

FACTOR INFLUENCING MOBILE NUMBER PORTABILITY(MNP) IN KENYA: THE CASE OF AFRICA NAZARENE UNIVERSITY

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Abstract:

The much awaited mobile number portability took effects in Kenya on April 1st 2011. The objective of porting was to accord consumers flexibility of shifting from one service provider to another without worrying of loosing their preferred numbers. The free movement of subscribers was expected to open a new competition front within the telephony market, with the small operators expected to benefit. However the porting process has not been so smooth. Over a year since the process started, only 47,206 subscribers have switched out of the possible twenty two million.

Methodology: The study used descriptive design whereby a sample of 142 subscribers was taken. Ten factors were identified as influencing mobile number portability in kenya. These were exit barriers, cost, process, customer service, satisfaction among others.

Key Words: Mobile Number Portability (MNP), Mobile Service Providers

Introduction

Kim and Shin (2007) defines mobile number portability as the ability for subscribers to retain their phone numbers when changing subscription from one mobile service provider to another. Odunaik (2010), described MNP as having a great opportunity which can increase acquisition and to a greater extent encourage healthy competition among telephone operators. The process however is a complex one and one that require goodwill from all parties involved.

Sutherland (2007) noted that MNP although ignored or overlooked in creation of the telcommunication markets, it is becoming a feature that regulatory commuissions or bodies are considering necessary to: reduce switching costs; facilitate subscriber choice; and ensure effective competition in the market.

Between 2004 and 2008 Communication Commission of Kenya (CCK) carried out a consultations that revealed that the market was ready for Mobile Number Portability (MNP). Based on this the commissions set the deadline to December 2010 but had to deferr it to April 2011 to give mobile service providers more time to acquire and test their equipment (www.cck.go.ke). The process is being facilitated by Porting Access Kenya, CCK and the mobile service providers.

The history of MNP started in 1990s whith Singapore implementing a limited version of this functionality, Hongkong implemented in 1999, Spain in 2000, and Australia in 2001 the list go on and on (www.scribd.com). Hence porting is not a new concept and according to CCK, Kenya joins 62 other countries around the world who have implemented it, South Africa and Egypt included. The main objective according to the commission for the service is to depeen the level of competition in the mobile telcommunications market and enhance consemmer choice. Shin and Kim (2007) seem to agree that MNP will result to mobile service providers actively competing and providing innovative as well as improved customer service, in order to retain and expand their subscription base.

Prior to the introduction of the service, subscribers have had to use multiple Subscriber Identity Module (SIM) cards or buy two mobile handsets, thus incurring additional unnecessary costs

and inconvenience (www.cck.go.ke). The inconvenience, CCK go ahead and say that, it has inhibited subscribers from taking advantage of the growing competition in the industry. Despite the introduction of competition in the Kenyan telecommunication industry the lock-in effects of subscribers has helped the incumbents to retain market dominance, a scenario Shin and Kim (2007) seem to have identified in Korea. It is from this back drop that the CCK and many other regulators around the world sought to implement MNP. Availability of MNP is expected to benefits consumers as competition between the players intensify. Some of the specific benefits that are likely to go to customers as noted by Shin and Kim include: lower price, greater choice, higher quality, and greater range of services.

One of the key determinant of customer switching from one product to another, and in this case from one service provider to another, is the switching cost associated with the process (Polo, 2009). Porter as quoted by Ruyter, Wetzels, and Bloemer (1997, p439) defines switching cost as the costs involved in changing from one service provider to another. According to Polo (2009) switching costs are recognized as an important driver of customer retention that leads to stable and long-lasting relationships.

Information Permanent Secretary Dr. Bitange Ndemo (2011) noted that the portability may be undermined by the fact that many Kenyans already have more than one handset and SIM cards which enable the services of two or more service providers. Besides the issue of two handsets, there is also the fact that the process has been hit by a long delays before porting, and the porting fee which has been capped at Kshs 200 (2.5USD) has been said to be way above the cost of a new SIM card (www.capitalfm.com).

While there has been live discussions as to whether MNP increases competition in mobile markets as noted by Shin and Kim (2007), the more underpinning question may be whether subscribers are able to port freely without significant switching barriers. As Xavier and Ypsilanti (2008) argued switching patterns provide an important indicator that the demand-side of a market is well developed and that consumers are sufficiently empowered to participate actively. The two goes ahead to argue that the ability and willingness of consumer to switch is critically important and where switching is impeded or discouraged this could impact not only on the demand-side but also potentially raise supply side barriers-new entrants.

The motivation to switch (port) is generally a function of consumers' estimate of the performance of their existing provider; and whether or not they believe there are better alternatives available from other providers on the aspects of service that matter to them (Xavier and Ypsilanti, 2008). Where the market is perceived to be undifferentiated or where the current provider is perceived to be the best on the market on the criteria that are important, there may be no expected benefit from switching.

The aim of this paper was to assess why subscribers are or not switching. Issues covered by this research include:

- The extent of switching/porting by customers between the mobile providers;
- What is driving subscribers to port or what is holding them to their current mobile provider;

In order to fulfill the above objectives, the paper is divided into the following sections: Section 2- industry overview, literature review on number portability and switching costs; section 3- research methodology; section 4- the study findings and section 5- conclusion and recommendations.

Overview of Kenya Mobile Market

For a long period, Kenyan telecom industry has been dominated by Telkom which was a parastatal, but significant changes took place around 2004 when it lost its monopoly in the fixed-line and international bandwidth. With issuance of licences to other operators and carriers the competition landscape changed drastically (accessed on 5th May 2011).

Mobile services in Kenya started around 1993, but given high cost that was associated with both the hand set and the service there was low interest by Kenyans and by the end of 1999 there were 20,000 subscribers only (www.africantelecomsnews.com accessed on 5th May 2011).

There are currently four mobile service providers in Kenya namely Safaricom, Airtel, Essar Telecom, and Orange. The sector has witnessed profound changes in recent past just like in other countries, from technological advancement to increased regulations. The results has been new markets, new entrant, and new challenges (accessed on May 5th 2011). As at 31st March 2012 the total number of mobile subscribers had hit 29.2 million (Quartely Sector Statistic Report -3rd Quarter

January-March 2012 by CCK). This number represent a growth of 4.0 per cent. The report put Safaricom ahead of the other three providers with a market share of 65.3%, followed by Airtel (15.3%), Essar Telecom (8.7%), and Orange with 10.6%.

Safaricom was the first to enter the Kenyan market and to launch GSM-based mobile service in Kenya around 1999 (). From the same website majority of Safaricom shares are owned by Vodafone Kenya (40%), Kenyan government having 35% stake and the rest (25%) being owned by the public. It started as a department of Kenya Posts & Telecommunications Corporation, which was the monopoly operator (accessed on May 5th, 2011).

Airtel started its operation in Kenya in 2000 as Kencell, it was then rebranded to Zain in 2008 and finally to Airtel in 2010 (accessed on May 5th 2011). The company is the second largest in terms of market share and subscriber base after Safaricom (Quartely Sector Statistic Report 1st Quarter July-Sept 2010/2011 by CCK). The company, according to the report gained 4.4 percentage points of market share over the quarter under the review.

Essar Telecom Kenya Limited (Yu) got the licence to operate in Kenya in 2003, but its operation was delayed to 2008 due to court cases (www.africantelecomsnews.com). The company is a unit of India based group-Essar, which is a diversified business corporation with interest in areas such as manufacturing, shipping, energy, power among others. The group has its foot print in more than 15 countries around the globe. The company launched its mobile service network under brand "Yu" in November 2008 (www.yu.co.ke accessed on May 5th 2011). By September 2010 the company had a market share of 6.7% which was a drop from 7.4% in June same year (Quartely Sector Statistic Report 1st Quarter July-Sept 2010/2011 by CCK).

Telkom Kenya (Orange/France Telecom) ws established as a telecommunications operator in April 1999 under the Companies Act (www.telkom.co.ke accessed May 5th, 2011). The company partnered with France Telcom Group which saw the launch of Orange brand in Kenya in 2008. Besides offering mobile services, the company also offer fixed line services and Internet services.

Mobile penetration has been increasing steadily over the years and at the end of the quarter it stood at 74.0 per cent compared to 71.3 per cent last quarter (Quartely Sector Statistic Report -3rd Quarter January-March 2012 by CCK). Contrary to this increament, fixed line services witnessed a general decline in the same period, a fact attributed partly to increase in uptake of mobile telephony.

Future Outlook

Given that the number of subscriptions has trippled in the last five years from 7.3 in 2006 to the current figures of 22 million subscribers (Quartely Sector Statistic Report 1st Quarter July-Sept 2010/2011 by CCK), it is estimated that by the end of 2014 the number will hit 33.2 million achieving a penetration rate of 79 percent (www.africantelecomsnews.com). The CCK quarterly report note that the mobile market domenstrate increased subscriptions while a decline in fixed line will continue to be felt.

Competitive pressure is expected to remain intense among the four providers now than before given the introduction of MNP. The report contends that, will require providers to diversify their services.

Empirical Review

Mobile Number Portability

MNP allows mobile subscribers to retain their telephone numbers when they change mobile service providers (Sutherland, 2007). Implementation of MNP in Kenya aims to deepen the competitive environment within the mobile telecommunication industry and as a result enhance subscribers' choice as CCK Director-General Charles Njoroge noted. These sentiments were shared by Shin and Kim (2007) who noted that the implementation of MNP in Korea main objective was to benefit consumers though reduced prices as a result of competition between providers.

Murillo (2007) noted that number portability around the world started to gain greater relevance in the wake of market liberalization, but importantly with the advent of wireless telephone service. Lin et al., as quoted in Murillo (2007,p26) suggested three types of number portability; 1) Location portability where the user is able to retain their telephone number even after changing the address; 2) Service portability is where the subscriber retain the number when they change services within the same provider; and 3) Operator portability, which is being focused in this research, being a situation where subscribers maintain their number even after they change service providers.

In Kenya MNP was to kick off in December (2010) but had to be delayed up until 1st April 2011 in order to give services providers more time to put their houses in order and to test their equipments (www.cck.go.ke). However, the process has not been without teething problems as predicted by CCK Director General and confirmed by Information Permanent Secretary Dr. Bitange Ndumo. Some providers have developed cold feet to the process and have been accused of frustrating subscribers who want to port. There has also been technical hitches, by April 27th there were 10,000 successful requests, a whopping 15,000 requests were pending and 11,000 timed out (Daily Nation, April 28, 2011). There are accusations and counter-accusations which have resulted to one mobile provider threatening to sue the company overseeing number portability for what it terms as defamation and economic sabotage (Daily Nation, May 4, 2011).

The above mentioned “fightings” by mobile service providers in Kenya is captured by Murillo (2007) sentiments that, of the three types of number portability, MNP is the one that operators fear most given that it gives the subscribers the ability to move without losing their number. He goes on to note that MNP can force providers to improve their offerings be it in terms of quality or price, an objective the CCK sought to achieve. Implementation of MNP in Japan was also faced with the same opposition as Sutherland (2007) noted.

There is also cost element associated with porting that Murillo (2007) identified which could be the reason why some operators resist the process, this include: the cost of upgrading the network which was the cause for a delay in the Kenyan case and the cost of porting a subscriber’s number when they make that request. He noted that once a subscriber move to a competing provider the current provider loses that revenue stream and it will be costly for them to regain them in terms of marketing cost.

Murillo (2007) argued that implementation of MNP is as a result of market failure. The incumbent providers especially those who have a large subscriber base do not want to lose them, therefore they have great incentive to prevent the implementation of the process. Buehler and Haucap as quoted by Shin and Kim (2007,42) also hold the same perspective when they argued that, MNP is likely to benefit the new entrant and hurt the incumbent providers. This seem to be the case in Kenyan market.

The Porting Procedure

Subscribers wishing to port their numbers are expected to fill in the MNP Form that is available from the mobile service provider they intent to switch to. Together with this they are required to present original documents that would identify them such as identity card (I.D.), Passport or Armed forces I.D. card for authentication. When the number is owned by an organization an official letter duly signed by relevant authority must be presented (www.cck.og.ke).

According to CCK, customer wishing to port will be required to pay a fee of Kshs. 200 after which they will be issued with a new SIM card. They will continue to use their current operator until the process is complete. During this waiting period customers are required to ensure they save their contacts, clear any balance airtime or any balance in their mobile money transfer account. For those porting from providers who have postpaid services and airtime lending, bills must be cleared and any borrowed airtime be paid up (www.cck.og.ke).

To kick start the process subscribers will have to send word PORT or “HAMA” to 1501 using their current SIM card. Where the short message (SMS) fails the subscriber will be notified and advised to contact his/her new operator. When the porting process is complete, subscriber will receive an SMS from PORTING containing information on closer of the account, advice to use the new SIM card from the new provider, or Porting error (www.cck.og.ke).

The final stage is where the subscriber will replace the current SIM card with the new one from the new provider, thereby start enjoying the services of the new provider (www.cck.og.ke).

Pros and Cons of Porting

One of the advantage accorded to subscribers by MNP is the reduction of switching costs. Switching cost include both monetary costs as well as time and psychological effort of dealing with the new provider (Ruyter, wetzels and Bloemer, 1997). This was well captured by CCK Director General Mr. Charles Njoroge when he noted,

“One of the major factors that have been discouraging consumers and business firms from changing mobile service providers is the inconveniences of losing contacts with friends,

family and business associates. For business, change of telephone numbers could have cost implications in regard to advertising.”

Sutherland (2007) seem to agree with the above views, when he suggested that MNP present great advantages to small businesses and sole traders especially in regard to repeat business or personal recommendations. He gave examples of dress makers, painters plumbers, and taxi drivers, lose of their number would significantly affect their business.

In regard to financial element of switching cost, Polo (2011) argued that, where the current provider's price is too high, the higher the potential monetary savings from switching provider, which will lead to lower switching costs. He noted that competitors are likely to use price to stimulate customer behaviour, they do this by affecting the cost of switching providers for the customers of the focal firm. This is clear in the Kenyan case where airtel is making it free for those who want to port to their network in addition a reward of 1,000 free airtel reward points and one gets 25% bonus on any top up for 3 months (<http://africa.airtel.com/kenya> accessed on May 6th, 2011). Airtel behaviour seem to resonate within what Polo and Sese (2009) found out in their research, that marketing instruments, price and advertising can increase the size of the company customer base as it reduces the switching costs of its rival's customers.

MNP present and opportunity for mobile service providers to enlarge their market share (Sutherland, 2007). Where providers have competitive offerings they are likely to have more subscribers turning to their network. However, Polo and Sese (2011) warn that where subscribers are not satisfied with after-sales service quality, even where the switching cost is high, they are likely to consider changing their service providers.

There is likelihood that services offered in the telecommunication will improve in the advent of MNP as level of competition increases and this will directly be a plus to consumers. As Sutherland (2007) observed in his research most people who change providers do so due to poor quality of services such as lack of coverage, excessive prices or even poor customer care. These may be addressed with implementation of MNP, he reckons.

However, by switching to a new provider, a subscriber may end up losing special services and facilities that were offered by the previous provider (<http://factoidz.com> accessed on 27 April 2011). Porting is not an instant process, thus subscribers wishing to port must be willing to wait for a while before they can start enjoying services from their new provider. The waiting can be even longer or frustrating where the SMS to 1501 time out.

The process is costly too, as noted earlier implementation of this process requires investment on equipments as well as testing by the mobile service providers. Porting itself has cost element associated to it from mobile service providers perspective as was indicated by Sutherland (2007).

From the subscribers perspective the process can also be costly in instances where the providers are using two different technologies, they may be forced to buy a new handset that will be compatible with the new provider's technology (Sutherland, 2007). Finally from the ministry view, MNP is a strategy of enhancing competition within the telecommunication market and a ploy to reduce entry barriers for the new entrants (www.cck.org.ke).

The Experience of MNP in Other Countries

Kenya is not the first country to implement MNP, in fact it join other 62 countries (www.cck.org.ke). Sutherland (2007), in his work which sought to review the experience with the implementation of MNP found out the following;

1. By 2006 a third of consumers had ported in Hong Kong, Australia which implemented MNP years later had almost the same rate.
2. In United State of America (USA) the monthly switch average 1.5 to around 3.0 percent per month.
3. In European Union they introduced fixed number portability while member countries initiated MNP individually. By 2005 the total numbers that had ported in the whole of European Union (EU) was only 25 million which was about 5 percent of the total population.
4. Sutherland (2007) specifically noted that less than 1 percent of porting characterized Austria, Germany, France, Portugal and Greece

Factors influencing MNP

Srinagesh and Mitchell as quoted by Shin and Kim (2007, p42) identified that MNP has tremendously contributed positively to the competition environment of mobile market in US. Generally it was noted by Sutherland (2007) that very few countries have managed over 10 percent portability. Some of the reasons put across for the failure or low porting include; porting costs, obstacles created by mobile providers, and not being aware of the service. Ofcom research as quoted in Xavier and Ypsilanti (2008, p22) seem to agree that lack of information (not being fully aware) contribute to low rate of porting. In their research 48 percent of the respondents felt they didn't know enough to make the right choice.

Ofcom as quoted in Xavier and Ypsilanti (2008, p22) found out that more than 36 percent of mobile subscribers in United Kingdom (UK) had switched their mobile service provider in the past four years. However the research also pointed out that even those who had not ported during that period, had made some changes to their existing service within their service provider such as change of tariff or package. The research disclosed that the UK subscribers who were engaged in porting were likely to be young and males.

In Portugal the number of subscribers who had switched was however much less compared to that of UK. A survey conducted by Anacom as quoted in Xavier and Ypsilanti (2008, p23) found that only 19 percent had switched. Of those who switched about one-third gave their reason for switching as "most of my contacts are clients of the new operator". 66 percent of those who never ported, said they did see the reason to do so as they were satisfied with their current provider's services.

Ofcom's research also found out that the key drivers for switching was price and interest in technology. 85 percent of the participants agreed that low cost and overall value for money were very significant to their decision of whether to port or not. Regarding reasons given for not switching, Ofcom identified that 54 percent were satisfied with their current mobile service provider, 36 percent saying they were fairly satisfied.

The research also identified that most subscribers (64 percent) were unwilling to switch due to reluctance to leave a known and trusted provider for another who they were unfamiliar. This indicates the value of loyalty in telecommunication market.

In their conclusion Xavier and Ypsilanti (2008) noted that where subscribers are to switch, service providers are less likely to charge excessive price or supply poor quality services. They also noted that consumer awareness of alternative services is paramount.

On their part Shin and Kim (2007) concluded that in Korea MNP has not achieved the regulator's goal of freeing up switching barriers instead it enhanced them as providers sought to lock-in their customers. This notion was shared by Polo and Sese (2011) when they noted regardless of implementation of MNP by a number of regulators which were aimed at addressing switching cost or barriers, there still exist high switching costs in the mobile phone market inspite of the efforts. Shin and Kim also noted that since the implementation of MNP there has been an upsurge of advertisement wars and special offers in order to lock-in existing clients and steal those of rivals. This scenario is live in Kenya, one of the mobile service providers has been involved in intense marketing campaign encouraging people to *hama* (port).

Kangangi (2011) noted that porting is likely to be high where marketing campaigns are intense. He also pointed out that the porting speed in Kenya (2 days) is too long compared to other countries such as USA (2 hours), 20 minutes in the Republic of Ireland, 3 minutes in Australia and seconds in New Zealand (Kangangi, 2011). This clearly point that consumer would prefer a shorter time to port if the process is to be successful.

Customers who have more than one mobile lines are also unlikely to port (Kangangi, 2011)

Given the foregoing findings it is important to document Kenya experience in regard to MNP. This research will seek to identify the extent and factors influencing porting between mobile providers in Kenya.

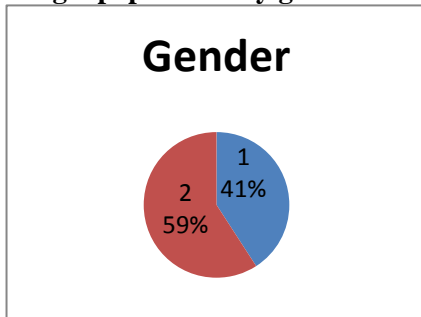
Research Methodology

The target population of the study were the 1500 students of Africa Nazarene University. As the study was descriptive, descriptive design was adopted with research strategy being a case study. The study was also cross sectional as it was done in one week in October 2012. A stratified sampling technique was used where a total of 142 participant were selected for the study. This represents approximately 10% of the total population which was considered a representative sample.

The participants were served with a questionnaire that had 40 variables considered important in decision making regarding porting. They were asked to rate the extent to which they agreed with statement made on different variables. Likert scale with points 1-5 was used where 1 represented least agreed and 5 strongly agreed. The survey lasted for seven days after which data collected was analyzed using SPSS version 17.

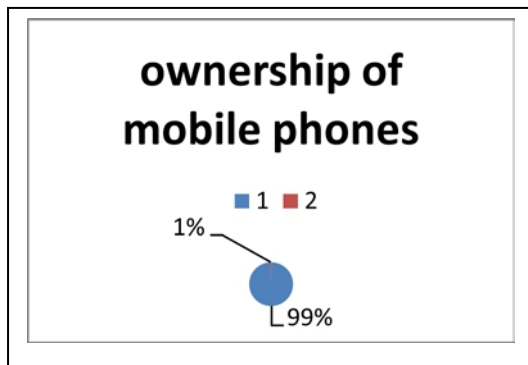
Results

Target population by gender



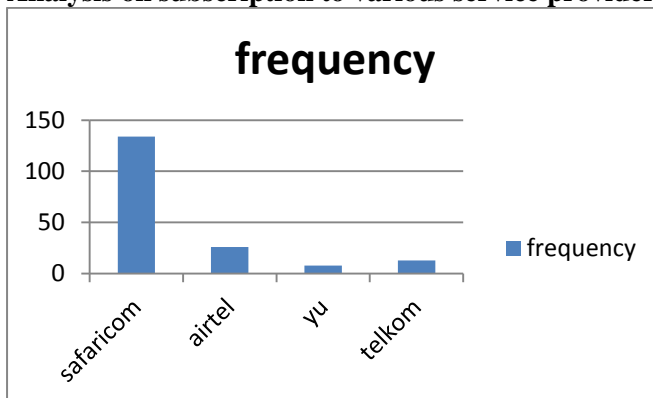
Out of all participants 59% were ladies and men constituted 41%. This reflected well the gender proportion in the college as is the case in the entire student population where there are slightly more women compared to men.

Analysis on Ownership of mobile phones



Analysis on ownership showed that 99% of participants owned a mobile phone and only 1% does not. The rate of mobile subscription in Kenya is 79% and given that these were university students, these findings are not a surprise. The researcher expected a hundred percent mobile phones ownership given that the participants are youth with higher technology orientation.

Analysis on subscription to various service providers

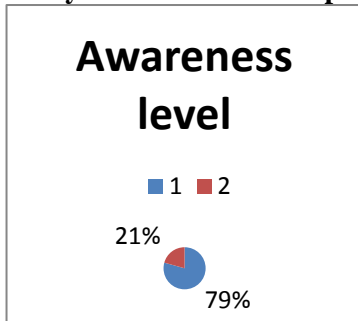


Analysis on subscription to the various service providers showed that Safaricom had 74% subscription of market share. Airtel had 14%, Yu mobile 5% while Orange had 7%. To assess whether there was a significant difference between these proportions and the records held by CCK a chi-square test was carried out.

	Observed	Expected (current market share)	O - E	(O - E) ²	(O - E) ² /E
Safaricom	74	65.3	8.7	75.69	1.159
Airtel	14	15.3	-1.3	1.69	0.110
Orange	07	10.6	-3.6	12.96	1.223
Essar	05	8.7	-3.7	13.69	1.574
					4.066

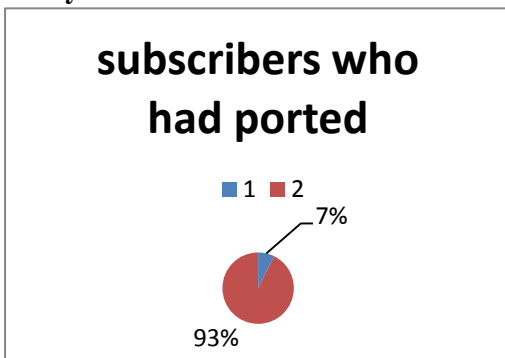
The chi-square test was used to test the null hypothesis that there was no significant difference between the record held by CCK and data obtained from the study at 0.05 significance level and 3 degrees of freedom where the critical chi square value is 7.815. The test chi square test statistic is indicated in the above table as 4.066 which lies within the acceptable region. We therefore fail to reject the null hypothesis and conclude that there is no significant difference between the CCK records on market share of all companies and the obtained data from the sample of the study.

Analysis on awareness of porting



Data collected on awareness level indicated that the concept of porting is not strange among the subscribers to various service providers. Majority of respondents, 79% indicated they were well aware that they could change from one service provider without losing their current subscription numbers while only 21% were uninformed on the same.

Analysis on actual number of subscribers who had ported



Data on the numbers of subscribers who had ported were rather scaring and inconsistent with the level of awareness. Whereas porting was supposed to provide subscribers with value for their money, majority of subscribers, 93% had not ported and only 7% had attempted to do so. This contradicts not only market theories that suggest that consumers seek value for their money but also commonsense.

Factor analysis

Factor analysis was conducted and the issues considered were appropriateness of the model, communalities, total variance explained and the factors extracted from the process.

Test of appropriateness of the model

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.699
Bartlett's Test of Sphericity	Approx. Chi-Square	897.974
	df	351
	Sig.	.000

To test the appropriateness of the factor model, Bartlett's test of sphericity was used to test the null hypothesis that the variables were uncorrelated. The results of PCA in the above table demonstrate that the null hypothesis, that the population correlation matrix is an identity matrix is rejected by the Bartlett's test of sphericity. The approximate chi-square statistics is 897.974 with 351 degrees of freedom which is significant at the 0.05 level. The values of KMO statistic (.699) is also larger (>0.5). Thus factor analysis was considered an appropriate technique for analyzing the correlation matrix.

Communalities

Using principal component analysis (PCA) to extract communalities among the variables, the result indicate that all factors accounted for a significant proportion of variance as they range from 0.454 to 0.823.

Total variance

We conducted a factor analysis on the 139 questionnaire sent to participants of the study. Using eigenvalues greater than 1.0, evaluation of scree plots, total explained variance, and factor loadings greater than 0.35 as criteria for identifying meaningful factors (see Nunnally and Bernstein, 1994), we identified 10 factors (or categories).

Total Variance Explained

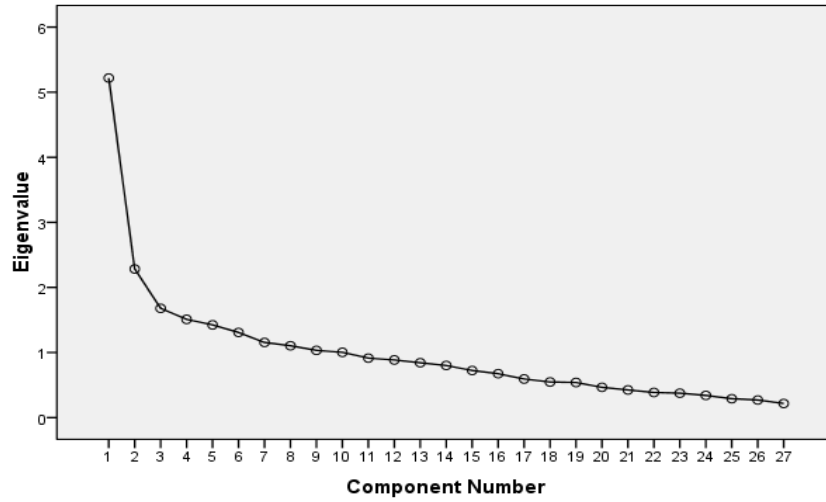
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.218	19.325	19.325	5.218	19.325	19.325	2.295	8.498	8.498
2	2.284	8.460	27.784	2.284	8.460	27.784	2.193	8.124	16.622
3	1.678	6.216	34.001	1.678	6.216	34.001	2.037	7.545	24.167
4	1.510	5.591	39.592	1.510	5.591	39.592	1.856	6.872	31.039
5	1.424	5.274	44.865	1.424	5.274	44.865	1.802	6.673	37.713
6	1.308	4.846	49.711	1.308	4.846	49.711	1.755	6.499	44.212
7	1.154	4.276	53.987	1.154	4.276	53.987	1.629	6.035	50.246
8	1.104	4.089	58.076	1.104	4.089	58.076	1.439	5.330	55.577
9	1.032	3.824	61.899	1.032	3.824	61.899	1.362	5.044	60.620
10	1.002	3.712	65.611	1.002	3.712	65.611	1.347	4.991	65.611
11	.914	3.385	68.996						
12	.885	3.279	72.275						
13	.842	3.119	75.394						
14	.801	2.965	78.359						
15	.723	2.679	81.037						
16	.674	2.496	83.533						
17	.593	2.195	85.729						
18	.546	2.024	87.752						
19	.540	1.999	89.751						
20	.465	1.722	91.473						
21	.425	1.574	93.047						
22	.385	1.427	94.474						
23	.374	1.386	95.860						
24	.341	1.263	97.123						
25	.290	1.074	98.198						
26	.270	.999	99.196						
27	.217	.804	100.000						

Extraction Method: Principal Component Analysis.

From the above table ten factors have been extracted with Eigen values greater than 1 accounting for 65.611% of the total variance. No factor explains more than ten percent of variance and therefore all factors are quite significant

The Scree plot below indicates total variance associated with each factor and shows a distinct break between steep slope of the large factors and the gradually trailing off of the rest of the factors. The scree plot further supports a 10-factor model.

Scree Plot



Rotated Component Matrix

	Component									
	1	2	3	4	5	6	7	8	9	10
VAR00007	.804	.061	.090	.003	.140	.144	-.065	.034	.187	-.085
VAR00008	.770	.027	-.042	.141	-.060	-.002	.199	.039	.088	.096
VAR00006	.564	.133	.237	.088	-.148	.367	.200	-.117	-.221	.072
VAR00025	.020	.709	.154	-.016	.266	.022	-.172	.088	-.016	-.030
VAR00026	.110	.687	.083	.007	-.023	.117	.259	-.077	.044	-.045
VAR00018	-.127	.597	-.026	.096	.078	.285	.139	.137	.297	.137
VAR00023	.364	.492	.198	.260	-.029	-.380	-.173	.066	-.027	.179
VAR00027	.215	.353	-.172	.292	.173	.049	.269	.250	.012	-.033
VAR00022	-.018	.189	.638	.259	.025	.103	-.054	.082	.082	.106
VAR00024	.192	.169	.636	-.212	.168	-.221	.118	-.009	.276	.072
VAR00012	.174	-.149	.619	-.132	.229	.323	.196	.094	.026	-.136
VAR00017	-.228	.096	.454	.394	.039	.111	.210	.395	-.150	-.012
VAR00011	.309	-.164	-.020	.691	.013	-.054	.053	.064	-.086	-.127
VAR00021	-.023	.209	.079	.676	.035	.006	.076	.056	.234	-.030
VAR00003	.048	.118	.076	-.008	.848	.008	.041	.102	.089	.045
VAR00019	-.198	.178	.316	.318	.566	-.085	.036	-.006	-.045	.298
VAR00002	.120	.394	.202	.057	.408	.141	.280	-.250	-.063	.174
VAR00005	.140	.164	.099	-.052	-.056	.751	-.012	.075	.023	.045
VAR00010	.187	.115	.009	.471	.193	.555	.075	-.279	.183	-.018
VAR00016	.035	.097	.218	.042	-.028	.026	.848	-.033	.173	.104
VAR00015	.377	.067	-.087	.216	.284	.039	.579	.147	-.062	.013
VAR00004	.078	.027	.095	.060	.037	-.034	-.019	.810	.012	.131
VAR00014	-.028	.172	.373	.050	.182	.272	.124	.418	.236	.123
VAR00009	.072	.052	.092	.034	.159	.179	.213	.193	.661	-.183
VAR00020	.210	.105	.217	.213	-.117	-.082	-.083	-.255	.636	.261
VAR00001	.028	-.006	.002	-.120	.095	-.003	.082	.121	-.041	.835
VAR00013	.060	.089	.217	-.035	.392	.405	.047	.130	.174	.503

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 18 iterations.

The rotated factor matrix sorted out 10 factors that were deemed significant for this study. Each of the factor had loadings greater than 0.3. The rotation method was Varimax with Kaiser Normalization where items were sorted from one with the highest loading to the one with lowest. The results of the rotated matrix helped to identify and interpret the following as key factors influencing porting process based on the factor loadings.

Factors influencing porting

Factor	Factor interpretation	% of variance Explained	Factor loadings	Variables included in the factor
F1	Customer Service	8.498%	.804	Porting results in service providers becoming more innovative
			.770	Porting makes service providers improve customer service
			.564	Porting enhances consumer choice of service providers
F2	Loss incurred	8.124%	.709	Fear by subscribers of losing their number affects porting
			.687	The inconveniences of losing contacts with friends, family and business associates affects porting
			.597	For businesses, change of telephone numbers could have cost implications in regard to advertising.
			.492	Before porting one is required to ensure they save their contacts.
			.353	Where subscribers are not satisfied with after-sales service quality, even where the switching cost is high, they are likely to consider changing their service providers
F3	Constraints	7.545%	.638	Before porting one must clear any balance airtime or any balance in their mobile money transfer account
			.636	The cost incurred by service provider of porting a subscriber's number when they make that request affects porting
			.619	Possession of more than one handset and SIM cards by Kenyans undermines porting
			.454	"Fightings" by mobile service providers in Kenya is hindrance to porting
F4	Competitors incentives	6.872%	.691	Higher quality of service by competitor leads to porting
			.676	Mobile service providers provide great incentive to customers to prevent the implementation of the porting process
F5	Preparedness	6.673%	.848	Kenyans are generally not ready to port lowering the pace`
			.566	The cost of upgrading the network affects porting speed by subscribers
			.408	Mobile number portability was initially ignored or overlooked in creation of the telecommunication markets in Kenya
F6	Competition	6.499%	.751	Porting deepens the level of competition in the mobile telecommunication's market
			.555	Porting may be stimulated by lower price of service from the competitor
F7	Satisfaction with service provider	6.035%	.848	Satisfaction by performance of current service provider is an impediment to porting
			.579	The ability and willingness of consumer to switch is critically important in porting process
F8	Porting Facilitating cost	5.330%	.810	mobile service providers require special equipment to facilitate porting
			.418	The porting fee which has been capped at Ksh 200 is a hindrance to porting process

F9	Exit barriers	5.044%	.661	The lock-in effects by service providers hinders porting
			.636	MNP is likely to benefit the new entrant and hurt the incumbent providers.
F10	Process	4.991%	.835	The process of porting is complex and challenging
			.503	The process of porting is hit by long delays before completion

Conclusion and recommendations

The study had set out to identify factors that influence mobile number portability in Kenya. This was aroused by the fact that it was expected that majority of subscribers would port to reap the benefits of reduced cost of service. However results indicated that only 7% of subscribers had attempted to do so. The factors therefore affecting the process must have been significant and require to be addressed. This study has revealed that customer service offered by current service providers was a great impediment to porting accounting for 8.498% of total variance. The service provider especially market leader (Safaricom) provided superior customer care and therefore the subscribers found no good reason for porting. We can conclude that good customer care as perceived by subscribers supercedes incentives such as cost reduction that would be enjoyed if customers switched. This is in agreement with finding of Shin and Kin (2007). Many subscribers also feared they would lose their contact and even business opportunities if they ported. This was accounted for by 8.124% of total variance. Fear of porting and its consequences is therefore as a significant factor. CCK ought to assure subscribers that their fear is unwarranted since they would retain their numbers in their current state.

The cost to be incurred by service providers as well as cost incurred by subscribers were also identified as significant factors. The fees attached to porting was considered unnecessary and contributed to delay in the process of porting. The level of preparedness to port was a major factor affecting porting process accounting for 6.673% of total variance implying that a large proportion of subscribers and service providers were not well prepared to engage in the process. Satisfaction with current service providers accounting for 6.035% of variance suggest that rewards associated with porting were not strong enough to attract customers to port. The service providers especially the market leader had put exit barriers in form of incentives that hindered the porting process accounting for 5.044% of total variance. Market instruments such as advertising, sales promotion and added services such as money transfer were affecting the porting process adversely. These benefit and marketing activities locked subscribers and accounted for 5.044% of variance. Coupled with this, is level of competition among the service providers which accounted for 6.499% of total variance. The market leader (Safaricom) sets the bar very high in terms of competition frustrating the efforts of other providers to offer substantial competition.

The process of porting is perceived to be very complex and challenging for most subscribers accounting 4.991% of variance. This is in agreement with findings of Odunake (2010) where the process was considered to be a major drawback to the process.

This study makes the following recommendations:

1. The level of awareness is relatively low (21%) and therefore there is need to increase awareness informing subscribers of the benefits that would accrue to them if they engaged in the porting process.
2. The process of porting should be simplified and the cost to be incurred waived off so as to facilitate the process.
3. Assurances should be given to subscribers that porting does not result in loss of their current numbers but only a change of service provider and this could alleviate fears of loss perceived by subscribers.

References:

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Durukan. T, Bozaci. I, Dogan. T, "Mobile Number Portability in Turkey: An Empirical Analysis of Consumer Switching Behavior" European Journal of Social Sciences 2011, Vol. 20 No. 4.

- Maicas. P, Polo. Y, Sese. J, "Mobile Number Portability in Europe: International Review of Economics & Finance-INT REV ECON FINANC, Vol. 18, No. 4, 2009 pp. 611-623.
- Morillo. M, "Number Portability in Central America" Emerald Group Publishing Ltd Vol. 9 Iss 4, 2007, pp 25-37
- Odunaike Solomon, "The Impact of Mobile Number Portability on TUT students on-line Connectivity". ISECON Proceeding V27, 2010 n1348.
- Polo. Y, Sese. J, "How to Make Switching Costly; The role of Marketing and Relationship Characteristics" Journal of Service Research November 2009 vol. 12 no. 2 119-137
- Ruyter, de, K, J.M.M. Bloemer and M. Wetzels. "On the Relationship between perceived services quality, service loyalty and switching costs" International Journal of Service Industry Management 1998, pp. 436-454.
- Shin. D, Kim. W, "Mobile Number Portability on Customer Switching Behavior: in the case of the Korean Mobile Market" Emerald Group Publishing Ltd Vol. 9 No. 4 2007 pp 38-54
- Sutherland. E, "Mobile Number Portability" Emerald Group Publishing Ltd Vol. 9 No. 4 2007, pp 10-24 ISSN 1463-6697.
- Xavier. P, Ypsilanti. D, "Switching Costs & Consumer Behavior: Implication for Telecommunication regulation" Emerald Group Publishing Ltd Vol. 10 Iss 4, 2008 pp 13-29
- www.telkom.co.ke Accessed on 26th April 2011
- <http://factoidz.com> Accessed on 27th April 2011
- www.africatelecomsnews.com Accessed on 5th May 2011
- www.yu.co.ke Accessed on 4th May 2011
- www.safaricom.co.ke Accessed on May 6th 2011
- www.capitalfm.com Accessed on 5th May 2011
- <http://africa.airtel.com> Accessed on May 6th 2011