quality of service is warning enough for each one of them to be up and doing.

In comparison to global figures, Ghana has made meaningful strides since joining the class of nations that have implemented MNP. It has been able to achieve "on the spot" porting ever since. This is as it obtains in other jurisdictions such as Singapore, the first nation to implement MNP on the globe in 1997, the UK, Hong Kong, and The Netherlands who also implemented MNP in 1999.

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