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THE EFFECTS OF MOBILE NUMBER PORTABILITY ON CONSUMERS

IN

SOUTH AFRICA

RESEARCH REPORT BY

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Submitted in partial fulfillment of the requirements of the degree of Master of Management in the field of Information and Communications Technology Policy and Regulation at the Graduate School of Public Management and Development at the University of the Witwatersrand.

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ABSTRACT

The European Union introduced the concept of global reforms in the 1990s, in order to open markets for competition. The trajectory of reforms in South Africa took the following shape: first, liberalisation of markets in the telecommunications industry. Second, were the privatisation of incumbents, and lastly, the creation of regulatory agencies, which were mandated by the American Telecommunications Act of 1996 (No. 103 of 1996) to promote competition. These changes opened the market for the licensing of cellular network operators, to compete with the dominant fixed line provider on voice and data services. Competition in its nature, aims to improve services, provide affordable prices to consumers and flexible products where consumer can exercise choice. One of the highlights of competition in the telecommunications sector came through the legislative requirement for the industry to introduce number portability. There are different types of number portability but for purposes of this study, focus shall be on mobile number portability (MNP).

This study examines the extent to which MNP has benefited consumers who have ported their number in South Africa. The first chapter provides a background on the global reforms in the telecommunication sector, and this is followed by reforms in South Africa. The second chapter provides a literature review on the effects of MNP, and looks at the regulatory framework of MNP, processes of porting, and the results of the introduction of MNP in various countries.

The study found that policy and regulations on MNP had both positive and negative effects. Consumers are now able to switch operators whilst keeping their numbers, thus exercising their right to choice. However, prices still remain uncompetitive and quality of service is yet to improve.

DECLARATION

I declare that this report is my own, unaided work. It is submitted in partial fulfilment of the requirements of the degree of Master in Management (in the field of Public Development Management) in the University of the Witwatersrand, Johannesburg. It has not been submitted before any degree or examination in any other University.

_____

Thenjiwe Franscinah Dube
September 2011.

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Thenjiwe Dube

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LIST OF ABBREVIATIONS

ACA: Australian Communication Authority

ANC: African National Congress

CLI: Caller Line Identification

CPI: Consumer Price Index

CUASA: Communication Users Association of South Africa

DoC: Department of Communications

ECA: Electronic Communications Act

EU: European Union

FCC: Federal Communications Commission

IBA: Independent Broadcasting Authority

ICASA: Independent Communications Authority of South Africa

ICT: Information and Communications Technology

IDA: Infocomm Development Authority

ITU: International Telecommunications Union

MNP: Mobile Number Portability

MTN: Mobile Telephone Network

NERA: National Economic Research Associates

NP: Number Portability

OECD: Organisation for Economic and Cooperation and Development

OFCOM: Office of Communications

OFTA: Office of the Telecommunications Authority

OSS: Ordering Specification System

PAC: Port Authorisation Code

RICA: Regulation of Interception of Communications – Related Information Act

RDP: Reconstruction Development Programme

SATRA: South African Telecommunications Regulatory Authority

SMS: Short Message Service

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GLOSSARY OF TERMS

Consumer

"A consumer in South Africa is defined as a person who has entered into a transaction with a supply in the ordinary course of the supplier's business*"* (Consumer Protection Act, 2008, p.18). For the purposes of this study, consumers are those who have subscribed with Mobile Operators in order to acquire mobile services. Consumers for mobile services consist of post-paid and pre-paid subscribers.

Customer Education

When MNP was introduced, many countries conducted *ex ante* and *ex post* assessment. The purpose was to investigate if consumers received information about MNP and to further determine if they were ready to embrace it. Customer Education was part of the regulatory requirement for operators and regulators. In South Korea, the research results on the *ex post* study indicated that consumer education played a pivotal role in the resolve by consumers to port their numbers, and as a result, the rate of porting numbers grew (Lyons, 2006).

Donor Operator

A Donor Operator refers to a network operator which ceases to serve a number that is being ported (Government Gazette, no 28091, p.5). For instance, if a subscriber of MTN ports his or her number to Cell C, then MTN becomes a Donor Operator. According to the regulations, the Donor Operator, should not within three months of porting, "winback" the customer who has switched to another operator.

Ex-Ante

A term that refers to future events, such as future returns or prospects of a company. Using ex-ante analysis helps to give an idea of future movements in price or the future impact of a newly implemented policy (http//www.investpedia.com) and Ex-post translated from Latin means "after the fact"(http://wiki.answers.com).

Mobile Number Portability

Mobile number portability is the ability to take your existing mobile number to a new service with a new provider. Mobile number portability is not a service feature or a product; it is the removal of a barrier to choosing the provider or service that suits you (http://www.acma.gov.za)

On-net

An on-net call refers to calls a customer of a network operator to a customer belonging to the same network (Podvysotskiy, 2006). For example, when a consumer of Vodacom (082) who has not ported their number calls Vodacom number, calls become cheaper as they both use the same network.

Off-net

An off-net call is made by a customer of a network to customers belonging to another competing network (Podvysotskiy, 2006). For example, when a consumer of Vodacom (082) calls MTN number (083) which is not ported, then prices for calls are a bit higher because they are using different networks. However, if numbers have been ported, then the caller will be notified by a beep, to indicate that the numbers called have been ported.

Ordering System Specification (OSS)

Ordering System Specification means a specification of the procedures by which a recipient Service Provider, a recipient operator, and a donor Service Provider exchange information between each other in order to provide number portability to a Subscriber, including the information to be sent, the format of the information, the means of communication, the times when communication may be sent, the time limits for responses and the handling of error conditions (Government Gazette, no 28091).

Pre-paid

In the mobile phone industry, prepaid refers to a type of mobile phone account that requires its owner to purchase call credit before services can be used (http://www.mobileburn.com).

Price

The consideration for any transaction, means the total paid or payable by the consumer to the supplier in terms of that transaction or agreement, including any amount that supplier is required to impose, charge or collect in terms of any public regulations (Consumer Protection Act, 2008:24).

Post-paid

Post-paid customers are those that are billed for their use of a carrier's services on a monthly basis, based on either the terms of a contract or on the amount of the services they have used. (http://www.mobileburn.com).

Recipient Operator

A Recipient Operator is a Service Provider that is starting to serve a number is being ported (Government Gazette, no 28091, p.5). For instance, if Cell C

receives a request from a subscriber of MTN for porting, then Cell C becomes a Recipient Operator.

Switching costs

They are described as costs that customers have to bear when they switch from one service provider to the other (Podvysotskiy, 2006).

Subscriber

This refers to any person or entity which is a party to a contract or other similar arrangement that is in force with a service provider or network operator for the supply of telecommunication services (Government Gazette no. 26834, 2004).

Termination costs

Termination costs are the costs that are incurred by callers to mobile numbers including ported numbers. A study conducted in Europe on MNP indicates that consumer's ignorance on costs for on net and off-net termination calls could result in increase in price, whilst their understanding of the differences could reduce prices (Buehler, 2005).

CHAPTER 1: BACKGROUND ON MOBILE NUMBERPORTABILITY (MNP) AND COMPETITION IN THE TELECOMMUNICATIONS

1. Introduction

The concept of mobile number portability is good for consumers. Porting creates competition in the telecommunication industry. Importantly, has it proved successful? This chapter provides an overview on the introduction of Mobile Number Portability (MNP) and reasons for this subject, as a choice of study. It begins with the definition of MNP, types of MNP and the evolution of telecommunications reforms which led to the introduction of MNP. MNP cannot be studied in isolation; there is a need to unpack global and South African reforms, which led to competition and subsequently the introduction of MNP. Furthermore, there will be an analysis of policies and regulations published in order to prepare for MNP and how this unfolded in terms of consumer benefits both internationally and in South Africa (SA).

MNP is described as the ability of customers to switch operators whilst retaining their mobile service number. MNP entails 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 (ICASA, 2005).

'In MNP terminology, the operator which 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, all numbers prefixed with 082 were routed to Vodacom, 083 to MTN and 084 to Cell C, Vodacom, MTN and Cell C are the three mobile network licensees in South Africa. With the implementation of MNP, 082 numbers for example, can now be ported to any network' (Goldstuck, 2005, p.14).

There are various types of number portability: provider portability where a customer retains their number while moving to a similar service but offered by a different provider; service portability allows a customer to move their service number between different service types; and lastly location portability, which enables a customer to move the geographic location of their service while retaining their numbers. For purposes of this study, the focus will be on provider portability, which may be fixed or mobile number portability. In South Africa, the challenge in dealing simultaneously with both categories was that the second fixed line network operator was not yet licensed at the time of introduction of MNP (Hibbard, De Ridder & Clarke, 2008).

MNP involves three factors: technical, operational and economical. Technically, MNP requires additional mechanisms which enable numbers to be routed accordingly. Operationally, the process includes processes taking place between operators as well as customers. Economically, MNP is said to benefit consumers and the industry increases competition (Bernadi & Nuitjen, 2000).

1.1. Benefits of MNP

The Australian Commission Authority (ACC) regards MNP as a key regulatory driver of competition. It increases competition, both at the wholesale and retail levels; provides consumers with a greater choice of network providers; it lowers the cost of switching from one operator to another operator; and encourages efficient investment in the network infrastructure by offering incentives to new and existing market respondents in order to offer innovative services to consumers in order to respectively attract or retain existing customers (Australian Commission Authority, 1998).

For purposes of this study, focus is given to consumer benefits. However it is important to highlight the value chain of benefits across the whole spectrum of stakeholders, as outlined in the study by Syniverse Technologies (2007)

since data will be collected from mobile operators and the regulator as part of the study. The benefits are categorised as follows: consumer benefits, market benefits, and regulatory benefits and operator benefits. First, for consumers, it eliminates among others the inconvenience of having to change the phone numbers, update address books, change programmed contact list and remember new numbers. For business, it avoids more expenses with regard to changing stationery, business cards, print adverting, websites updates, signage and invoices. Second, for the market; the introduction of free market forces operators to focus more on subscribers. In this instance, price is not a determining factor for attracting and retaining customers but operators introduce consumer loyalty programmes, improve customers service, reduce hold times, increase outbound calling programmes, focus on renewal incentive, work to improve network coverage and provide value added service such as Wi-Fi, push-to-talk service and 3G. Third, for the regulatory environment, it allows for synergy between operators and regulators where the central database used for porting processes by operators is used by numbering plan administrators to assign numbers in a more efficient way. Fourth, for operators, it is used to gain market share and others target business and average revenue per user per month (ARPU) subscribers (Syniverse Technologies, 2007).

1.2. Challenges with regard to the implementation of MNP

The implementation of MNP globally was expected to spur competition in the mobile market. Other factors which would determine competition included decrease in mobile tariffs and increase in the mobile related usage, improvement in customer service and satisfaction, differentiation in innovation in mobile packages and value added services, introduction of new technology and ease of market entry for new respondents (Chak, 2007, p. 23).

The Infocom Development Authority of Singapore (IDA) reviewed the costs for MNP switching. They found that recurring monthly charges for porting incurred by consumers was a hindrance for those wishing to port. Moreover such costs impacted negatively on the welfare of consumers and competition in the market. IDA subsequently instructed all operators to cease monthly recurring charges but were allowed to charge a once off amount. This decision was regarded as a potential boost for consumer benefit and also a tool for competition growth. It was further established that porting was only limited to post-paid but that decision was cancelled to include pre-paid as well, thus increasing porting (IDA, 2003).

The National Economic Research Associates (NERA) conducted a study which was used as a benchmark for most of academic research on the impact of MNP. Experiences differed according to countries. On the negative side, porting in Germany took 31 days to be completed. In Italy, only 3, 68% of subscribers ported their numbers a year after MNP was introduced in a country of 95% subscriber base of mobile telephony. In the US, there was a delay with regard to the introduction of MNP because of resistance by mobile operators to launch. Hong Kong reported positive effects on MNP as operators embraced the MNP facility and porting processes were effectively implemented (NERA, 1998).

A Synovate survey on MNP was conducted prior to the implementation of MNP in South Africa. The purpose was to determine the level of awareness on MNP and further to establish if it would have a positive impact. Interviewees were segmented according to age, gender and level of income in this case, high earners. During the ex-*ante* assessment which is described as a study that takes place before the fact respondents indicated their willingness to port their numbers after the implementation of MNP. The study further dealt with both advantages and disadvantages of MNP. The disadvantages include networking locking where operators lock the SIM card

to avoid easy access to other operator's network, network prefix identification, which is described as the first three numbers such as (082, 083 or 084) and implementation costs which are costs incurred by operators but passed on to consumers. Three advantages were expected to be in place for consumers: choice, lower prices and better services (Goldstuck & Ambrose, 2006).

1.3. Global reforms which sought to introduce competition in the telecommunications sector

This section explains attributes of global reforms in the telecommunications sector including countries which were impacted. The evolution entails liberalisation, privatisation, regulation, and competition which led to the introduction of MNP and the resultant consumer benefits. These components will inform the choice of academic literature on the effects of MNP to consumer and will be discussed in detail in the literature review.

The effects of industrialisation on demand and supply also impacted on the telecom industry and ICT companies identified infrastructure gaps in developing countries and opportunities for investment. On the one hand, developing countries required world-class technology to compete globally and direct investment was inevitable. The bone of contention though was state ownership of country incumbents (Melody, 2007).

According to the World Trade Organisations (WTO) supported by IMF and World Bank, the telecommunications sector was required to privatise its state enterprises and introduce competition in order to lower costs for consumers (WTO, 2002). A study by Castells (2000) has shown that globalisation cannot take place in isolation and can be facilitated through Information and Communications Technologies (ICTs). For growth and development to take place, connectivity to networks is vital. In essence, ICT is the enabler of globalisation and importantly one of the drivers of globalisation is investment.

However, liberalisation and privatisation had to be introduced in order for investment to take place in a viable economic environment (Castells, 2000).

1.3.1. Liberalisation of telecommunications markets

The concept of liberalisation of the telecommunication market was first introduced in EU countries. In some countries such as France it was met by resistance from labour unions. About twenty (20) countries within the Organisation for Economic and Cooperation and Development (OECD) deliberated on processes which member countries had to develop in order to prepare for the introduction of the telecommunication reforms. Historically, the fixed line telecommunications network operators were monopolies solely owned by governments both developing and developed countries. However, challenges in respect to the ever evolving technology, high costs of maintaining infrastructure, and the need for quality of service, compelled governments to consider introducing policy reforms.

Liberalisation is described as a process of opening up a previously restricted economy and or market to competition from local or international entities (Murdock, 1990). The General Agreement on Trade in Services (GATS) defines liberalisation in terms of access for service suppliers and focuses on competition, with foreign participation beginning with an environment conducive to market entry primarily for the other members of WTO (WTO, 1997).

Ospina (2002) posits the effects of telecommunications liberalisation on two main determinants of access, namely, availability and affordability. He highlights challenges of availability of with regard to fixed telephones and how the introduction of mobile services reduced the backlog of voice telephony (ITU, 1998). In his argument his assertion is that affordability looks at the price factor with respect to telephone services. Ospina cites a study conducted by Milne (2000, p. 9-10) which indicates that when the cost of

telephone services exceeds three percent average income, it is no longer affordable for the majority of the population. Essentially, he argues that liberalisation may impact positively or negatively on consumers depending on how it is implemented (Ospina, 2002).

In a liberalised market, established operators are keen to focus on customers, improve services, accelerate network expansion, and reduce costs and lower prices (Petrazzini & Clark, 1996). However, another argument posited is that state owned enterprises alone cannot provide efficient and cost effective services (ITU, 2003).

Frempong & Artuba (2001) argue:

> Liberalisation of a telecommunications market should according to its proponents, provide consumers with increased, more advanced, modern and affordable services. It should impact positively on the development of the sector, especially in the developing countries charecterised by a non-performing public monopoly (p.198)

1.3.2. Privatisation of telecommunication markets

Liberalisation of the telecommunications sector led to the privatisation of state enterprises. During this period, state assets were sold to private companies. Gillwald (2003) views privatisation as the funding model proposed by international financing agencies in the 90s in order to attract investment as a result of poor state of infrastructure and minimal customer base in developing countries (Gillwald, 2003).

[1]See "The UK experience". Conference paper presented in Singapore, Singapore (1990) as quoted in "Who benefitted from Privatization? (Routledge, 1998 quoted by Orsono, 2007).

1

There is evidence across the world of benefits of privatisation and they include improved performance, increased output and quality performance (Chong, 2003). Ramamurti (1996) indicates that the privatisation in the telecommunication sector resulted to rapid expansion of networks. The reforms led to the introduction of US Telecommunications Act of 1996. This legislation was used to liberalise the telecom markets. It was further used to force operators of mobile and fixed line telephony to develop processes which will ensure that number portability becomes available for consumers. Countries such as the United Kingdom, United States, Germany and Canada, complied with the OECD requirements and implemented such reforms (OECD, 2004).

The implementation of these reforms required member countries to develop regulations which contain among others, consumer provisions *vis-a-vis* number portability, quality of service and universal service (InfoDev, 2006, p. 16).

Martin, Roma & Vansteenkiste (2005) cited the OECD's definition of reforms:

> Regulatory reform refers to changes that improve the regulatory quality, that is, enhance the performance, cost effectiveness or legal quality of regulations and related government formalities. Reform can mean the revision of a single regulation, the scrapping and rebuilding of an entire regulatory regime and its institution, or improvement of processes making regulations and managing reform (p.6).

In 2007, the governments of The Organisation of Eastern Caribbean States (OECS) also developed a project called Economic Diversification Project, which in the main, was aimed at the promotion of competition in the telecommunications sector. Like the OECD countries, they viewed

telecommunications as a vital part of the economy. This project highlighted three pertinent areas of concern which were high costs of telecommunication services, lack of trained personnel in the sector and lack of infrastructure. Moreover, the project dealt with challenges which were faced by new entrants who could not make strides in the industry due to an uneven playing field, and exponential growth of charges by monopolistic incumbents. The OECS project led to the introduction of the mobile market in 2003 (OECS, 2007).

1.3.3. Regulation and Competition

There are benefits associated with liberalisation and include provision of increased, advanced and affordable services (Frempong & Artuba, 2001, p.198). However, for these benefits to be realised, there is need for a creation of a strong independent regulator, in order to ensure a balancing of consumer protection and operators interests.

The role and function of regulatory bodies needs to be clearly defined, and it is to operate transparently and effectively in the interest of the public. Regulatory bodies at the time of their formation were often compelled to address the challenges of markets which were not competitive. “In a liberalised telecom industry, both competition policy and consumer protection policy take on much greater significance” (Melody, 2003, p.4).

Melody (2003) describes competition as the driver of low costs, quality of service and customer attraction. Melody alludes to the idea that the market is effective and competitive when at least five or six players are competing rivals, with no significant barrier to entry and with no single firm exercising its dominance (Melody, 2003, p. 27).

Wallsten (1999) quoted by Gardener (2003) on competition:

> Competition or even simply a credible threat of competition will spur established telecommunications operators to focus attention on customers, improve services, accelerate network expansion, and reduce costs and lower prices (p.43)

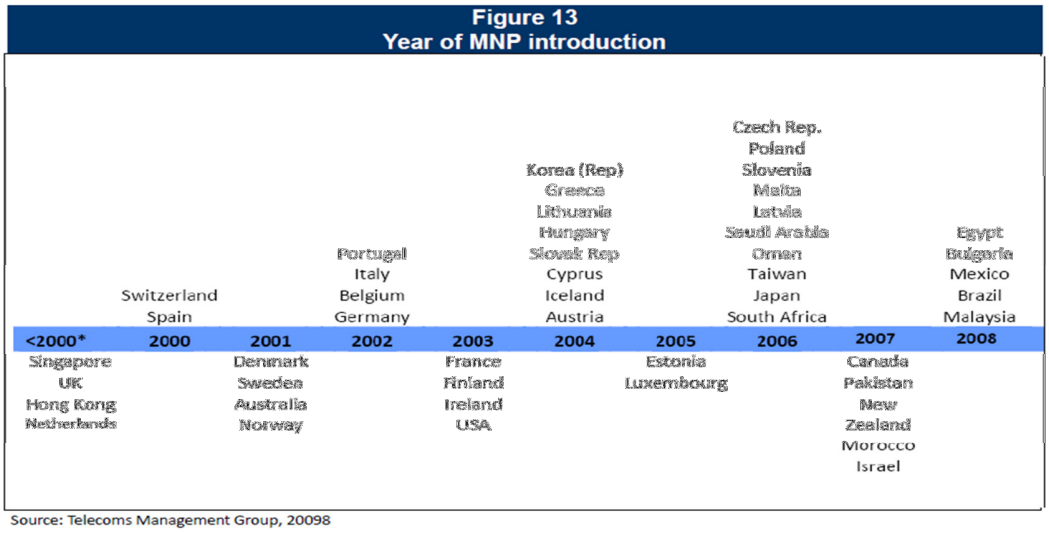
Similarly, Murdock (1990) illustrates three phases which should be looked at for reforms: market liberalisation, market regulation and privatisation of previous incumbent. He views liberalisation as the process of opening up a previously restricted economy and or market to competition from local or international entities (Murdock, 1990).

In order to ensure the implementation and success of the telecommunications reforms, another element of global reforms was introduced. This occurred through the formation of regulatory agencies. The regulatory agencies were created to be independent and to regulate in the public interest. .The mandate of these independent institutions is to ensure fair and just development and promulgation of regulations, using policy directives as a frame of reference. Moreover, their function is to monitor and enforce compliance by market players (Gupta, George, Bajaj, Shenoi & Jindal; 2001).

Prior to the introduction of number portability, numbers for fixed line operators were allocated according to geographic area, and as mentioned in the introduction, for mobile service providers the differentiation was based on the first three digits. However, with the introduction of Number Portability, this identification would change (InfoDev, 2006, p. 23).

Various countries started with the process of developing consultation documents and issued public notices for stakeholder participation in order to develop MNP regulations.

Figure 1: The following graph represents countries which have introduced MNP:



Source: Telecommunications Management Group, 2009.

Singapore

According to the Infocomm Development Authority (IDA), (2003), MNP was firstly introduced in Singapore in 1996. In line with the regulations, customers were expected to pay monthly fees to their previous service provider. Upon review, the regulator found that the recurring monthly charges for porting incurred by consumers were a hindrance for those wishing to port. Moreover such costs impacted negatively on the welfare of consumers and competition in the market. IDA subsequently instructed all operators to cease monthly recurring charges, and were allowed to charge a once off amount. This decision was regarded as a potential boost for consumer benefit and also a tool for competition growth. It was further established that porting was only limited to post-paid but that decision was reversed to include pre-paid subscribers as well. This increased porting numbers (IDA, 2003).

United Kingdom (UK)

UK had four mobile operators namely: Cellnet, Vodafone, Orange and One2one. The office Telecommunication (OFTEL) which is now Office of Communications (OFCOM) is the regulator of telecommunications in the UK. It conducted a feasibility study to determine the readiness of the country in respect to the introduction of MNP. The findings concluded that the country was ready for the implementation of MNP. In order to prepare for the introduction of MNP, the following had to be complied with: mobile operators were expected to put operational systems in place, mobile operators were further obligated to educate consumers about MNP and the technology used for porting had to comply with the functional specification as agreed upon by operators. A study by Ovum indicated that the net benefit for UK would at least grow to 98 million pounds over the first ten years period of MNP (ACA, 1988).

There are two types of ports which take place in the UK: consumer ports and Bulk ports. Consumer ports involve porting by individuals from one service provider to the other, and bulk porting involves business. In the UK, the porting process is Donor led, where a consumer wishing to port informs the Donor service provider in order to get the Port Authorization Code (PAC). This process is different to other European countries where consumer port is Recipient service provider led. With regard to the recipient led process, the service provider submits the port request on behalf of the consumer (OFCOM, 2009).

An ex-post study in the UK was commissioned by OFCOM in order to identify and analyse the porting processes which were not working well for consumers. OFCOM (2009) found out that there were difficulties experienced by a few consumers who wanted to port and they included:

- unwanted or excessive save activity imposed on consumers by the donor network at the point of PAC request. Several respondents commented on the “hard sell” approach adopted by operators when they made the PAC request. Respondents described experiences of having to go through “negotiation battles” with the operator in order to get them to release the PAC. One shopper noted: “I felt I was being put under increasing and unacceptable pressure to continue my contract”.
- refusal or failure to issue PACs to consumers, despite receipt of a valid request. This led to most consumers indicating a preference for recipient led process.
- delays that extended the length of the end-to-end porting process; in particular in MNOs issuing PACs to consumers,
- Consumers also indicated that the two day porting time frame was long (Ofcom, 2009, p: 7).

OFCOM continued with the consultative process to order to finalise the review process with the intention to make recommendations favourable to consumers.

Hong Kong

MNP was implemented in Hong Kong in 1999 as mandated by The Office of the Telecommunication Regulator (OFTA). This was done after much resistance by big operators. Seemingly, MNP was well received by consumers because during its first month, more than 102,000 applications were made for switching (ACA, 1999). At the start, OFTA commissioned a feasibility study which was conducted by NERA in respect to the cost- benefit analysis of MNP. The objectives of the study were firstly to identify the technical options for the implementation of MNP on all mobile networks.

Secondly assess the costs, availability and risks of each technical options, and finally looked at demand for, estimates of MNP options to recover the costs of portability (Telecommunications Authority, 1998).

The research results indicated that MNP would promote fair competition and increase a net profit. In the study, three types of consumer benefits were captured and are: quality of service, lower prices and consumer choice. Details of these benefits will be discussed in the literature review, as analysed by various scholars.

The developments with regard to the introduction of MNP in Hong Kong came at the time when the market was very competitive with four fixed line operators and seven mobile operators. In the consultation paper on MNP, OFTA stated that: “With such a fast growing mobile customer base in Hong Kong and the choice of mobile networks available to customers, the OFTA believes that there would be some genuine demands and requirements from customers for mobile number portability”. In terms of the economic recovery, the country was going to benefit by 461 million Hong Kong Dollar (HKD) (NERA, 1998, p. 8).

As stated before, the existence and the success of MNP depended on the technical feasibility. Hong Kong adopted the call forwarding facility which was a common technology in many countries. Caller Line Identification (CLI) was also introduced. Short Message Service (SMS) was seen as a value added service over voice telephony, however, it could not be included as part of services. This limitation could pose challenges to consumers in need of this service. Another technical challenge was the international calls on ported numbers, which could not be traced by the recipient operator at least during the early stages of porting (NERA, 1998).

Sweden

Sweden was the first Nordic country to implement MNP. At the time, there were 16 mobile operators. According to the Telecommunications Act of 1996 as amended, number portability was supposed to be implemented in 1999, but was delayed and finally introduced in 2001. The Act further stipulated that any costs incurred during the implementation of MNP within the operators would be borne by them (operators) and costs related to the transfer of the subscriber could be charged to the recipient operator by the donor operator (Levin, 2006).

Despite the introduction of MNP, consumers were not motivated to port. Instead, it is reported that there was a high percentage of churn rate (Gupta *et al*, 2001). Churn rate occurs when subscribers change network operators without fear of losing their numbers.

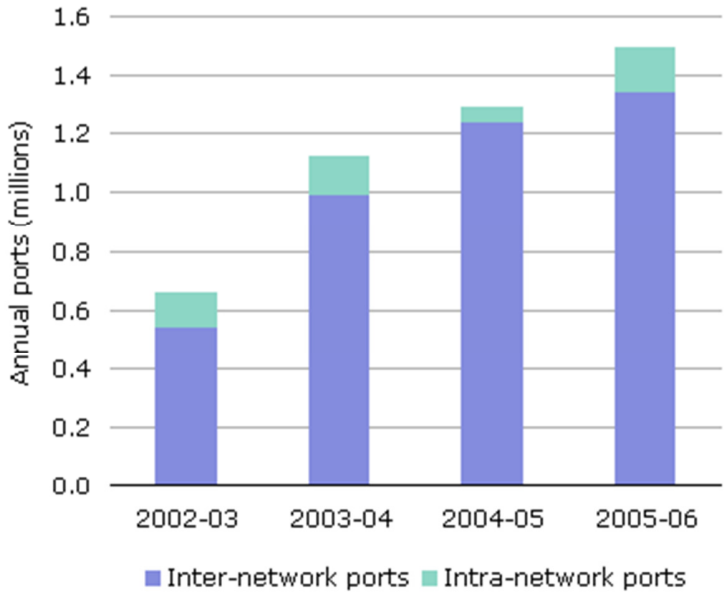
Mokadikwa (2008) cites (Majuba, n.d) and provides types of churn:

> There are two type of churn: Voluntary – the customer stops using the service due to one or other reasons, such as pricing, poor network quality or inadequate customer service to name a few. Involuntary – the service provider bars the customer from utilizing the service for no-payment or another reason (p.3).

Australia

This graph represents porting in Australia, where MNP was well embraced by consumers.

Figure 2: Annual Volume of mobile number ports, Australia



Source: Australian Communications and Media Authority, 1999

A study was conducted in Australia on the telecommunications market. It was established that prices were fairly competitive. Further, there was a high churn rate in the market for mobile services which would increase the level of porting should MNP be introduced. The Minister of Communications and Technology in Australia made a pronouncement that the costs of changing numbers outweighed the benefits for consumers, and therefore it was imperative that the Australian regulator introduces MNP (ACA, 1999).

In 2001, mobile operators in Australia implemented MNP through the Australian Communication Authority (ACA) directives and are seen as the world leader in implementing MNP.

In 2007, Network Strategies wrote an article about the successes of MNP in Australia citing a study conducted by ACA in 2007. The report indicated that over five million successful ports took place with an average of 85,000 ports per month. The success was attributed to consumers' experience on MNP: "Why is MNP a success in Australia? Quite simply, from the consumer's viewpoint it is a quick, seamless, low-cost experience" (Network strategies, 2007, p.1).

Like in the UK, the regulator remained technology neutral and allowed mobile operators to determine the type of technology suitable for MNP. It was estimated that the introduction of MNP would contribute to the economy of the country by 160 million Australian dollars (Gupta et al., 2001).

ACA commissioned an investigation emanating from consumer complaints and anti-competitive behavior by some of the operators. With regard to consumer complaints, porting which was supposed to take hours took days and this was frustrating to consumers. The findings indicated that MNP implementation was challenging during its first week due to outages. Basically the problems were regarded as teething problems which could be resolved in the process. Furthermore, it was reported that most porting took place within the stipulated time and about 5000 consumers had ported during first week of its introduction. ACA, concluded that consumers were not receiving quality service and that furthermore, the problem was exacerbated by lack of information (ACA, 2001).

Italy

MNP was launched in Italy in 2001. According to Levin (2006) two years after the introduction of MNP, only 3, and 68% of consumers had ported their number. The percentage was higher than those of their European countries such as Portugal, Spain and Germany. According to the study, MNP did not make any impact despite 95% mobile usage, of which 93% are prepaid.

Porting took 5 working days to complete in a market of 3 mobile operators (Levin: 2006).

Ireland

According to the consultation paper developed by Ovum for the Office of the Director Telecommunication Regulation (2001: 7-9), discussions initially began on the Numbering Plan and subsequently MNP was implemented. Ovum conducted a study regarding the MNP implementation processes and made the following recommendations: first, the process of porting should not be dependent on the retail sales process. Essentially, a customer wishing to port was required to first open a new account as per procedure, including the allocation of a new number from a number block of the new operator. Thereafter, they had to make a request to the new operator to have the old number ported and the new number withdrawn, without any involvement of the retailers. According to Ovum, this two-stage process has positive effects to consumers because it avoid the costs, complexities and delays that result from involving the retailer in the process. Second, the right to port a number should be established primarily by checking that the user has possession of an existing mobile phone which uses that number (Ovum, 2000).

According to the report by the Office of Director of Telecommunications (2007), Ovum proposed that validation be made with regard to the compatibility of the customer's current handset, in relation to the number intended for porting. They proposed that such validation could be achieved in a number of ways:

- a call from the mobile, where the CLI shows the number to be ported;
- a call to the number to be ported, establishing that the user has possession of a mobile using the number;

- a recent bill showing the number to be ported.

Lastly, the donor operator should accept a number portability order from the recipient operator for the purposes of both porting the number and closing the account with the customer. This study further indicates that this requirement is essential to ensure that the porting process takes place speedily and reliably.

The donor operator should not refuse porting on the grounds of:

- the customer having an outstanding debt;
- the customer not having completed the minimum contract period;
- the customer's handset being Subscriber Identity Module (SIM) locked so that it can only work on the donor operator's network (p. 7-9).

Germany

In 2002, the German telecommunication regulator, the '*Bundesnetzagentur'* commissioned a study in order to assess the readiness of the country for MNP. The objective was to look at competition and consumer benefits. Like other countries, the operators were required to establish a central database system which will administer all porting activities.

Porting in Germany took 31 days. Consumers were required to terminate their contract with the existing service provider before joining a new one. Consumers who wished to port their numbers were requested to pay fees to the donor operator. Porting at the time was low due to the fact that it was not mandatory for mobile operators to conduct awareness programmes. Another contributory factor for low porting was because consumers had to wait for a period of two years before porting.

Finland

In Finland, MNP was implemented in 2003. According to the Communications Market Act, “a telecommunications operator shall not charge a user for the transfer of a telephone number to another telecommunications operator.” This was in contrast to countries such as Germany, which charged fees porting. The donor operator may, however, receive a one-off payment equivalent to the one-off costs of transferring the telephone number. Over 1000 000 ported numbers were reported during its first year (Smura, 2004).

United States

The Telecommunication Act of 1996 in the United States (US) gave a directive for competition to be introduced. At the start, the regulatory directive was met by resistance from mobile operators who indicated that the market was already competitive with six mobile operators. However, they were obliged to comply with the regulations. Further obstacles to introducing MNP were exacerbated by lengthy postponements resulting from technological challenges, but MNP was finally implemented in June 2003. FCC conducted a study to examine how the introduction of MNP could affect the market price, consumer welfare and market concentration. The research results will be discussed in the literature review (NERA, 1998).

A quantitative study was conducted in the US about the effects of mobile number portability and it focused on consumer perception and behaviors. In terms of the sample size, 684 mobile subscribers were interviewed. Data was collected from the Cellular Telecommunications Industry Association from 2003 to 2005. A telephone survey was done with 422 subscribers and survey questionnaires were attached to 138 subscribers’ emails (NERA, 1998).

The questionnaires asked respondents about reasons for porting, quality of service, customer satisfaction, switching costs, lock-in and prices. The

research results were that the then implementation of MNP did not satisfy the regulator's intention to reduce switching barriers and that subscribers have been locked in. The Federal Communications Commission (FCC) recommended that future work had to determine if the implementation of MNP was done in an effective way (NERA, 1998).

1.4. Reforms in South Africa which sought to bring competition in the telecommunications sector

1.4.1. Liberalisation of the telecommunications sector

As it happened in the developed countries, South Africa had to follow global trends on liberalisation. According to Horwitz (2001) telecommunications reforms in South Africa took place at the time when the country was moving towards a new dispensation after many years of apartheid government. Policies were biased towards the minority of white Africans, with the majority of the population lacking services (Horwitz, 2001).

As mentioned by Ley Federal de Telecommunications (1995) quoted by Osorno (2007): "The opportune opening to competition in telecommunications services will contribute to the economic development…the opening of telecommunications sector will directly and indirectly bring benefits" (Osorno, 2007, p. 149).

Horwitz (2001) conducted another study regarding the telecommunications reforms in South Africa. He reports that in 1994, the African National Congress (ANC) led government, initiated the Reconstruction and Development programme (RDP). During this time, the Telecommunication Forum was also established. The forum was established to develop discussions papers on the status of telecommunication services in South Africa. The main concerns raised in the discussion paper were about communications services, where affordable services were identified and targeted as a basic need (Horwitz, 2001).

A study by Ayogu and Hodge (2001), explored the contents of the white and green papers as it was done by Horwitz. The White Paper contained the following prescriptions: the provision of universal and affordable telecommunications services, encouraged ownership and control of telecommunications services by persons from previously disadvantaged communities, encourage investment and innovation in the telecommunication industry, encourage the development of competition in the telecommunications manufacturing and supply sectors and ensure fair competition within the telecommunication sector (Ayogu & Hodge, 2001, p. 14).

Telkom was the monopoly incumbent providing fixed line services. With liberalisation government supported the introduction of the cellular operators and the licensing of the second network operator. There was a belief that competition would benefit, though the efforts to establish effective competition were slow. As indicated by Gardner (2003) unions in the WTO member countries were opposed to the concept of liberalisation of the market as they viewed competition to be beneficial to the high end and not the lower end.

Cosatu (2003) as cited by Gardner (2003) argued:

> While we are not opposed to some regulated competition of the provision of high level services to business, we are opposed to competition in the provision of basic telephony. Given the massive needs for extension of telephone services… we believe that optimum market structure would be for Telkom to have sole responsibility for the roll out of basic telephony, with this responsibility being funded both from the fiscus and dedicated levies on operators (p. 87).

According to White (2004) the first approach to reforms was through the introduction and public consultation on a green and a white paper, aiming at assisting government to formulate a new policy. In 1996, government

published an edition of the Government Gazette which among other things addressed the establishment of an independent regulator. During the same year, the Telecommunication Act 1996 was promulgated (White, 2004).

The key aspects contained in the Act were to establish the regulator for the telecommunication sector, namely: the South African Regulatory Authority (SATRA). This was followed by the formation of the Independent Broadcasting Authority (IBA). SATRA was accountable to the Minister of Broadcasting, Posts and Telecommunications, whilst the IBA reported directly to Parliament. In 1980, aspects of telecommunications markets were liberalised and competition was introduced. SATRA was responsible for approving licenses, creating and monitoring pricing policy and general industry regulation (White, 2004).

1.4.2. Privatisation of Telkom

In 1991 through legislative intervention, postal services were separated from telecommunications services and this paved the way for the establishment of Telkom as a state owned enterprise. However, Telkom's operations did not bring a positive turn over and the company struggled to expand its network. In 1990, government made changes in the telecoms sector through the privatisation of Telkom (Horwitz, 2001).

In 1992, in line with the global reforms, the minister commissioned a study on Telkom's business as a monopoly fixed network. The results were that Telkom had to be separated from the ministry. Another finding was that there was a need to establish the independent regulator. Telkom was expected to behave and conform to industry rules like any private corporation, even though it was state owned (White, 2004). The reforms continued with Telkom being an equity partner with a Malaysian consortium in 1997 with a 30% stake (Horwitz, 2001).

White (2004) indicates that several activities aligned to the policy reforms took place: the study, conducted on behalf of the government, recommended that competition be introduced in certain areas such as VANS and Cellular services, Telkom was given an exclusive license on certain services for a period of five years, the previous regime issued two licenses to two mobile service providers which are MTN and Vodacom. Each was given 25 years license to provide mobile cellular services.

To ensure a more liberalised market, SATRA licensed the third mobile operator Cell C and this was done through a bidding process. There was anticipation in South Africa that mobile operators would compete with Vodacom and MTN in order to bring the prices of mobile services down. As cited by Sean Patrick Newell Gardner (2003) in his thesis, other issues which were discussed during the bidding processes were a call to lower interconnection fees, roaming, number portability and waiving of interconnection fees (Bidoli, 1998).

Horwitz (2001) as quoted by Hlongwane (2009) found that:

> South African telecommunications were affected by the same forces that challenged traditional telecommunications regimes in other nations: the erosion of monopoly boundaries by technology and demand from large corporate users, the interrelated damage to the cross-subsidy system and attacks on the natural monopoly rationale (p. 68)

1.4.3. The merger of the South African Telecommunications Regulator (SATRA) and the Independent Broadcasting Authority (IBA)

SATRA and IBA were merged to create a single regulator; ICASA, established in terms of the Independent Communications Authority of South Africa Act, 2000. ICASA is mandated to regulate the communications sector in the public interest. Furthermore, the Authority is charged with the

responsibility to prescribe the numbering plans and to ensure that number portability was introduced by no later than 2005, including the creation of national number portability (Horwitz, 2001). Essentially, the numbering programme was an enabler for the introduction of MNP (Chak, 2007, p. 23).

ICASA conducted a study about the level of competition in the sector. The Authority indicated that most research done in the sector concluded that South Africans paid high prices in comparison with their counterparts internationally and that was attributed to lack of sufficient competition. Furthermore, the Authority indicated that consumers were not privileged to a free flow of information but instead were provided with too many misleading advertisements. In many instances, contracts were found to be hostile towards consumers because they were not able to make informed decisions on the services they required. ICASA made the recommendations that more players in the mobile industry should be introduced, second that number portability be introduced and finally that transparency be encouraged (Government Gazette no. 27854, 2005: 1).

[2]Well-designed numbering plans will accommodate the growth in the markets that an effective competition brings (and badly- designed ones can restrict growth severely) However, well designed plans can also encourage competition, particularly when they use network features carrier selection and provider number portability (Antelope consulting (http://www,antelope.org.uk, 2005).

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1.4.4. MNP Regulations and competition in South Africa

In 2004, ICASA published in the Government Gazette, the first set of regulations on number portability, inviting the public for comments. The draft regulations looked at porting between fixed line operators and mobile operators. However, the process was constrained by delays in the licensing of the second network operator (Government Gazette no. 27062, 2004).

According to Government Gazette (2004), some of the requirements of number portability stipulated that the recipient operator would not make an order on behalf of the subscriber unless they receive a request to do so. Further, both Donor and Recipient Operator should not engage in 'winback', where offers are made to subscribers who have ported their number but not necessarily those who have not ported. Importantly, it was imperative that operators should provide tariff transparency for on-net and off-net callers, especially when there is a 10% percentage increase in tariff for ported numbers.

The conditions as encapsulated in the gazette indicated that the Authority and Mobile Operators would conduct public education about MNP in order for consumers to make informed decisions (Government Gazette, No 26834, 2004). As reported by the 3group Europe: "on-net calls can be harmful to competition and might require intervention, especially if the operators are not equally placed…the offering of on-net calls has become a powerful instrument for incumbents operators to maintain their stronghold over the market" (The 3 Group Europe, 2006, p.6).

The public consultations in South Africa on MNP were held in 2004. The three mobile operators MTN, Cell C and Vodacom as well as Telkom played a pivotal role during the drafting of regulations and the development of a consumer guide. The draft regulations comprised of mobile and fixed line

services whilst at the time the second network operator was not yet licensed. In addition, the Functional Specification and Ordering Specifications as well as the code of conduct were not yet published.

The Functional Specification deals with exchange of information, system testing and billing procedures among others whilst the Ordering System addresses porting requests. These systems were important for number portability to be implemented and to ensure interoperability. Another contention in terms of competition was with regard to the role of Service Providers were not defined by the Act and the Under Service Area licensees (USALs), were limited to a geographic area (Government Gazette, no. 28091).

There were objections from operators about their intended participation in the number portability process as they were not defined by the Act. Importantly, there was a requirement that ICASA should conduct a feasibility study in order to ensure that a proper approach was taken with regard to the implementation of MNP. There was doubt whether the introduction of MNP will benefit consumers. The same reservations were raised by Telkom, CUASA, Vodacom and MTN (Government Gazette, no. 28091).

Cell C submitted that there was over 40% of churn rate in respect of the pre-paid subscribers. The concern was that unrestricted churn would prohibit competition and increase the costs of MNP to operators. What resulted was a proposal that the regulator should prescribe a restriction on the number of times that a prepaid subscriber could be allowed to port. Furthermore there was a need for clarity with regards to locked contracts which could perpetuate churn, churn rate which may force operators to charge *'claw back'* which are charges of enticements given to a subscriber during the provision of a contract parameters on quality of service, issues of packages and handsets,

locked porting times, advertising campaigns, public educations, tariff transparency were discussed (ICASA, 2004).

Prior the introduction of MNP, some consumer groups accused the two dominant mobile players, MTN and Vodacom of having cornered the market with their anticompetitive behaviour (ICASA, 2005). Cell C saw the introduction of MNP as an opportunity to increase its competitiveness in this sector (Goldstuck, 2006). South Africa promulgated the MNP regulations in 2005 but was only implemented in November 2006. The delays were aggravated by technical challenges which mobile operators had to deal with to ensure seamless functioning of the technology (Telecommunications Act 1996, as amended).

The regulations were finally implemented in November 2006 after delays which were apparently caused by technical challenges. Before the launch, ICASA and operators developed a consumer guide on MNP, which was a step by step procedure on porting. Another important document which was developed by operators in consultation with ICASA was the Ordering Specification (OSS) which detailed the technology that will be used for porting as agreed by all operators (ICASA, 2005).

When ICASA began consultations processes on MNP in 2004, it simultaneously established another committee to draft regulations on handset subsidies but the draft regulations were withdrawn after Vodacom took ICASA to court. Vodacom felt that ICASA had exceeded its mandate developing regulations of handset subsidy as ICASA does not regulate handsets including the manufactures (ICASA, 2004).

In 2008, the Authority published a revised draft regulations but these regulations as well, were marred with threats of litigations as operators views the action by ICASA as '*Ultra Vires'* which means acting beyond their

jurisdiction. The status quo by operators remains, as they believe that handset subsidy is a commercial agreement between a customer and an operator but not a regulatory issue. The argument by ICASA is that operators are not transparent when billing consumers (ICASA, 2008). According to Jordana & Sancho (2006) "The Regulatory Authority is equipped with procedures and instruments with which to enforce the regulatory aims. These include information and investigative rights as well as a set of sanctions" (Jordana & Sancho, 2006, p. 23).

1.4.5. Introduction of MNP in South Africa

In November 2006, ICASA launched MNP in all the provinces. Pamphlets on the Consumer Guide to MNP were distributed on cross roads, shopping malls and other strategic places. The Authority further conducted a public awareness programme country-wide to ensure that members of the public were aware about the introduction of MNP and its benefits. As stipulated in the MNP regulations, mobile operators as well advertised extensively in the media, persuading consumers to switch their numbers.

Despite all these efforts, it seems like MNP did not trigger a lot of interest for consumers. Moreover, the three operators in South reported high increase on their subscriber base but ironically, reported low ported numbers since 2006. By 2008, Vodacom reported 4, 448, Cell C 10, 622 and MTN 6, 138 ported numbers (Vodacom, 2008) of the estimated 46 million mobile subscriber base in South Africa (South Africa Telecommunication Report Q4, 2008).

Out of the 46 million mobile subscribers, not more than 500 000 customers had ported their numbers two years after implementation. The assumption is that the result of low ported numbers could be attributed to lack of education and awareness programme and lack of price transparency where consumers

cannot distinguish costs between on-net and off-net calls, and benefits in general.

On-net calls are made to the same network operators, for example, when one Vodacom subscriber calls another Vodacom subscriber. Off-net are calls made to different network operators, for example, a Vodacom subscriber calls an MTN subscriber (Mobile Number Portability Company, 2009).

During the first quarter of the introduction of MNP, about 867 consumers complained about delays in porting (Vodacom, 2008). The terms and conditions for porting are not clear for consumers, for instance, if a customer does not notify the mobile operator that they wish to discontinue their contract, the operator automatically locks the customer into a new contract, and if the customer insists on cancelling the contract, then they are made to pay penalties at times, regarded as claw-back (ICASA, 2007).

1.5. Conclusion

The Telecommunications Act of 1996 as repealed led to reforms in the industry aimed at promoting competition and also to protect consumers. Regulators were subsequently given a mandate to develop a numbering plan, which manages the numbers allocated to mobile and fixed line operators. Through the numbering plan, MNP was introduced.

An *ex ante* study was conducted in most countries to determine the readiness of operators and for consumers to embrace MNP. Other countries went further to conduct *ex post* study, in order to investigate the effects of MNP. Seemingly, the implementation of MNP was not easy in most countries. There were delays by operators, porting percentages were very low, regulations were not clear about charges for porting and consumers were well informed.

Like other countries, South Africa encountered challenges with regards to the implementation of MNP. Operators had delayed the implementation by 12

months after citing technical problems that hinder the seamless processing of MNP ports. Another challenge in dealing simultaneously with both GNP and MNP was not possible because at the time, the second fixed line network operator was not yet licensed. However, a year later, both the regulator and the industry were ready to introduce MNP.

The launch was done in November 2006 and a consumer guide was developed and distributed. Adverts were done on both print and electronic media. All these efforts by the regulator to give MNP publicity are yet to prove whether enough was done to prepare for MNP and importantly, to examine if its introduction was a success.

[3]See Code of Practice for all Network Operators on processes for MNP (Government Gazette, no. 28091).

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CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK ON MNP

2. Introduction

This chapter provides a literature review based on academic research studies conducted on the impact of MNP. Furthermore, it extrapolates concepts used in the discourse of competition policies and regulations which led to the introduction of MNP in SA. South Africa does not have much academic studies regarding MNP and it is important to note that literature that exists emanates from studies conducted internationally.

The telecommunications reforms attracted attention from various schools of thought, especially with regards to drivers of competition. Research studies on MNP as encapsulated in the literature review include both *ex ante* and the *ex post* studies. An *ex ante* study is described as a study which occurs before the facts. In the case of MNP, it means that studies were conducted before its introduction in order to investigate if consumers were aware about MNP and to generally determine if countries were ready to embrace it. An *ex post* study occurs after the facts; such studies were conducted after MNP was implemented in order to review its effects.

This chapter further looks at the definition of terms used in the literature review and will form part of this study. Importantly, it will look at the research objectives and methodology used by various scholars and draw out similarities and differences in the research findings. The literature review will investigate the tools with which the researcher will determine if MNP in South Africa is beneficial to consumers or not.

2.1. The review of academic literature on MNP

There are several academic studies conducted on MNP in order to investigate its effects on consumers. Fundamentally, MNP is not looked at in isolation but as another component of competition which was introduced to benefit consumers. This chapter looks at why and how scholars conducted studies

on MNP and importantly, provides research results which will assist the researcher to formulate her theoretical framework for the study.

As indicated in the previous chapter, there is a relationship between regulation and competition. This relationship forms part of this research study as it illustrates how MNP, as introduced through regulation enables competition. There are five factors: deregulation, re-regulation of competition, regulation-for-competition and meta-regulation which are interlinked with privatisation and liberalisation. De-regulation deals with the reduction of economic, political and social restriction on the behavior of social actors. This form of regulation takes place when the market is liberalised and free market is introduced (Stigler, 1975).

Re-regulation describes regulatory reforms and liberalisation, however provides new sets of regulations with no clear competition opportunities. Regulation–for-competition requires more intrusive capacities, it covers various markets nationally whilst the Regulation-of-competition is more sector focused. Many countries have introduced a competition commission to deal with regulation–for-competition whilst communications regulators focus on regulation-of-competition for the ICT sector, and as result becomes the authority on MNP issues (Stigler, 1975).

There are various theories aligned to the development of regulations with regard to the telecommunications reforms. The most relevant is the 'Public Interest Theory' as discussed by Horwitz (1989). In his argument, he highlights the importance of regulations in respect to the public needs. There is a view that private companies operate without taking into consideration the interest of the public.

> Natural monopolies had created 'bottleneck's which delayed delivery to the public. The challenges encountered by the public led to the creation of regulatory agencies that are mandated to regulate in the

> interest of the public. Ideally, with a regulatory agency comes the development and implementation of regulations, and subsequently, competition which eliminates bottlenecks of poor service delivery (Horwitz 1989, p. 24 & 26).

Melody (2003) draws on a study conducted by Milne (1997), about the 'Design and Management of the Numbering System' and indicates that regulators are duty bound to manage the numbering plan. Numbering plan refers to the National Significant Number (NSN). There are three reasons that are important for the regulator's intervention: the national numbering plan is a national resource; it should be managed in the overall national interest; and in a competitive environment, the regulator needs to make sure that this happens (Melody, 2003, p. 147).

As cited by Melody, Milner (1997) provides numerous competitive implications with regards to numbering plan and they include adequate local number capacity for local loop competitors, carrier selection codes for long distance competitors, capacity for new network services for new operators, short codes for new local loop competitors and operator number portability which is required by new competitors for new business.

> In the early days of local competition, number portability may appear to new competitors to be crucial to their success and to the incumbent to be technically a very tall order. On the other hand she said: regulators are likely to see local number portability as at least a serious option wherever there is competition and modern exchanges. "They will also be considering free phone and mobile number portability, where substantial benefits seem to be available at relatively low cost" (Melody, 2003, p. 147).

In reference to Melody, the introduction of number portability will enable a competitive environment not only to consumers but also new market entrants.

2.2. Research on the effects of MNP in various countries and regions

A study in the UK was conducted by Olla and Patel (2002) on the mobile telecommunications market. It was established that Mobile phones are an integral part of people's everyday lives. The study further found that over 70% of consumers owned mobile phones and that high mobile usage was as a result of competition growth. The UK study was conducted before the implementation of MNP and its purpose was to assess the level of readiness by consumers in embracing MNP.

Goldstuck & Ambrose (2006) of World Wide Worx conducted a survey for Nashua Mobile on MNP in South Africa. Like in the UK, the study was conducted prior to the implementation of MNP in November 2006. Their sampling was segmented into corporate, small and medium enterprise as well as consumers. They interviewed about 1100 South Africans both in urban and rural areas. Interviews were conducted per province and according to the community's indigenous language. Language proficiency was imperative in order to ensure that respondents provided answers based on the understanding of the subject and its objective (Goldstuck & Ambrose, 2006).

Questions included the awareness on MNP and the intention of subscribers to change networks. According to the research findings, about 50% of the respondents indicated that they would switch operators as they expected mobile calls to be cheaper. The post-paid subscribers anticipated challenges in switching due to long contracts (Goldstuck & Ambrose, 2006, p. 33 – 34).

According to Hodge (2001):

> In general, some competition is seen as desirable because it is able to lower the information rents that firms extract in the regulatory process due to information asymmetries between them and the regulators. Competition allows performance comparisons that provide better information on which to make regulatory decisions and make

inferences about the effort of firms in cost reduction and innovation (Hodge 2001, p.6).

Lyons (2006) conducted an econometric analysis making reference to similar studies which have been made by researchers in various countries from 1999 – 2004. These studies relate to the *ex ante* costs analysis of MNP by regulators for the UK in 1997, 1998 in Hong Kong and 2000 in Ireland, and *ex post* empirical examinations for the EU, the UK, the US and South Korea. The main focus of his analysis was based on information from 38 countries that ported between 1999 until 2004. The findings were as follows:

- when the quality of service was put together with porting times, it had an impact on the switching rates and average prices,
- In some countries, MNP was associated with increased switching and lower prices especially for countries which had porting times fewer than five days,
- countries with less stringent porting times had not experienced churn or revenue effects (Lyons, 2006, p. 2).

Further studies conducted by Buehler, Dewenter & Haucap (2006) found that technology was a contributing factor to MNP quality which also entails porting times and reliability (Buehler et al, 2006). Lyons cited a study by Gans, King & Woodbridge (2001) on the importance of choosing technology for number portability, and had similar findings in his empirical research. Some of the findings concluded that MNP was free for some subscribers whilst others were charged fees (Lyons, 2006, p. 4, 26-27).

Lyons cited two studies on the classification of MNP benefits, by NERA (1998) and Buehler *et al* (2004). Their studies looked at the *ex-ante* empirical methodology on customer costs emanating from MNP. The classification is based on Type 1, Type 2 and Type 3 benefits.

Lyon (2006) indicated that:

> Type 1 is categorised into Type 1A and Type 1B. Type 1A benefits are accrued by mobile telephone users who would change network operator even if MNP were not available. The benefits occur in the form of reduced switching costs. A study conducted in South Korea found that switching costs could be reduced by up to 35%. Another benefit for Type 1A is the avoidance of 'dual sourcing' whereby in the absence of MNP, some customers may choose to retain the mobile services in order to re receive calls on their existing on their existing mobile service. Type 1B benefits occur to users who choose to port their number because of the availability of MNP.
>
> Hibbard (2008) posits that:
>
> > "the reasons that customers switch will represent genuine economic benefits only to the extent that new operators offer lower charges or higher quality because they are more efficient than existing operators" (Hibbard, 2008, p: 15).
>
> Type 2 customer benefits: are those incurred by mobile telephone users who would not change network operator if MNP were not available. These include the costs of SIM cards, handset changes and other migration costs. These costs have been implicitly been netted out.
>
> Type 3 benefits are benefits that confer to other subscribers when a subscriber ports his number.

IDA (2000) describes Type 3 as follows:

These external benefits will likely be greater for subscribers who call many other subscribers and include the following:

- Continued validity of non-porting subscribers' public and private directories and memorised numbers;
- Reduced problems with faxes sent to/received by the wrong fax machines since they do not identify whether the responding fax machine belongs to the intended recipient;
- Reduced telephone operator assistance; and
- Reduced wrong number/billing disputes (p: 7)

According to Lyons, the *ex-ante* evaluation on the benefits of MNP concluded that MNP would provide welfare gains if expenditure on the benefits of MNP outweighed the cost of network investment, process changes and operating costs to make number portability, in this case by operators. In Lyons's view, previous *ex ante* evaluation focused more on Type 1 benefit and Type 3. Little attention was given to Type 2 benefit which deals with costs incurred by customers who not change network operators if MNP was not applicable. The researcher in this study will focus on the Type 1B benefit accrued by mobile users who chose to port their number because of the availability of MNP (Lyons, 2006).

Contrary to previous ex ante evaluation which focused more on Type 1 and Type 2 benefits, NERA (2003) conducted the ex post empirical research and looked at Type 1 benefit only. The study found that after two years of the implementation of MNP: only 12% of residential customers had switched their number. The number was low in comparison to the *ex-ante* assessment and in comparison to the 50% of business customers that had switched at least some of their numbers (Lyons, 2006, p. 4, 26-27).

Other challenges with regard to the implementation of MNP had to do with delays during porting and, lack of high uptake of number portability in the first

year was due to delays in porting times which took about 25 days. But when the days were reduced to five, there was greater up-take with residential increasing to 18% and business to 80% again as proportions of customers that switched, not as proportion of customers in total (Lyons, 2006, p. 4, 26-27).

Lyons further looked at the empirical study by Ovum (2005) which was conducted in countries such as Australia, Germany, Hong Kong, Ireland, the Netherlands and the UK and reported that: the long porting period discouraged customers to port, as it happened in UK, but could not conclude that a shorter period was a determining factor in attracting customers to switch their numbers; whilst high charges to customers were a deterrent to porting, it could not be concluded on the other hand that zero charges attracted demand for porting (Lyons, 2006, p. 4, 26-27).

Lyons also cited individual markets on MNP and looked at the study conducted by Lee, Kim and Park (2004) who conducted a study in South Korea about factors which attracted customers in porting their numbers. They found out that there was willingness by customers to pay an average of 3.24% of their monthly bill for a mobile number portability option. Willingness to pay (WTP) showed a strong positive association with income, awareness of MNP, and intention to switch (Lyons, 2004, p.5 -7).

According to Lyons, a similar study was conducted in South Korea by Kim (2005). It was reported that MNP reduced switching costs by at least 35%. Furthermore, switching took place during the first year of MNP, and it took place mostly with larger operators. Another study was done in Hong Kong and found out that the market was highly competitive with 7 mobile operators. Contrary to these findings was a study by Haucup *et al* (2006), which found ambiguity about MNP in most European countries, the research results for this study indicated that MNP brought about 6% discount rates which was a benefit to consumers. The saturated market forced operators to bring prices

of telecommunication down and quality of service was a determining factor in influencing customer choice more than prices. In the US, it was found out that "despite rapid growth in the market, the firms' incentive to exploit their existing 'locked in' users was greater than their incentive to 'lock in' new customers (Lyons, 2004, p.5-7).

A study conducted by Smura (2006) looked at Finland, Italy, Singapore and Germany. In Finland MNP was only applicable to contract users who were 96% of the total users. Finland is one of the countries which had a positive report on the impact of MNP to its consumers. This was attributed to enforcement powers which the regulator had. Bundled services, SIM – lock, lock in contracts and long contracts were banned (Smura, 2004).

In Italy, two years after the implementation of MNP, only 3.68% of subscribers had ported. Italy has a high usage of mobile telephony and 93% of users are prepaid. To compete in the competitive market, operators launched aggressive marketing campaigns to attract customers. By now, Italy is said to have the highest cumulative porting rate in EU. In Singapore, MNP usage was very low and the contributory factor was that subscribers were obliged to pay monthly fees to the previous service providers. Germany is reported to have had very low ported numbers mainly because of lack of marketing campaigns and longer time frames for porting, which was about 31 days (Haucup, 2006).

Buehler *et al* (2003) explored a similar study done by Lyons. They found that the introduction of MNP encourages competition in the market which is of interest to regulators. Regulators as mentioned previously are mandated to ensure competition in the industry. They found that actually MNP does not take place free of charge. As much as operators incur costs for technological upgrades, consumers to a certain extent are expected to pay for porting (Buehler *et al*, 2003).

A study by Shin (2007) concluded that direct costs are costs incurred by operators and include the development of technology for MNP and its implementation and the database infrastructure that had to be built for this process. The indirect costs are those paid by consumers for calls to ported numbers as they cannot distinguish between networks when placing calls. But countries such as Portugal, Ireland and Belgium informed customers through SMS when they placed calls on or off net (Shin, 2007).

Aoki and Small (2005) conducted an analysis on the switching cost and found out they were reduced subsequent to the introduction of MNP and improved the welfare of consumers. Podvystskiy (2006) cites studies by Klemper (1995) and Aoki and Small's (1999); view that switching costs are a function of policy makers and feels they are the ones responsible for ensuring these get reduced. He further mentioned that switching costs impact negatively on consumers. Contrary to the study (Ovum, 2005) Grzybowski (2005) found out that switching costs were not a problem in the UK as the regulator made some interventions (Podvisostskiy, 2006, p. 8, 11).

A study (Shi, Chiang & Rhee n.d) examined how the introduction of MNP could have affected the market prices, consumer welfare and market concentration. Their study was conducted in conjunction with the existing literature which indicates that market share leaders tend to charge consumers high prices but lose the market share in the process.

Refer to (Levin, 2006:7). [4]The Basic Concepts in the Telecommunication Competition: on abuse of power with regard to bundling by the market (http//cbdd.wsu.edu/kewlcontent/cdouput/tr501pg17-18.2009/05/18).

[4]

Operators were providing discriminatory price scheme for those calling off – net and on – net. And those who stood to benefit were the subscribers calling on-net as they are provided discounts and as a result the market leader could gain the market share. A typical example for this scenario is Hong Kong where prices were cut by 60% and market leaders gained significant market share whilst the smaller players lost customers. Basically their study indicates that there is causal relationship between high prices and market share (Shi, Chiang & Rhee n.d) An article by Ben Omodi on views from Africa indicates that when MNP was introduced in Kenya in December 2010, four mobile operators cut voice tariffs and SMS charges and this move was expected to have positive impact for consumers.

Omodi (2010) wrote:

> By granting customers the freedom to move from one operator to another, the telecoms industry is headed for very exciting times. With MNP, differentiation amongst mobile service providers will no longer be based on pricing but a combination of value propositions mainly value added services, customer service and network coverage and quality, said Meza, who was the first to reduce call and SMS tariffs heralding the current price wars (p.3)

The repealed Telecommunications Act of 1996 gave powers to the regulator, ICASA, to develop telecommunications price regulations. Section 45 of the Act stipulated that the market failed to produce competitive prices therefore it was pertinent for price regulations to be developed in order to address that anomaly. The regulations then gave the regulators powers to determine fees and charges for telecommunications services. In relations to mobile services, MTN and Vodacom's licenses required them to increase rates by no more than the annual consumer price index (CPI). Cell C's license contained no such conditions (Thorton & Hodge, n.d).

Buehler and Haucup (2004) examined the trade-off between competition improvement and consumer ignorance associated with MNP. Like other academic research on MNP, they focused on the introduction of MNP as the abolishment of switching costs. They found that mandatory MNP did not create welfare for consumers. Moreover, they reported that the introduction of MNP gave rise to a consumer ignorance problem. They argue that ignorance occurs when consumers are not aware of termination charges and this becomes a trigger for operators to increase their charges. Further to their analysis was the regulation on termination charges. They conclude that if regulations on termination charges are applicable, then under such conditions, MNP will be beneficial to consumers.

European Union's Universal Service Directive stipulates that MNP pricing should be costs orientated, a task which seem daunting to many member states as each country would have a different pricing methodology. Countries such as Finland charge switching subscribers whilst Irish and Spanish countries are prohibited to charge. Other countries such as Belgium charge prepaid customers and not post-paid. A study (Buehler *et al*, 2005) concludes that due to the porting costs by operators and customer's ignorance on issues related to MNP, the welfare benefits from MNP become ambiguous.

Baldwin & Cave (1999) state that:

> Competitive markets can only function properly if consumers are sufficiently well informed to evaluate competing products. They further mention that when information is made extensively accessible, accurate and affordable, it may protect consumers against information inadequacies and this may result in a competitive market where consumers can make informed decisions and choice (p.13).

Noticeably, most literature emphasises the benefits of MNP on consumers to be quality of service, low costs and choice. However, 'keeping the number' is

also seen as the consumer benefit. As discussed, (Gerport, Rams & Schindler 2001) discovered that customers put value on their phone numbers especially if they used it for a longer time. The same sentiment is shared by (Buehler, Dewenter & Haucup: 2005) who mentioned that in terms of property rights, a subscriber becomes a sole owner of the phone number and its control. Prior to the introduction of MNP, consumers had to keep up with unsatisfactory service by service providers just to keep their number (Buehler *et al,* 2005).

Like South Korea and Hong Kong, Olla and Patell (2002) reported that in the UK, prices went down after the introduction of MNP. Competitors brought down prices in order to encourage customers to switch (Olla & Patel, 2002). However, with the long porting times reported in the study of Ovum (2005), the results of Lyons (2006) suggest that very little of the price fall in the UK could be attributed to the introduction of MNP. There is obviously contrasting findings as it happened above with (Podvisoskiy, 2006).

Igbal (2007) conducted a study in South Asia about the impact of MNP and highlighted measures for the successes of MNP. First, he says that high porting numbers are indicative of the successes of MNP. He mentions several countries such as Hong Kong, South Korea and Australia introduced low prices (Tahalani, 2007).

MNP has a negative impact on interconnection rates. Complexities are associated with international interconnections rates which depend on a country's rates. Interconnection is defined as " the commercial and technical arrangement under which service providers connect their equipment, networks and services to enable customers to have access to the customers services and networks of their service providers" (Bhatnagar 2004:5). 'Interconnection must be regulated where competition in telecommunications

services exists. However, competition is not an end but a means to an end' (lower prices, high rates of innovation and investment, etc.) (ITU, 1995: 5).

In 1997, OFTEL published a discussion paper on mobile termination rates. This discussion was premised from the notion that mobile operators charged high prices for delivering calls to customers on their networks. After much debate between the regulator, operators and intervention by the Competition Commission, it was agreed that terminated charges be reduced by 15% in the next three years (Bomsel *et al*, 2003). The same public consultation was done by ICASA and the termination rates have decreased from 1.25 to 80 for off peak and peak calls. The challenge with the regulations is that they address rate cuts at wholesale level and there is no benefit for the consumer (ICASA, 2010).

A study (Park, 2009) examined the price impact with regard to the introduction of MNP in the US. Furthermore, the study looked at competition in relation to policy directives and investigated whether consumers across the board benefited. The research results indicated that competition grew and brought about price cuts in the mobile industry. With regard to consumer benefits, the service providers offered both old and new subscriber's choice on similar products. It was reported that in the first year of after the MNP, 7, 8 million of subscribers had ported (FCC, 2005). Furthermore, the study found out that the prices fell at 0.87% for low plans, medium and high plans fell at 4.87% and 6.9% respectively (Park, 2009, p. 20 -22).

Satitsamitpong & Mitimo (2008) conducted an empirical study on consumers' behavior in Thailand. They were interested in understanding why consumers were switching from one network operator to the other. At the time, the subscriber base was nearing 50 million and government deemed it necessary to introduce MNP. The analysis looked at the following:

Brand – Branding was regarded as the important factor when people choose a particular product.

Reduction in monthly bills – The mobile market in Thailand was an 'oligopoly' with four operators competing for mobile subscribers. Price was a determining factor for porting. Consumers had to indicate the discount they received from the operators through their billing statements.

MNP adoption fee – This is a fee which subscribers paid when wanting to switch to a new service provider and to keep their old number. Essentially, this fee would determine the effectiveness of MNP on basis that if the fee was high, then the demand for porting would be low.

Porting time – The time it took for porting was also important. It ranged from few hours to days.

3G availability – This value added service was used as another factor for porting, and this was mainly used for new service providers.

Satitsamitpong & Mitimo (2008) excluded the handset from their study due to the regulatory intervention on monitoring and enforcement strategy which required operators to unlock the customer's SIM- card. In their research results, they found out that consumers had a high expectation with regard to the monthly bills, and that contributed to their decision to switch or not. Brand was also said to be a determining factor for switching operators. Basically, this means that consumers were not concerned with lower prices or quality of service but ported because they wanted to join their favourable brand.

Porting time had a negative effect on porting decisions. For example, if time frames for making calls was shorter, basically , taking place within few hours or at least a day with the current operator, it was unlikely that consumers

would want to port to a new network operator. With regard to fees, if there were lesser charges, it was possible that most consumers will port. Lastly, they found out that post paid subscribers were keen to port more than prepaid subscribers (Satitsamitpong & Mitimo, 2008).

A study (Sobolewski, n.d) investigated whether the diffusion process in the mobile telephony has been speeded up by the introduction of MNP. He defines diffusion as 'the process by which new ideas, products, technologies spread in the social system' (Sobolewski, n.d). He mentioned that the motivation for this research question was informed by ongoing debates with regard to the effectiveness of MNP.

Of note, was the common belief that MNP was an effective tool to promote competition. This is a view that he contradicts based on the *ex post* studies which indicated that its effectiveness remains ambiguous. In his investigation, he found out that there was a dichotomy between the research findings on EU markets and country reports. Whilst EU markets reported moderately positive impact of MNP, various countries did not see the growth of competition as envisaged by the MNP regulations. He attributes lack of MNP success to the unfavourable conditions for consumers who were willing to port their numbers.

He highlighted switching costs as one of the unfavourable conditions for consumers who port their numbers. As stated previously, switching costs are incurred by consumers who port their number to the new network service provider but do not apply to those who remain with the current operator

(Podvysotskiy, 2006) mentioned that this type of strategy by operators contributes to extra costs by consumers, when they buy products with the new service provider. As he puts it, with consumer switching costs demand is less elastic and there is no incentive for consumers who want to port and therefore competition is not realised. He added other switching costs which

include sim-locking of handset and penalties for those who break their contracts. He describes the strategy used by operators in switching costs as “bargain then rip-off pricing”. This occurs when customers pay low costs at the beginning but then later on when they want to switch, they pay high charges (Sobolewski, n.d).

A study Igbal (2007) highlighted several factors which should be considered in order to ensure the success of MNP. First, there has to be consumer demand for MNP. Consumers should be willing to port, and indicates that if porting is low, then the service of MNP should not be introduced. His view is that developing MNP technology is costly and indicated that putting systems in place without effectively using them result in loss by operators and that wasteful expenditure could not be recovered. Furthermore, this would lead to economic failure. According to Horrocks (2007), an MNP expert, MNP should be implemented in countries with big population and bigger mobile markets. In the absence of this, that costs will outweigh the benefits (Igbal, 2007).

Second is the level of competition. Igbal cited a study by Haucap (2003), where the level of competition between operators should be a measure for the success of MNP. He argues that when competition is at a mature level, then there is no need for the introduction of MNP because operators in such competitive markets do provide consumers with lower prices and quality of service. His view does not mean that MNP as a service should not be introduced at all, but says that it should be considered only as a standard service in advance telecom markets. He gave an example of Ireland as where MNP failed because there were only three mobile operators licensed. He mentions that consumers were reluctant to port as they saw no benefit of porting from one operator to the other, and as a results, there were poor porting rates. There was homogeneity with regard to prices and packages. Third is the regulatory control. He indicates that a regulatory agency should

be independent and powerful in order to ensure that the sector complies with regulations on MNP and for its success (Igbal, 2007, p.11).

Gans (2001) stated that regulators and policy makers should be aware that MNP may increase competition in the mobile market, however, what is important to note is the means by which it is implemented. The approach or the method they use would be a determining factor for its increase or hamper effective competition and therefore be a detriment to consumer welfare (Gans *et al.,* 2001).

The regulator in Finland had to step in when MNP was failing. They forced operators to abolish handset subsidies and long term contracts (Smura, 2004). In the UK and Netherlands, regulators were not as effective and in Finland hence there was poor MNP uptake in those countries (Horrock, 2007).

Lastly is the policy and regulatory implications. Igbal (2007) posits that a precondition for the introduction of MNP should be the technical aspects with regards to the implementation, pricing and payment mechanism. MNP requires technical proficiency and that includes technical proficiency of the regulator (Igbal, 2007).

2.1. Conceptual framework on MNP

2.1.1. Types of MNP benefits

There have been both qualitative and quantitative studies in the literature. As explained earlier, Lyons (2002) conducted an econometric analysis which is an empirical research. He segmented the benefits of MNP in three categories: first benefits obtained by customers who switch. Second, benefits by all mobile telephony users and lastly, benefits obtained by those calling to ported numbers. As mentioned earlier, this study will focus only on the benefits experienced by consumers who ported their numbers, which is benefit 1.

2.1.2. Quality of service

Melody (2003) describes competition as the driver of low costs, and quality service and customer attraction and retention among other drivers. This study will investigate if reasons for porting among other were due to quality of service. Quality of service in this context is based on the consumer's interpretation as it has different meanings. Operators look at the quality of service as the availability of network coverage, upgraded technology and manageable drop calls.

2.1.3. Porting information

In South Korea MNP became a success month after it was introduced. Contributory factors according to Lyons (2004) were strong positive association with income and awareness of MNP among others. Other countries could not make a positive impact on consumers because of consumer's ignorance on the concept of MNP. This study will investigate if consumers had sufficient information about MNP prior to switching.

2.1.4. Porting times

Previous literature informs us that porting times were one the determining factors in the success or failure of MNP. The researcher has noted however, that research made on the time frames regarding MNP could not conclusively indicate if the short time was an indication of porting success. This study will investigate if porting times in South Africa took longer or shorter than in other countries such as Hong Kong or South Korea, but the determining factor mainly will be the time frame contained in the MNP regulations.

2.1.5. Consumer awareness

When MNP was introduced, many countries conducted *ex ante* and *ex post* assessment to determine if consumers were aware about MNP and investigated if they were ready to embrace it. Customer Education was included in the regulation framework. An *ex post* study was conducted in

South Korea about the effect of MNP and the research results showed that consumers ported because they were aware about MNP (Lyons, 2006).

2.1.6. Churn coverage

Churn rate refers to the proportion of contractual customers or subscribers who leave a supplier during a given time period (Hibbard *et al*, 2008).

2.1.7. Value added service

Value added service includes internet data services and video or picture services which are accessible from mobile connection, all bundled together. This 'triple play' is a competition trend which came as a result of innovation. Initially these bundled were sold separately. For instance, the 3G card at the beginning was sold separately, but due to competition, different operators began to adopt this trend. These days, whether one is a pre-paid or contract, services are the same. Most handsets and services allow for other value added services.

2.1.8. The switching costs

The switching barrier refers to the difficulty of switching to another provider that is encountered by a customer who is dissatisfied with existing service, or to the financial, social and psychological burden felt by a customer when switching to a new carrier (Fornel, 1992). Essentially if consumers continue to encounter switching barrier then they will be forced to remain with their existing operator. (Dick & Basu, 1994) describe them as costs incurred when switching, including time, money and psychological costs.

2.2. Conclusion

The review of literature indicates that MNP had negative and positive effects. Its successes could not be conclusively reported as there is no clear measure which constitutes success with regard to MNP. All studies mentioned that the objective of introducing MNP is to lower the costs, bring about quality of service, provide consumer choice and drive competition.

Competition was not only with regard to price drops but to also level the playing field among telecommunications market players. There was a regulatory expectation in ensuring that consumers exercise their right to choice, public education with regard to MNP was to be conducted by operators and regulators in order for consumers to make informed decisions. With the introduction of MNP, consumers who could not terminate their contract with mobile operators without the fear of losing their number were now free to do.

Operators were expected to adhere to the time frames provided for the final implementation but this expectation was difficult to achieve in many countries including South Africa due to technical challenges. Fundamentally, operators had to upgrade their technology in order to accommodate all numbers from other operators with different prefixes. Citing from research results of various reviews of literature, Lago (2007), indicated that there were also downsides with regard to the implementation of MNP. Consumers could not distinguish the network operator they were calling on ported numbers. He argues that the naivety by consumers led to operators increasing termination charges. The technology used for MNP was also expensive and operators had to incur costs for set–up costs, customer transfer costs, routing costs, and costs for managing the MNP database. Furthermore, he mentioned anti-competitive behavior whereby consumers were tied for longer to contracts, and those who terminated their contract anyway were compelled to pay penalty fees. Consumers were obliged to purchase new handsets as their old phones could not be compatible with the new operator's network.

The effects of MNP vary and Levin (2006) summarises them as follows: In Finland, the number of subscribers grew at 37% during its 1st quarter of MNP introduction; Singapore had a low intake due to the fact that customers were expected to pay monthly fees to their previous service providers and this was a limitation for porting. UK only one out of five subscribers ported their

number and this was attributed to poor marketing campaigns and delays in porting periods which took about four weeks. Hong Kong had high number of ported subscribers of about 85% five years after implementation, In Germany 15 month after the introduction of MNP, only 0, 43% of mobile subscribers ported their number (Levin, 2006), Buehler *et al* (2005) mentioned that the introduction of MNP remained ambiguous as many consumers did not benefit and implored further academic study on the purpose for the introduction of MNP.

Melody (2003) mentioned that real competition cannot take place in a duopoly market. South Africa has three mobile operators only. The purpose is to determine if three players in the market could bring costs down and provide consumers a quality service through MNP.

This study was motivated by previous academic literature discourse on MNP, which indicate that most countries in Europe did not benefit as anticipated. To name a few, United Kingdom (UK) subscribers were not inclined to port because they perceived switching costs to be high and that discouraged them from porting. In the US porting was very low during its first year. Delays in respect to the implementation of MNP by several countries were also a contributing factor for lack of interest in consumers porting.

Summary

As stated before, prior to the introduction of MNP, consumers were required to give up their numbers when they changed service providers and as a result, they were reluctant to switch (Buehler & Haucup, 2003). In South Africa, a study by Goldstuck indicated that competition remained stifled by continuous exorbitant prices while consumers were forced into long contracts, moreover, bundled services such as handsets subsidies exacerbated the problem (Goldstuck, 2005).

Policy makers saw MNP as a mechanism to change the outlook of the industry but this initiative was not welcomed by market players. Almost in all countries, operators were opposed to the introduction of MNP. In the UK, operators raised concerns that the introduction of MNP before a study is conducted would result in regulatory burden. 'We don't have any level playing field with MNP and its a millstone round our necks. Anything over a day to organise to change networks with MNP is unacceptable and giving operators a win-back chance makes market less competitive' (Russell, 2007, p. 1). They further argued that it would bring about additional costs, and would be a barrier to new entrants, a view which was disputed by OFTEL (Gupta *et al.,* 2001).

CHAPTER 3: RESEARCH PROBLEM AND METHODOLOGY ON MNP

3. Introduction

The focus of the research study was to solicit perceptions of policy makers, Regulators, mobile operators as well as mobile subscribers, on the benefits of MNP. The research required an in-depth understanding of how respondents' interpreted their understanding of MNP benefits through different approaches in data collection. Respondents were selected from the Department of Communications (DoC), ICASA, Vodacom, MTN, Cell C, as well as Nashua Mobile. Lastly, mobile subscribers were selected from various mobile operators.

Three sets of questions were developed for the selected respondents and the researcher anticipated multiple interpretations of data collected. The instrument used was a set of questions in a questionnaires format which were then administered via telephone and face-to-face interviews. This chapter further outlines the purpose of the research and research designs, significance of the study, limitations and ethical issues and speaks to the questions asked in the implementation of the research. The method adopted for this study is purely qualitative.

3.1. Problem statement

As indicated in the background and literature review chapters, prior to the introduction of MNP, mobile calls were expensive. Consumers were forced to stick with network operators despite the lack of quality service as they did not want to lose their numbers, and competition in the market was nonexistent due to apparent of price collusion. Government has on numerous occasion, highlighted its concern with regard to high costs of telephony in South Africa, in comparison with developed countries whose prices are lower, and

telecommunication services became part of government's national agenda (White, 2004).

Since the introduction of mobile telephony in SA, only three network operators are licensed which makes competition ineffective. In 2004, former Minister of Communications Dr. Matsepe -Casaburri made a policy announcement on a more competitive ICT environment, improved access to ICT infrastructure and services, affordable telecommunications services and a variety of choice in services being provided by the ICT sector to meet both economic social needs of our society (DoC, 2004).

In 2005, EC Act was introduced and section 2 (n) of the objects of the Act stipulates that ICASA should: "promote the interests of consumers with regard to price quality and the variety of electronic communications services". In 2007, ICASA completed the license conversion of previously Value Added Network Service (VANS) license holders, but this move did not increase competition in the mobile telephony as all former VANS continue provide network for internet access. Ironically, the ministerial determination did not bring any change with regard to call prices.

The implementation of MNP globally was expected to spur competition in the mobile market. Expected effects of competition included a decrease in mobile tariffs and increase in the mobile related usage, improvement in customer service and satisfaction, differentiation in innovation in mobile packages and value added services and introduction of new technology and ease of market entry for new respondents (Chak, 2007, p. 23).

Goldstuck (2006) conducted their study on the impact of MNP prior to its implementation in 2006. Respondents indicated willingness to port as they expected costs of mobile telephony to reduce and quality of service to improve.

Despite all these efforts, MNP did not trigger a lot of interest by consumers. Moreover, the three operators in South reported high increase in their subscriber base but ironically, reported low ported numbers since 2006. By 2008, Vodacom reported 4,448, Cell C 10,622 and MTN 6,138 ported numbers (Vodacom, 2008) of the estimated 46 million mobile subscriber base in South Africa (South Africa Telecommunication Report Q4, 2008). The subscriber base is not based on head count but the number of SIM cards sold by operators. The number in South Africa is smallin contrast to what happened in Hong Kong during its first month of porting where more than 100,000 subscribers ported.

During the first quarter of the introduction of MNP, about 867 consumers complained about delays in porting (Vodacom, 2008). The terms and conditions for porting are not clear for consumers, for instance, if a customer does not notify the mobile operator that they wish to discontinue their contract, the operator automatically locks the customer into a new contract, and if the customer insists on cancelling the contract, then they are made to pay penalties at times, regarded as claw-back, which are not regulated (ICASA, 2007).

All these developments indicate that there are still problems in South Africa regarding MNP and hence this choice of study.

3.2. Purpose statement

The study will investigate how the quality of service, porting information, porting times, consumer awareness, churn coverage, value added service and switching costs have benefitted consumers of South Africa since the implementation of MNP in November 2006.

ICASA promulgated MNP regulations 2005 as compliance with the legislative directive of the repealed Telecommunications Act of 1996. The purpose is to establish if policy and regulations achieved its intended objectives on MNP.

Furthermore, it is important to hear the views of mobile operators and subscribers on the success and weaknesses of MNP.

3.3. Research questions

The objectives of the Electronic Communications Act brings the costs of telecommunications services down, provide consumers with choice and for operators to provide consumers with quality service. The problem that has come out of the literature review is the high costs of mobile telephony and lack of consumer protection against market abuse. So the question on whether consumers have benefitted after the legal framework was put in place is relevant.

Research questions are interrogative statements which the investigator seeks to answer (Creswell, 2003: 108). Similarly, Leedey and Omrod (2001) describe a research question as the heart of any research project. The research question can be influenced by previous literature on the subject as it may provide information on how certain issues emanating from the problem have been addressed.

Leedy and Omrod (2001) further mention that a research question provides a position from which the researcher may initiate an exploration of the problem or sub problem and also act as a checkpoint against which to test findings of the data. In this study, the researcher tried to establish the following:

Main question

To what extent have consumers of mobile phone service in South Africa benefitted from MNP?

Sub- questions

1. How has MNP contributed to improving consumer choice in the mobile sector
2. How has MNP contributed to improvements in competition in the mobile telephone sector?

3. What lessons for policy and regulation can be learned from South Africa's MNP experience?

3.4. Research methodology

This study adopted qualitative methods. A study by Kvale (1996) has shown that in the qualitative study, the researcher "attempts to understand the world from the subjects' point of view, to unfold the meaning of peoples' experiences, to uncover their lived world prior to scientific explanations" (Kvale 1996, p.1 - 2). The world of the interviewees is understood to be the environment in which consumers were exposed in regards to mobile services before porting, processes undertaken to port and end results of their decisions to port. This entails level of service by operators, prices, and information.

Similarly, mobile operators had to share their experiences at the time when they put strategies in place – how porting contributed to subscriber gain or loss and among others how they have improved services after porting was introduced. Importantly, the interpretation of meaning was in line with policy and regulatory documents on MNP and its objectives which could be best understood with a qualitative methodology rather than a quantitative methodology.

3.5. Research design

Mouton (2001) provides a distinction between research design and research methodology, but suggests that they are interdependent. He points out that processes for research design can be compared to that of building a house and the construction itself together with the tools are regarded as research methodology. Research design is informed by the research problem, which means that data collected should address the research problem (Mouton, 2001, p. 55-56).

According to Leedy & Omrod (2001) there are different types of research designs. They are case study, ethnography, phenomenological study, grounded theory study and content analysis. For purposes of this study, the relevant research, in a form of phenomenological study will be explained and reasons for its adoption will be provided (Leedy & Omrod, 2001, p.139-140).

3.5.1. Phenomenological

There are various description of phenomenological methods emanating from various scholars. The description will be aligned to the intended study in order to assist the researcher with the choice and identification of the relevant method. Welman and Kruger (1999) describe phenomenology as follows*:* "the phenomenologists are concerned with understanding social and psychological phenomena from the perspectives of people involved" (Welman & Kruger 1999, p. 189).

Leedy & Omrod (2001) refer to phenomenology as a person's perception of meaning of an event, the methods of phenomenology involved lengthy interviews with carefully selected sample of between 5 – 25 individuals. The researcher chose 30 subscribers of MNP, mobile operators and ICASA, were interviewed. Subscribers are key players in the study as the purpose of the study is aimed at understanding their perspective with regard to the introduction of MNP mainly on how it had benefitted them. Leedy & Omrod further indicated respondents' perceptions are the determining factor when applying phenomenology. Unlike other studies, the researcher deliberately did not sample respondents according to background or demographics, and also did not interview only those who are post-paid but included pre-paid as well. As such, the findings will determine the effects of mobile operator strategies in addressing quality service whilst also looking at price issues (Leedy & Omrod, 2001, p. 139 -140).

According to Denzin (1983) phenomenology is used to locate the interpretivist approach within a context. further indicates that interpretive interactions asserts that meaningful interpretation of human experience can only come from those persons who have thoroughly immersed themselves in the phenomenon they wish to interprete and understand (Denzin, 1983).

A case in point is the role played by mobile operators and the public during consultation process on the development of MNP regulations and the consumer guide. The operators' perception on whether MNP has benefitted consumers or not, was informed by their level of knowledge of the phenomenon and how MNP has impacted them as business, drawing inferences from the regulations and international best practices. On the other hand, the regulator's perspective was similarly important on whether the regulatory objectives were met for consumers, whilst providing perception on the regulations and the role of ICASA with regard to the introduction of MNP.

With this design, the researcher is expected to be objective and not allow pre-conceived ideas to influence the process. The researcher is currently employed by ICASA, and is privileged to information on MNP processes from conception to completion. To ensure objectivity, a letter was written to the ICASA CEO to request permission to interview staff on MNP; and permission was granted. (See appendix 2).

3.6. Data collection

As indicated earlier, the method for this study is qualitative. Babbie (2005) describes the qualitative field of study as an examination of attitudes and behaviours with respect to social processes over time. According to Clarke (2000) it refers to meanings of experiences, involves observation, and data collection in natural settings as opposed to 'contrived' ones and where incorporation of context, complexity and diversity are essential. Face to face method of qualitative data collection includes the use of one-on-one

interviews, focus groups, video/audio –tapes and photographs, archival material and records. It is important to mention that of all the above data collection methods, this study did not use focus groups interviews, video/audio tapes and photographs (Babbie, 2005).

Babbie (2005) further stipulates that there are several advantages identified with the telephonic interview in research. They include money and time, convenient for other cultural groups who don't have to look the interviewer in the eye, there is greater control over data collection, and there is an element of personal safety for the interviewer (Babbie, 2005:252- 279).

3.6.1 Physical Location of the study

The interview with subscribers was done telephonically throughout and their location was not asked. The interviews with Vodacom and ICASA were held at ICASA's offices. Other operators decided to answer by email.

3.6.2 Population Location of the study

The study consists of subscribers from MTN, Cell C, Vodacom, Virgin Mobile and Nashua Mobile. Representatives of operators were chosen from regulatory departments. ICASA was represented by Councilor Batyi who was involved in the development of regulations and Mr. Gumani Malebusha a staff member who deals with complaints. The Department of Communications (DoC) was represented by the Chief Director on policy, Mr. Mlindi Kgamedi.

Participation during interviews was balanced as it represented the perspectives of consumers, business, regulators and policy-makers.

3.6.3 Documents

Documents which were used for the analysis consisted of the repealed Telecommunication Act of 1996, MNP regulations of 2005, End User and Subscriber Charter, Handsets subsidy Regulations and Electronic Communications Act of 2005 as well as public submissions on MNP regulations.

3.6.4 Sample Size

One person was interviewed from the Department of Communications (DoC), two people from ICASA, four people from mobile operators, and 30 subscribers. In total, the sample size is 37.

3.6.5 Interviews

There were face-to-face interviews with both Vodacom and the regulator. The purpose of interviewing the regulator was to hear their perception on how consumers have benefitted from MNP. The regulator was also asked to share their perception on whether the regulatory objectives of MNP were met or not on the basis that they were responsible for the development of regulations as required by legislation. Operators were asked to provide their perception on whether consumers have benefitted from MNP or not and this was addressed through the strategy which they had in place in order to prepare for the introduction of MNP.

With regards to the study on MNP, the researcher asked respondents if they understood the concept of MNP and if they will be willing to answer questions. It was imperative for the researcher to allow respondents to provide their personal comments on what they thought require change with regard to porting. Even though much was not said with these questions, but it provided them with the opportunity to voice out that opinion over and above the questions asked.

Vodacom was represented by Mr. Mortimer Hope Head of Engineering, MTN, Nashua Mobile was represented by Mr. Dean Arthur Network Manager, Cell C, Mr. Harrish Kasseepursad Senior Manager: Regulatory and MTN was represented by Mr. Geoff Blake Senior Manager: Regulatory. ICASA was represented by Councilor Nomvuyiso Batyi and Mr. Gumani Malebusha from Consumer Affairs Division. The DoC was represented by Mr. Mlindi Chief Director. The advantage experienced during the telephone interviews with respondents was the convenient with regard to time. There were respondents

who indicated the preferred time slots to be called. If it happened that at that time they are not available, another attempt would be made until they were ready to speak.

Emails

MTN, Cell C and Nashua mobile chose to respond to questions by email, the reason being commitment at work. There are advantages and disadvantages with this form of interview. The pros are that it is convenient and cheap, but the cons are that questions may not be answered in full or other officers may be delegated to respond. This was evident with answers from all three mobile operators because some of the questions were not answered in other cases they provided short responses.

According to Leedy & Omrod (2001) interviews in the qualitative study are not structured such as in the quantitative study. They are flexible and contain probing questions which can provide unintended responses which may be hard to compare and segment. The researcher had to 'explore for meaning'. Bernard (1982) meaning has to be examined in order to establish if interview questions allowed the respondents to comment on aspects of research questions that they thought were important.

The approach employed on these interviews involved semi-structured, emails and telephonic interviews. By their very nature, semi-structured interviews promote an active, open ended dialogue where respondents are free to interact (Babbie, 2004).

3.6.6 Questions prepared for interviewees

Questions on policy

The researcher asked the Department of Communications if policy objectives on competition were achieved. The concept of MNP was firstly introduced in

the repealed Telecommunication Act of 1996 in order to stimulate competition.

Questions on regulation

As mentioned in the background section, the purpose of the establishment of regulators is to protect consumers and introduce competition. MNP was seen as solution to cut prices and ensure that consumers had a choice of different services and their preferred operators. It was therefore important to hear the perspective of the regulator with regard to the extent to which the regulatory objectives were met in regards to consumer benefit and further to indicate their views on the current regulations.

Mobile operators questions on MNP

Whilst the crux of the interviews is about consumers, operators as well play a vital role in the study because MNP could not be rolled out without their participation. It was important how they perceived of the concept of MNP in comparison to global mobile operators who were not keen at implementing it. They were asked to share their strategies put in place for the introduction of MNP. These strategies shed light on whether the market was ready to embrace MNP or not and importantly they provided their perception on consumer benefits.

Subscriber questions

The researcher developed a standard questionnaire for consumers who have ported which involved common sets of questions. Questions for the consumers who ported were categorised into first reasons for porting, second benefits for porting and lastly experiences during porting.

Mouton (2001) highlights three important factors which describe methodology and are: “processes, tools and procedures which a researcher utilises to formulate a research method” (Mouton, 2001, p.56).

3.7. Data request procedures

3.7.1. Ethical issues

The researcher is full time employee at ICASA, and issues of ethics had to be applied to avoid bias and subjectivity when addressing issues of MNP. Letters to all respondents clearly stipulated that the study was conducted purely for purposes of academic research study for master's qualification. The same information was read to consumers who were selected for participation as written on the questionnaire.

3.7.1.1. Permission to acquire ported numbers

Firstly, permission had to be sought to acquire records of ported numbers by all mobile operators and service providers. In order to acquire this, a letter was written to the Number Portability Company (Pty) Ltd seeking permission to access data of ported numbers since 2006. This company is established by mobile operators namely MTN and Vodacom, in accordance with the MNP regulations who are contributing fees towards its operations and sustainability. The role and function of the company is to administer a Central Reference Database which oversees all porting processes and it is linked to all operators. The letter was approved by the CEO of the company Mr. Clive Fagan on the 28 September 2009. The researcher was given a file to make copies of numbers ported per year (see appendix 1).

3.7.1.2. Permission to interview the regulator

A letter was written to ICASA's CEO on March 2010, seeking permission to interview ICASA's staff on MNP. Permission was sought and the signed letter was provided. An email was written to Councilor Nomvuyiso Batyi of ICASA on 28 July 2010 requesting permission to interview her. The interview was done on 24 August 2010 at her office. The interview was followed by one with

Mr. Gumani Malebusha of complaints department on the same date in the afternoon.

3.7.1.3. Permission to interview operators.

An email was sent to Vodacom 02 August 2010, to Cell C on to MTN on 25 August 2010, 25 August 10 and seeking permission to interview. They were given an option of a face to face interview or to provide feedback on the questions sent. Vodacom opted to a face to face interview. Other operators opted to answer the questions by email due to time constraints on their side.

Cell C provided answers on 28.08.10, Nashua Mobile on 7.09.2010 and MTN sent their response on 22.09.10

3.8. Trustworthiness

Lincoln & Cuba (1985) describe trustworthiness as:

> an imperative attribute of any qualitative study. Trustworthiness consists of four factors, which must be taken into consideration and are: credibility, transferability, dependability and conformability. However, In order to ensure trustworthiness, the researcher adopted the special strategies in phenomenology (p. 290)

3.8.1. Intuiting

"Intuiting is described as a process of thinking through the data so that a true comprehensive or accurate interpretation of what is meant in a particular description is achieved" (Streubert, Speziale & Carpenter 2003, p.54). MNP has a significant amount of jargon which may be confusing to a person not familiar with the concepts or ICT environment. In order for respondents to understand and provide answers, language had to be simple and friendly. Even though the questionnaire was prepared, the researcher used open

ended questions, in order to clarify and allow for more details during interviews.

3.8.2. Bracketing

Holloway (2005) explains:

> Bracketing refers to the process of holding assumptions and presuppositions in suspension to improve the rigour of the research. Here, the researcher explores their own assumptions and preconceptions in order to set them aside or keep them in suspension, so that they do not interfere with the information given by respondents (p. 289).

On the basis of working for the regulator and having privileged information on MNP, the researcher had to omit her knowledge on consumer challenges pertaining to MNP porting, short comings of the MNP regulation and the conduct of operators when it comes to porting requests. According to Speziale & Carpenter (2003), bracketing process is important throughout the research process especially with regard to data analysis and requires the researcher to remain neutral with regard to the belief or disbelief in the existence of the phenomenon (Streubert et al, 2003 p.52). As such, it was important to ask questions objectively and listen in detail for feedback. This was achieved by following all ethical processes in research.

3.8.3. Analysing

During the interviews with consumers who ported, the researcher 'listened to, compare and contrast descriptions of the phenomenon under study' (Brink & Wood 1998:20) being the benefits of MNP. As the researcher took notes of what was said, she was able to identify the recurring themes and interrelationship on what was said by consumers of MNP and mobile operators.

According to Seidel (1998), data analysis occurs in various forms where a researcher collects and code information. He refers to coding as sorting out information from the rest. "the researcher sorts and sifts them, searching for types, classes, sequences, processes, patterns or wholes. The aim of this process is to assemble or reconstruct the data in a meaningful or comprehensible fashion" (Jorgensen, 1989, p. 107).

Using Freidson's (1975) approach of Doctoring Together, which refers to noticing and collecting, the researcher did the following:

> Noticing: 30 people were interviewed on the impact of MNP to consumers of South Africa. All responses were recorded and transcribed.
>
> Collecting: Data received during the interviews was then analysed and segmented (Freidson, 1975).

The researcher used the inductive approach which provides thematic codes on the research findings. "Inductive analysis means that the patterns, themes, and categories of analysis come from the data; they emerge out of the data rather than being imposed on them prior to data collection and analysis" (Patton, 1980:306). The researcher indicated earlier that the qualitative design adopted for this study is phenomenological, which provides interviewees the opportunity to articulate themselves in detail whilst the researcher listens and ask probing questions.

Based on the responses, the researcher analysed common information important feedback on reasons for porting, benefit for porting and experiences during porting. Tesch (1990) adds to this by saying that "the unit of analysis is usually segments of texts that contain some particular meaning, rather than individual words or phrases" (Tesch, 1990, p.728). It is important

to indicate that analysis was done in a way that perceptions as outlined during the interview are not exaggerated or misconstrued.

3.8.4. Describing

According to Brink & Wood (1998) 'describing is the final step and the aim is to communicate and describe either in writing and verbally distinct, critical elements of the phenomenon, thereby communicating to others what the researchers has found' (Brink & Wood, 1998, p.23). In line with the study by Streubert et al (2003) this phenomenological study, describing involved classifying all critical elements essences common to the lived experience of being involved in the MNP study (Streubert et al, 2003, p. 61).

3.9. Data analysis

The analysis was based on strength and weaknesses of policy, regulatory, mobile operators and subscribers' experiences. During the interviews with respondents resulted in the formulation of themes which answer the research questions, but will be discussed in detail in the analysis chapter.

3.10. Significance of the study

The researcher deemed it necessary to conduct a study on the impact of MNP to consumers of South Africa, because there was an expectation from government, the regulator and consumers on the benefits it will provide. Of importance, were three factors captured in the legislation, namely: the reduction of prices, quality of service and consumer choice.

According to Lapo (2007) the introduction of MNP was supposed to be determined by consumer demand. As argued by other mobile operators if most consumers did not want MNP, then such as service should not be introduced as it would be costly for operators who were required to set up a technology which will accommodate all numbers with different prefixes, and to

manage the database. Such expenditure would not be recovered if consumer demand was less. It was therefore important to conduct this study in order to investigate if operators shared same sentiments as it happened abroad when MNP was introduced (Lapo, 2007).

Fundamentally, Lapo (2007) intimates that regulators were obligated to determine a threshold for the market size of those who will require MNP. Such an assertion assisted the researcher in determining whether ICASA conducted such a study prior the implementation of MNP as this would be a yard stick among others, to determine if South Africa was ready for MNP. However, ICASA did not conduct any study before the introduction of MNP, but did that post implementation (Lapo, 2007).

3.11. Limitations of the study

It is imperative for the researcher to highlight limitations of the study as they may have an impact on the research conclusion. This study takes place five years after the implementation of MNP. Research findings may not be reliable, due to the fact that respondents could not recall clearly if they were charged for porting or if charged how much they were required to pay.

The researcher grappled with the idea of having a focus group study which would be manageable and easy to conduct but due to limited financial resources, opted for telephone interviews. The respondents, through telephone interviews could have provided answers without applying their mind on what was asked as they could have just wanted to end the interview.

The researcher deemed it necessary not to segment the participant according to demographics, gender, rural or urban, big business and SMMEs as it was done by Goldstuck (2006). The reason for not following this approach was based on the MNP legislative objectives, which stipulated general benefits despite the mentioned attributes. This study further focused only on the benefits of those who have ported their numbers, unlike Lyons whose study

looks at the three types of benefits for consumers which are (1) benefits obtained by customers who switch (2) benefits by all mobile telephony users and (3) benefits obtained by those calling to ported numbers. The exclusion of the other groups, particularly benefit (3) may provide limited findings to the study.

3.12. Addressing the limitations of the study

The researcher has asked probing questions which will elicit more substantial responses. The interviews were held with 30 subscribers who have ported and all representing different mobile operators. The research findings will provide an opportunity for future studies on why a lot of consumers are not porting and categories which have been left out in the study could be included in order to arrive at a different conclusion.

3.13. Conclusion

This chapter described the research problem, research questions, research purpose, methodology, ethical issues, and trustworthiness of the study, significance of the study as well as limitations of the study. The study as indicated, investigates the extent to which consumers that have ported benefitted. Data for subscribers was acquired from the Number Portability Company. Mobile Operators, regulator and policy makers are also part of the sample study. The interviews were held face to face, through telephone and email. The next chapter introduces the findings from all respondents.

CHAPTER 4: RESEARCH FINDINGS ON THE IMPACT OF MNP ON CONSUMERS OF SA

4. Introduction

This chapter provides research findings with regard to the questions asked on the effects of MNP on consumers. The following mixture of interviews was conducted: face to face interviews, telephone interviews and email. The Department of Communications responded by email, Nashua Mobile, MTN and Cell C also responded by email. Telephone interviews were conducted with all subscribers who ported from MTN, Vodacom, Cell C, Virgin Mobile, and Nashua Mobile. Face to face Interviews were held with Vodacom and the regulator. This chapter is categorised into four sections: policy, regulatory, mobile operator's perspective, and subscribers experience and perspective.

Whilst all findings in the research are important, the perspective by operators was vital, because it shed light on the readiness of the country with regard to introduction of MNP. Ideally, when policy directive is issued and regulations are in place, the action taken by operators determines the successes or failure of the directive. The operators indicated the strategies they have adopted in order to prepare for MNP and include: information, technology, cheaper prices, competition, consumer choice and quality of service. They further highlighted the effects of MNP with regard to their subscriber base and also provided their perspective on the current MNP regulations. The findings for both the operators and subscribers drew a disjuncture on the interpretation of benefits of MNP, and these differences will be analysed in detail in the next chapter.

The findings from subscribers are presented in three categories: reasons for porting, benefits of porting and experiences during porting. Out of these categories there are sub categories namely: quality of service, phone packages, value added services, pricing rates and company brands.

4.1. Policy perspective

As mentioned in previous chapters, MNP was instrumental in stimulating competition in the telecommunications sector. Competition has various attributes and it includes provision of quality of service, low prices and new entrants to level the playing field**.** South Africa was still regarded as a 'duopoly' market due to the dominance of two operators; MTN and Vodacom. An interview was held with the Department of Communications (DoC) with regard to the policy objectives of introducing MNP in South Africa. As indicated by Kgamedi (2010), Chief Director at the DoC, the objective of introducing MNP was to allow mobile phone subscribers to keep the same number when they change networks in a bid to force providers to improve services. He said that much is to be done with regard to the promotion of competition by the regulator especially on pricing. Kgamedi (2010) said:

> There is price collusion among operators and as such it cannot be concluded that MNP contributed to a competitive market. The Regulator has to undertake processes in terms of Chapter 10 of the ECA to ensure that any subsequent regulations thereafter to enforce MNP are backed by facts. He further said that from the policy's point of view, MNP has not achieved its intended objectives.

The same views on lack of competition were shared by the regulator. In an interview Councilor Batyi, she said that there was doubt that MNP promoted competition among operators. A case in point is multiple SIM cards by subscribers, especially pre-paid users. Basically, pre-paid users are not keen to port but would rather buy multiple SIM-cards from different operators as they are cheap.

> The only problem in respect to the readiness of introducing MNP lies with mobile operators such as MTN and Vodacom, distributors and service providers such as Nashua Mobile. They feared that MNP will

destabilise their subscriber base and their clients would be taken by other operators. “No one wants to lose their clients, every business wants to keep them” (Batyi, 2010).

Batyi said that whilst the regulator was ready, operators were playing delaying tactics with regard to the implementation of MNP. She indicated that operators complained that the regulator was unfair because it did not follow the global trends when introducing MNP. What happened in other countries was that Geographic Number Portability (GNP) preceded MNP. However, the situation in South Africa was different because at the time when the Telecommunication Act of 1996 introduced the concept of Number Portability, the second network operator was not licensed yet.

Furthermore, the Telecommunications Act as repealed was clear on the time frames and the expectation for the Authority to ensure that NP was introduced. ICASA informed Operators that MNP will continue as planned because of the high intake of telephony usage in the mobile industry and therefore South Africa could not follow-suit with global trends on what came first: GNP or MNP. Moreover Telkom was still a fixed-line monopoly. The target date of November 2005 was met (Batyi, 2010).

According to MTN the introduction of the Electronic Communications Act (ECA) led to convergence of licenses whereby the old Value Added Network Services (VANS) were given licenses for electronic communications network services (ECNS) and electronic communications service (ECS). “Competition was partially achieved and this is indicative of the fact that competition on a smaller level however, came about from the licensing of over 400 operators” (Blake, 2010).

Contrary to MTN, Vodacom and Cell C had a different view about competition. The two operators said that the introduction of MNP did not open the market to competition. “The fact is that there are only three mobile

network operators that did not improve competition because they all have similar product offerings and there is no price differentiation" (Hope, 2010).

Cell C mentioned that to a certain extent, the policy objectives were met however due to lack of transparency on the on-net price and off-net subscribers belonging to other mobile operators have hesitated to switch. Cell C said that the low porting since the inception of MNP was evidence that consumers were still skeptical about MNP, and this happened because of lack of price transparency.

4.2. Conclusion on policy perspective

The aim of the introduction of competition was ensure that consumers are protected against the high costs of telecommunications and poor service. Importantly competition was necessary for consumers to exercise their right to choice. The DoC is of the view that MNP did not benefit consumers and wants the regulator to amend the regulations in order to address pricing issues. The convergence of former VANS licenses did not stimulate competition as far as end user is concerned because none of these licensees ventured into mobile telephony. Most pre-paid users exacerbated the problem because instead of porting, they prefer acquisition of multiple SIM-cards, therefore leaving the majority of ports to post-paid subscribers.

4.3. Regulatory perspective

The introduction of MNP is premised on three regulatory objectives namely: consumer choice, improved quality of service and low prices for consumers. Importantly, both the regulator and operators are required by MNP regulations to conduct consumer education campaigns for consumers to make sound decision with regard to porting, which means, in the absence of adequate education campaigns, consumers may be ignorant of benefits of MNP and operators may leverage on ignorance to increase prices. In this

section, the researcher provides findings on how operators implemented the regulatory objectives with regard to MNP.

4.3.1. Consumer choice

The researcher wanted to establish if it was easy for consumers to switch operators as stipulated in the MNP regulations. Basically, if a subscriber has complied with his or her contract obligations and wants to port, the donor operator should make a request to the recipient operator.

In terms of opening up competition, MNP regulations permit operators to work with service providers, basically allowing them to compete for the same market. This happens only if operators sign a memorandum of understanding with service providers in order for them to comply with the requirements stipulated in the regulations. Service providers are not issued with licenses on electronic communication services (ECS) or electronic communications network services (ECNS) by ICASA, but do provide similar services with mobile operators such as airtime, post-paid and prepaid packages. This agreement led to more options for consumers with regard to choice (Arthur, 2010). Consumer choice is associated with operators' service and product offerings. Arthur (2010) argued:

> To be able to move networks and SP's and maintain your number is the best option to have especially for corporate consumers. A consumer is now not obligated to any specific network as he or she now owns their number and not the service provider. This approach by service providers and network operators was used to retain clients previously and consumers hardly had a choice and found themselves staying for poor service just to maintain the number.

However, there is a regulatory weakness identified: namely, the switching barrier hinders consumers from porting. The switching barrier refers to the difficulty of switching to another provider by a consumer and this occurs in a

form of penalty charges. Penalty charges occur when an operator charges a subscriber a terminating charge. These charges are not regulated so they are open to abuse by operators. According to Hope (2010):

> The fact that consumers are still expected to pay penalty charges which are not regulated makes it difficult for consumers to port. For consumers, MNP is more of a hassle than a benefit. ICASA has to do more to protect contract subscribers with regard to the unfair strategies by other operators and service providers for lock- in.

Vodacom said that operators such as MTN were using the 'clawback' as a strategy to retain consumers. When consumers port their numbers they are required to adhere to the terms and conditions. But the same regulation does not stipulate how operators should conduct themselves when it comes to charges for contracts. Vodacom further indicated that unlike MTN and its service providers, they calculate what consumers are supposed to pay on the remaining contract plus subscription fee, whilst MTN could charge consumers an amount equivalent to a person taking a contract for the first time. This results to consumer lock in and results in both the consumer and the recipient operator being frustrated (Hope, 2010).

MTN views choice in two different ways. Choice in connection with quality of service, and choice as a result of churn rate. Firstly, the view is that if an end user perceives that the quality of service of one operator is better than another, he or she will terminate his or her contract in order to join a new network operator. This happens more with post paid subscribers.

> An interesting antidote on this is in the UK, subscribers were asked to rate the quality of service of operators in that country, Virgin Mobile was ranked highest in quality of service, British Telecom(BT) was ranked the lowest. Here's the kicker, Virgin is a virtual operator

roaming on BT at the time. So it is very much a perceived impression (Blake, 2010).

Secondly, even though choice is regulated and exercised by consumers, there is a down side. A large number of subscriber base in South Africa consists of pre-paid market. MNP has not attracted a lot of pre-paid subscribers because they are able to acquire multiple SIM-cards from any operators of their choice without any limit, thus creating churn. Although churn rate has decreased because of the introduction of the Regulation of Interception of Communications – Related Information Act of 2009 (RICA), MNP requests are still low. RICA requires subscribers to register SIM cards by producing identification number and a proof of residence. Government is doing this in order to manage security risks (Blake, 2010).

In an interview with ICASA, Councilor Batyi indicated that consumer choice was about the power of a consumer to keep their number, and about competition between service providers and operators. Her view is that people were initially trapped with a service provider they did not like because they were afraid to lose their numbers, thus making MNP a necessity and a consumer benefit.

4.3.2. Quality of service

According to Malebusha of ICASA, between 2007 and 2010, 18 complaints were received against Cell C, eight against Vodacom, 20 against MTN, 1 against Nashua Mobile and 1 against Virgin Mobile. He mentioned that complaints ranged from billing and refusal by operators to port numbers. With regard to billing, consumers complain about 'clawback' charges where they are expected to pay huge amount of money when they terminate their contracts. There were instances where a consumer was expected to pay between R3000, 00 – R5000, 00 for termination of a contract with only two days left. This occurred mainly with service providers. "These service

providers forced consumers to sign forms indicating that they will lose their numbers when they want to port" (Malebusha, 2010).

He identified a weakness in the MNP regulations and indicated that the lack of a penalty clause for non-compliance makes it harder for the regulator to enforce the regulations. He said that this grey area within the regulations made ICASA powerless as it could not enforce its authority to the operators. He said that ICASA does intervene when there are complaints, but consumers are not entirely protected in this regard (Malebusha, 2010).

When asked if ICASA had monitoring system in place for MNP compliance, Malebusha indicated that ICASA does monitor compliance. "Monitoring could be looked at in two ways: firstly, regulations are used as a yard stick to ensure compliance. Secondly, the reports which are submitted by licensees to the authority are also a measurement" (Malebusha, 2010). However, he admitted that the regulator was not currently able to verify information provided by licensees.

According to Vodacom, quality of service can be viewed as follows: first, it occurs when operators improve technology on a regular basis, in order to ensure seamless service. This includes the extent to which phone conversations are not interrupted, less calls are dropped, the quality of network coverage increases, and the availability of network coverage increases in certain areas (Hope, 2010).

Second is customer satisfaction. Customers here expect reasonable turnaround times by operators when resolving their complaints, and are interested at the speed in which phones are answered, as well as the level of knowledge by customer care consultants. In order to ensure that quality of service is provided, the regulator implemented the End User and Service Charter regulations. The regulations give measures which should be adhered

to by operators. The disadvantage with these regulations was firstly, that they came almost four years after the implementation of MNP (Hope, 2010).

Vodacom went further by conducting a feasibility study "We have sourced out the services of Customer Delight Index, external consultants who made a research study about our services. And the results were that Vodacom, in comparison to other operators was providing good service" (Hope, 2010). Cell C said that a ported subscriber is treated the same as a normal subscriber in ensuring that quality of service parameters is maintained and in line with these regulations (Kasseepursad, 2010).

4.3.3. Cheaper prices

The introduction of MNP created an expectation that MNP will bring down prices of mobile telephony. Prices of mobile services are reported be high in South Africa more than those of developed countries. Based on the findings, it is clear that MNP did not contribute to the reduction of prices. Seemingly, post paid subscribers still pay high prices because of monthly subscription fee plus usage, insurance and handsets as post-paid contracts are bundled with handsets. Batyi intimated there were countries that were successful in making it an obligation for mobile operators to unbundle services. This was a different case in South Africa because since 2004, the authority has failed to finalise the hands- set subsidy regulations due to reluctance and legal threats by the industry. She said that the authority was yet to pronounce its decision on the future of the draft regulations (Batyi, 2010).

Councillor Nomvuyiso Batyi indicated that although prices have not gone down as anticipated, consumers were not taking advantage of packages which save their money no matter how small. She said that consumers in most cases could not determine price differentiation among mobile operators because they were reluctant to familiarise themselves with the contract terms and condition.

> Consumers should know that when all family members for instance are using different network operator which is known as off-net calls, they will pay more but should they decide to belong to one network operator regarded as on- net calls, they can save some money. Understanding the packages such as talk 100, or 500 for instance can make a difference and furthermore, they should have the discipline to read their billing statements (Batyi, 2010).

Batyi also mentioned that ICASA had not exercised its powers to regulate interconnection fees for a long time because of challenges in finalising the market study which aims to identify significant market players. 'An interconnection fee is the flat rate mobile operators charge to connect a caller from one operator's network to another. They charged each other R1.25, which was then transferred to consumers' (Batyi, 2010). She said that operators continue to charge high costs as tariff rates are self-regulated. Currently there is no regulation on tariffs for communications operators, however, all tariff applications are sent to the regulator for information and records. Chapter 10 section 7 (f –h) talks about cost accounting and price mechanisms which should be implemented by operators (Batyi, 2010).

The researcher asked Councilor Batyi if the regulator had conducted an *ex ante* study, which essentially assesses the attitude of consumers before the implementation of MNP, she responded by saying that the regulator was not required by law to conduct a study on MNP prior to its implementation. She indicated that ICASA commissioned BMI-T Company to conduct *ex post* study in 2009, in order to assess the impact of MNP. The findings among others included more awareness programmes as many people were still not familiar with MNP. Furthermore, whilst benefits of MNP could not be quantified most of the respondents indicated that MNP should be always available for those who need it.

According to Vodacom, operators have introduced a *call-limit facility* for post-paid subscribers in order to control usage, but this facility's effectiveness is not guaranteed. This facility basically warns subscribers when they have reached their monthly limit, and subsequently, all outgoing calls are blocked, but a subscriber receives incoming calls. It is important to note that charges per minute for post-paid users are cheaper than that of a pre-paid subscriber. However, the difference is not that much because generally, charges by operators are determined by the market (Hope, 2010).

MTN, Nashua Mobile and Cell C also acknowledged that pre-paid subscribers control their usage with guarantees because of the amount they spent on airtime. They further said that MNP did not reduce mobile prices.

Cell (2010) said:

We had no option but to offer products that were cheaper than our competitors in order to attract new subscribers. This in turn had the competitors matching these services and products. Therefore the ultimate goal of cheaper prices with the same level of quality was accomplished.

4.4. Demand for MNP

As highlighted in the review of literature, demand on MNP is associated with its success. Moreover, MNP facility is regarded as ideal in countries with viable economy and competition. The researcher examined the ported numbers across all mobile operators in order to determine the level of consumer demand for portability. The analysis of this data will determine if South Africa was ready for MNP. As indicated previously, the mobile subscriber base in South Africa is 40 million (Vodacom, 2008). The expectation was to have over a million ports after 2 years. However, according to the data received from the Number Portability Company (Pty)

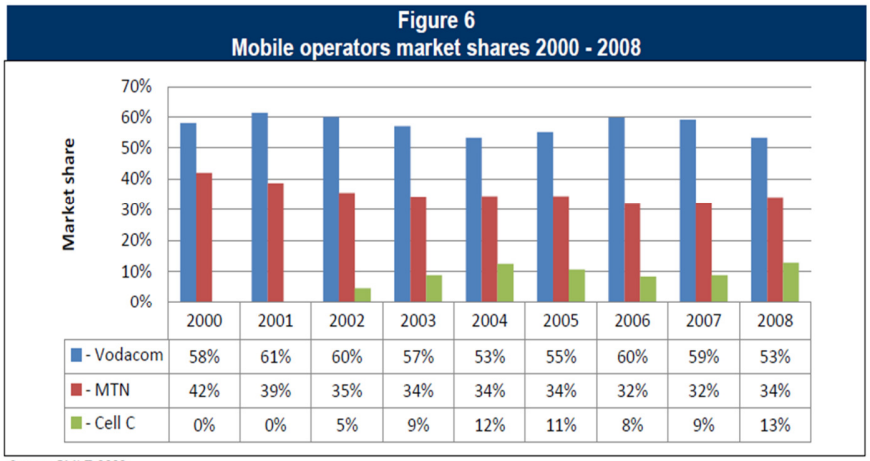
Ltd, all ports across mobile operators from 2006 to 2008 were far less than what the researcher expected.

Mobile Number Portability (2009) reported as follows:

- 2006 – Vodacom received 6, 189 ports, Cell C got 7, 568 and MTN received 5,648. In total there were 19, 385 successful ports. 47, 543 failed.
- 2007 – Vodacom received 52, 839 ports, Cell C got 64, 316 and MTN received 40, 929. In total there were 158,084 successful ports and 281,474 failed.
- 2008 – Vodacom received 55, 372 ports, Cell C 54, 953 and MTN 50, 176.

In total of 160, 501 ports were successful and 197, 838 failed. Despite the estimated subscriber base of 50 million mobile services in South Africa, the reports show that MNP has not attracted attention, as policy anticipated. The table below highlights subscriber base among the three major mobile operators in South Africa from 2000 – 2008. Whilst Cell C claim to have had attracted more subscribers after the introduction of MNP, the table shows that Cell C continue to be the 'weakest link' in mobile telephone services and seemingly making the impact of MNP ambiguous.

Figure 3: Mobile operator's subscriber base from 2000-2008



Source: BMI-T: 2009

The subscriber base of mobile market is estimated at 40 million. The total number of ported numbers in the first three years is far lower than the 102 000 MNP applications in Hong Kong during the first month of MNP. Hong Kong had four mobile operators with a difference of one operator in comparison to South Africa. In Italy, two years after the implementation of MNP, only 3, 68% of subscribers had ported in a mobile market of 95%. In Finland, over a million numbers were ported.

Most of the countries as outlined in the literature review, had conducted a preliminary demand-side study in order to determine the readiness of countries regarding MNP. According to a study conducted by Lyons, countries such as UK in 1997, Hong Kong in 1998 and Ireland in 2000 conducted *ex ante* studies. Nashua Mobile in South Africa conducted their study in 2006. ICASA did not do any study as the legislation did not require them to do so but decided to conduct *ex-post* on the impact of MNP in 2009. In Councilor Batyi's opinion, MNP should be seen as a fundamental tool which can be accessed by consumers when they feel like using it. So it is

natural that demand for MNP could not be as high as anticipated because it remains a consumer's prerogative to port. She said that low porting in South Africa should not be seen as regulatory or market failure, but a regulatory achievement in ensuring consumer protection through freedom to choose.

Batyi said that most prepaid subscribers were not willing to port because they had a freedom to simultaneously possess more than one SIM-card so basically porting was not of importance. Nonetheless the development of regulations and its implementation were not determined by whether there was a demand or not, but it was a matter of compliance with the legislative mandate which started with the repealed Telecommunications Act 1996. Batyi mentioned that ICASA intended to review the regulations in the next financial year.

4.5. Summary on regulatory perspective

The MNP regulations were promulgated in 2005 and operators were expected to implement them at the same time, but that only took place a year later. The implementation essentially was expected to provide choice, lower prices and quality of services. Seemingly this has not been achieved because of homogenous price and products offerings. Another down side on MNP is that pre-paid subscribers are not in favour, but purchase multiple SIM-cards. The regulator has not effectively monitor compliance as there are enforcement gaps with the regulations. DoC as the policy maker has made a determination on interconnection price cuts, in order to protect consumers against high costs of telecommunication in South Africa.

4.6. Mobile operator's perspective

A mixture of interviews was held with mobile operators. MTN, Cell C, and Nashua Mobile responded to the questions via email and Vodacom opted for face to-face-interview. The interviews were meant to investigate the

perceptions of operators with regard to the consumer benefits. Areas of enquiry related to first, mechanisms they put in place to ensure that porting processes took place without any unreasonable challenges; second, product offerings which enabled them to retain their old subscribers whilst striving to attract new ones; and third, the effectiveness of the legislation in ensuring that consumers benefit and lastly, the level of awareness among consumers on MNP in order to make informed decisions when they port.

The researcher expected to hear how mobile call charges were reduced and how their services have improved. Operators were expected to indicate if they were effectively compliant with the MNP regulations, and if not to explain reasons.

Figure 4: Representatives of mobile operators who participated in the interviews

Operator	Representative	Position	Date
Vodacom	Mortimer Hope	Head of Department: Engineering	20.06.2010
Nashua Mobile	Dean Arthur	Network Manager	09.07.2010
Cell C	Harrish Kasseepursad	Senior Manager: Regulatory	19.08.2010
MTN	Geoff Blake	Senior Manager: Regulatory	22.09.2010

Source: Author, 2010

4.6.1. Strategies implemented by operators for the introduction of MNP.

Strategies could be described as plans and processes which operators put in place in order to compete for subscriber base. The MNP regulations clearly stipulate that all mobile operators will contribute towards a common standard technology which will be used for porting. The technology, known as the

Central Database system is managed and controlled by the Number Portability Company. The researcher wanted to investigate other competing strategies put in place by operators in order to prepare for MNP. Investigation of those strategies would help shed light on if operators are only interested in profit making or would come up with plans which will also benefit consumers.

Strategies operators implemented for the introduction of MNP include information sharing, technology upgrade, customer education, training, and quality of service. Each of these is described in detail below.

Information sharing

When asked about the strategies Vodacom put in place to prepare for the introduction of MNP, Vodacom indicated that they deemed it necessary to firstly invite a representative of Vodafone from Ireland, to come and share their experiences on porting, mainly from the operator' s point of view. This request was done prior the implementation of MNP in South Africa in 2006.

Out of the Vodafone presentation, Vodacom learnt that MNP was viewed in two ways. Firstly, MNP could be a threat for operators. Basically, operators did not see MNP as a benefit but rather a phenomenon which would lead to loss of capital. Furthermore, this notion was exacerbated by the global experience on porting delays, which was frustrating to both operators and consumers. Delays could lead to cancellation or less demand for porting and if that had to happen, operators would lose capital invested in the technology, which is a regulatory requirement for MNP. The second view was the opportunity which could maximise capital for operators. Vodacom decided to go with the latter and put a system in place in order to ensure seamless porting processes. Vodacom said that during the MNP consultation processes with ICASA, it was clear that MTN perceived MNP as a threat because they were not cooperative and wanted MNP to be done away with (Hope, 2010).

According to Arthur (2010), the information shared by Nashua Mobile and its stakeholders had to do with processes which they would adopt during porting and not necessarily on experiences. “This was quite a task as many parties had to be involved for one number or customer including, New SP, Old SP, New Network, Old network and the CRDB. We had to ensure that our processes were worked in line with the industry” (Arthur, 2010).

Technology

As mentioned previously, MNP requires a new specialised technology to function effectively. This technology is supposed to be compatible to all numbers regardless of the operator. Ideally, a mobile three digit identification is no longer a determining factor as those digits could be serviced though any operator.

According to Vodacom, operators spent R80 million to upgrade infrastructure for MNP, but only a few portings are taking place. “Basically, the upgrade was meant to read all numbers because initially, numbers per operator could only be read and identified by a certain prefix, for instance 082 for Vodacom, 083 for MTN and 084 for Cell C” (Hope, 2010). With MNP, this means that the new infrastructure should be able to read all the numbers despite the prefix. This includes numbers from fixed-line operator, as the industry anticipated porting between mobile and fixed-line telephony in the long term operators had to explain technical systems in place for MNP.

According to Cell C, the company’s technical team ensured that its technical systems as well as the number porting company equipment were functioning optimally prior to the introduction of MNP. In order for all systems to be tested and verified for efficiency, they had to make a request to ICASA to delay the implementation date. Cell C systems were upgraded in line with an order

system specification (prepared by the three mobile operators) as well as the functional specifications as published by ICASA.

Trials amongst all stakeholders were conducted three months before initial date of implementation (Kasseepursad, 2010).

MTN indicated that that the introduction of MNP was a regulatory obligation, and they had no choice but to oblige. According to MTN, all mobile operators met and as an industry and discussed the best strategy for implementing MNP. MTN explained that various models exist in SA, and they decided on the Signaling Relay Function (SRF) model utilizing a Central Reference Database (CRDB). "Although, this is more complicated and costly to set-up, the long term operational costs are lower" (Blake, 2010).

According to Arthur (2010), Nashua Mobile had to invest time and money into buying new equipment in order for MNP to be a success.

> As simple as this may sound, we had to ensure that our systems worked in sync with all messages to and from the CRDB. We went one step further, and instead of making quick fixes for the new product we followed through automating as much processes as possible. This proved to be a huge success. A specific team of specialists were pulled from all departments to ensure that all aspects regarding MNP were covered (Arthur, 2010).

Operator's subscriber gain and loss

MNP is viewed as an element which increases competition. For a long time, discussions by consumer groups, media and politicians, raised concerns that despite South Africa having a duopoly market in the mobile industry, competition did not exist. The penalty clauses for those wishing to switch and consumers having to give up their number among others had a negative impact for new entrants such as Cell C because it was difficult for them to

gain more subscribers. It was important for the researcher to examine the impact of MNP for operators.

Vodacom indicated that it lost about 20 000 subscribers out of 600 000 subscriber base of MNP. Hope (2010) further provided experiences on subscriber gain and loss as it impacted on other operators:

> Since 2006 we have ported in subscribers, and ported out subscribers. When looking at the numbers MTN is a net loser in terms of MNP, this is not unexpected as Cell C was the newest operator, and by consequence had the least amount of subscribers. They are the only net gainers to date on MNP. This is in line with other countries experience with MNP. Cell C gained 120 000 and MTN lost 100 000 subscribers. Vodacom lost more private subscriber on contracts and the contributing factor was better deals on handsets.

This view was shared by MTN as they have acknowledged that MTN lost a number of subscribers at the beginning of MNP.

Nashua Mobile said that it has lost and gained subscribers.

> We are proud to say that although we have lost many customers to our competitors we still remain on a positive trend. Our competitors offer discounts to our clients that we cannot match being a service provider (SP) If we do we would be losing revenue" (Arthur, 2010). Nashua Mobile said that though they lost clients at the beginning, they have established that many of those clients are coming back because of the service that they receive (Arthur, 2010).

According to Kasseepursad (2010), until now, Cell C has been a net gainer. "This can be attributed to many reasons, robust public awareness campaigns,

new and innovative products and improved front-end relationship with the subscriber" (Kasseepursad, 2010).

4.7. Conclusion

The success of the implementation of MNP by operators was dependent on the strategies they put in place. Of note, was the information sharing with experts internationally who provided workable strategies regarding MNP. In order to attract new subscribers and retain old ones, operators had to ensure that their technology was upgraded in order to provide seamless service. Moreover, operators had to comply with the regulatory requirement to develop a central database. During the MNP consultation processes, all operators agreed on a standard technology, a Central Reference Database (CRDB) for MNP processes whilst simultaneously competing against each other. A different technology was used prior to the introduction of MNP – this technology could read numbers allocated to each operator. In the new era of MNP, the technology used had to be able to read all mobile numbers not only the first digits as they are no longer a means of reference for a mobile operator.

None of the operators acknowledged that MNP has brought costs of mobile calls down. However they are all of the view that their customer service has improved. In terms of penalty charges for those who want to port, the operators indicated that they are using different methods because charges are not regulated. All indicated that ICASA needs to review the current MNP regulations because of the converged licensing environment, which was not in place at the time when MNP was implemented.

4.8. Subscriber experiences and perspective

The success of MNP as described in the policy and literature review is informed by these important factors for success include: quality of service,

low prices and choice. Furthermore, is the importance of public awareness and reasonable time frames required for porting. The interviews with subscribers were meant to solicit information regarding their experiences in connection with MNP.

Figure 5: Number of ported numbers from 2007-2008

Donor operator	Number of ported per donor operator	Recipient Operator	Date of porting
Vodacom	4	MTN	2007
	5	Cell C	2008
MTN	5	Vodacom	2007
	3	Nashua Mobile	2008
	4	Cell C	2008
Cell C	3	Vodacom	2008
	2	Virgin Mobile	2008
	4	MTN	2008

Source: Author, 2010

4.8.1. Reasons for porting

Five possible reasons for porting were explored: quality of service, phone packages, value added services, pricing, and brand appeal.

Quality of service

For the majority of respondents, network coverage was the most problematic element which compelled consumers to port. This problem cuts across all mobile operators. Respondents complained about poor reception where their

voices are cracking during telephone conversations and had to move around for a better position. Others said that there were certain areas where a phone call will drop and they had to make a new call. One of the respondents indicated that MTN network coverage was the main reason for her to port to Cell C. However, after porting, she found that Cell C's network was as poor as that of MTN. One participant put it as follows: "There is nothing frustrating like having to tolerate a bad service on daily basis. I actually saw an advertisement on TV about MNP and was glad to hear that I can port and keep my number" (Participant 6, 2010).

Phone packages

Respondents indicated that contract packages are bundled with handsets. This means that if a subscriber's contract was about to expire, and he or she wanted to renew a contract with a particular phone, they could not do that if that particular mobile operator did not have it. They had to terminate their contract in order to join another operator only for a handset or phone package. "Cell C had a phone on special which I had been looking for and Vodacom did not have it at that time. My contract was coming to an end and I decided not to renew. Vodacom had a good customer care service though and had it been not of the phone, I wouldn't have left" (Participant 14, 2010).

Some of the feedback from respondents indicated that their understanding of phone package is more with reference to the handset that than the type of package they preferred. This was clear with the response from this participant: "Vodacom could not provide me with a specific phone I wanted. So I decided to port to MTN. Now that I have my phone, I want to go back to Vodacom" (Participant 26, 2010).

Value added services

A small number of the participant indicated that they had ported because of the value added services which were not applicable with their operators. “Cell C could not provide me with other services such as wasp and Mix-it, and I decided to port to Vodacom” (Participant 23, 2010). “I did not have problems with Vodacom. Virgin Mobile was offering free SMSs at the time and decided to port to them” (Participant 20, 2010).

In line with global trends with regards to competition, mobile operators introduced bundled services which included voice, data and video in one service. In South Africa, Vodacom and MTN were the first operators to adopt these services. Cell C, according to the feedback from respondents did not have bundled services, which prompted those who required them to switch their number.

Pricing

A few respondents indicated that they switched their number because of high rates. “When Virgin Mobile was introduced, I had high expectation that they will lower their call rates” (Participant 24, 2010). A small number of respondents indicated that they ported in order to join their families who were with a particular operator and save costs using on-net calls.

Brand appeal

A small number of participant indicated that they switched because they were attracted by Cell C and Virgin brands. They had seen their adverts many times on TV and were under the impression that these two operators will bring about cheaper prices since they were new at the time. “Virgin was fairly new and it just seemed more appealing”.

it was clear that several respondents were attracted branding, they further anticipated to gain through cheaper prices as Virgin Mobile and Cell C came late after the licensing of MTN and Vodacom. Though new service providers were new, prices did not change.

4.8.2. Benefits of porting

In this category the researcher anticipated to hear how respondents have benefited from MNP, citing in detail specific benefits emanating from the porting. However, respondents did not introduce new factors to describe benefits from switching. Instead, what was cited as reasons for porting was identified as a benefit after joining new operators. They expressed joy at no longer having poor reception and drop calls. A few respondents indicated that they were saving money through offers they received from Cell C and Virgin Mobile such as free weekend calls and free SMSs. They were unable to elaborate how much they were saving in comparison to their previous network operators. They did not know how much they were paying per minute, nor could they distinguish rates between off and on- peak as well as rates for on – net and off net calls. One participant said that joining her family in a similar network saved her money because all calls were now on-net.

There were different views among respondents about the benefits of network coverage. Some respondents said that coverage has improved since porting but others indicated that their reason for porting did not bear positive results because they have realized that poor coverage cuts across all operators. They were disappointed that they did receive any benefit from porting.

Respondents explained that since porting, customer care with new operators was far better that their old operators. Those who said that they had benefited by acquiring the new preferred handset mentioned that they were willing to port back to their previous operators. They further said that they were happy with other options on their phones such as availability of data and video.

4.8.3. Experiences during porting

Both the regulator and operators developed a consumer guide document which clearly stipulates the processes which should be followed by operators and consumers when there is a request to port. In order to avoid delays or rejection, the consumer guide prescribed steps which should be followed by both pre-paid and post paid subscribers. For instance, a subscriber who wants to port should inform the receiving operator about his or her intention, and the recipient operator would make a request on behalf of the subscriber. The MNP regulations also stipulate that porting should take a day, and if there are technical problems which may make it impossible to meet this deadline, the donor operator should inform the recipient operator, who will then notify the consumer.

Porting for the majority of respondents took place between one to two days during which they could not make or receive calls. “It took me a day or two to port my number. At that time, I could not make or receive calls. MTN has been a nightmare. Their service is terrible. They had given me a faulty handset and also kept disconnecting my number. I had to pay extra amount to be switched on. I don’t like MTN’ service and cannot wait to go back to Vodacom” (respondent 26, 2010).

Only a small number of respondents mentioned delays of about a week and two weeks. They indicated that the time frame for SIM-card activation should be expedited.

Others indicated that they had lodged complaints with their mobile operators about poor network coverage, but lack of speedy redress forced them to switch. What the researcher picked up is that none of the respondents who indicated that their complaints were ignored by operators mentioned having escalated their complaints to the regulator for intervention. The impression created by respondents is that consumers are oblivious about their rights and

opportunities for redress. This occurred despite the fact that during the interview, they indicated that they were provided with information about porting processes. That information should invariably provide for complaint procedures.

The respondents indicated that operators, to a large extent, complied with a porting process time frame. About two respondents indicated that it took about two weeks, which was an inconvenience for them. None of them mentioned any charges for porting, especially post-paid subscribers. Basically the respondents were presumably not aware that they had been charged as MTN and Vodacom charge penalty charges.

Awareness programmes by both the regulator and operators are not popular. Respondents said that they only saw adverts but nothing educational about MNP. Importantly, it was mentioned that training needs to be provided for the mobile shops and consultants.

4.9. Conclusion

In conclusion, the researcher summarises the key findings emanating from the three categories: the reasons for porting, the benefits of porting and the experiences during porting.

With regard to reasons for porting, a high number of respondents indicated that operators' network coverage was poor. The impact was felt more by contract subscribers who were expected to pay the monthly subscriptions fee despite the challenge of having a proper conversation without interruptions. In terms of benefits for porting respondents indicated that they were paying less money since porting.

Low rates however could not be corroborated because they were unable to expantiate on how much exactly they benefited. In connection with experiences during porting respondents spoke more about times frames for porting. The majority of respondents were satisfied with the duration for

porting and only a few said that it took about a week to two weeks for porting to be completed which was an inconvenience on their side.

CHAPTER 5: STRENGTHS AND WEAKNESSES OF MNP

5. Introduction

This chapter provides an analysis of the findings, focusing on the strengths and weaknesses of MNP. Furthermore, it consolidates common and varying perspectives on policy, regulation, mobile operators as well as subscribers responses. The analysis on policy focuses on competition growth and regulatory framework is informed by consumer protection expectations and monitoring of MNP regulations. The regulatory perspective is further looked at in line with other consumer regulations at ICASA. Fundamentally, this chapter draws on international best practice on MNP, as described in the literature review and the research findings. The analysis chapter will indicate whether MNP was successful in South Africa or not.

5.1. Strengths of MNP in promoting competitive markets

The introduction of MNP as stated in previous chapters was aimed at increasing competition in the market and leveling the playing field, for the benefit of consumers and new entrants. This was evident with Cell C's performance at the beginning of MNP. Cell C was able to attract more customers who were originally with the dominant operators.

Some of the operators viewed the convergence of former VANS licenses as another opportunity for competition growth, implying that these licensees would compete equally with mobile operators. Increased competition was harnessed by the regulator's acceptance of virtual mobile operators such as Virgin Mobile, to enter the market and compete on MNP. The MoU entered into cellular operators and their service providers such as Autopage contributed positively to a broader market in relation to MNP. Whilst positive steps were taken in ensuring that consumers had a vast choice regarding MNP, the researcher has not come across any indication that MNP in South

Africa drove prices down and enabled quality of service provision by all players in the market. Melody (2003) as mentioned previously, describes competition as the driver of low costs, quality of service and customer attraction which means any opposite actions by mobile operators on this definition would result in the failure of competition.

5.1.1. Strategies implemented to increase competition

There was willingness on the side of operators to prepare effectively for the introduction of MNP. Technology upgrade was performed on regular basis, in order to manage the level of drop calls, as well as ensuring availability of network coverage in all areas. Operators took advantage by investing in technology so as to attract new subscribers and retain old ones.

The promulgation of End User and Service Charter regulations was viewed as a positive step in protecting consumers against poor service. These regulations provide parameters, measurements as well as targets which operators should adhere to in order to ensure quality of service. As pointed out by infodev (2006), the regulator has two fundamental objectives when developing standards and reporting mechanism for quality of service. First, it has to ensure that consumers are well served. Second, it has to require reports for compliance. Mobile operators in South Africa are in agreement with the End User Service Charter and international best practices on quality of service. “The percentage of connectivity failure rate must not exceed 3% of all connections including drop calls’. Moreover, operators were obliged to resolve complaints within 14 days” (Government Gazette no: 30553).

South Africa performed fairly well in terms of technology adoption and the type of technology used for MNP processes was in line with international standards. A study by NERA has shown that for MNP to exist and be successful, technical feasibility should be a priority. Call forwarding facility has been adopted by many countries which introduced MNP and that includes

South Africa. Another study by Buehler *et al* (2006) indicated that technology was a contributory factor to the quality of MNP as it affects porting time frames and reliability.

5.1.2. Choice

MNP is viewed as victory for consumers, especially post-paid subscribers who were initially forced to stay with mobile operators, despite their discontentment with operator's poor services, for fear of losing their numbers. This move has positive effects for both individuals and business alike. Business was faced with high costs of changing letter heads and inconveniencing their clients with new numbers and MNP provided a much needed relief.

As mentioned in the literature review, studies by Geport *et al* (2001) and Buehler *et al*, (2005) indicated that customers valued their numbers, and the freedom to choose addressed mediocrity by network operators. In the past consumers who wanted to leave their service providers were discouraged to do so because they had to give up their numbers.

Consumers are usually attracted by certain brands which they prefer to be associated with. In this scenario, quality of service or price does not matter. As indicated in the findings, the majority of subscribers were inclined to port for purposes of brand preference. This is a sentiment shared by Satitsamitpong & Mitomo (2008), which explored the influence of branding with regard to MNP and concluded that some of the consumers do not port because of low prices or quality of service, but switched in order to join their preferred brand. Ideally, choice is viewed as a regulatory strength and a success.

5.1.3. Effective consumer awareness campaigns

Consumer awareness programmes are essential for consumers to make informed decisions about MNP. Awareness on tariffs for on-net and off-net

calls are is important and so is information of porting processes and procedures is equally important. The fact that all operators provided information to consumers who wanted to port is encouraging. The campaigns and media advertisement on both television and radio had a positive impact on consumers. MNP regulation in this regard proves to be an effective tool for compliance.

According to Baldwin & Cave (1999), competitive markets can only function properly when information is provided to consumers in order to make informed decisions. It has been proven in the literature review that countries which implemented awareness programmes drew more interest on MNP than those with weak or no campaigns. South Korea had consumer awareness campaigns and marketing programmes which resulted in high demand for MNP. Most of the literature points to knowledge of tariff transparency and to awareness campaigns, especially for on-net and off-net calls. Not only should consumers be aware about warning tones (warning the consumer they are phoning a ported number), but they would also understand price differentiation.

5.1.4. Value added services

The evolution of telecommunications in respect to mobile services has resulted in the convergence of voice, data and video in the same platform. The majority of respondents indicated that internet access was a need and using a cellphone SIM card for voice and data was important. The respondents mentioned that they had ported from Cell C in particular to Vodacom and MTN because at the time, Cell C had no video and data options. Value added services became a competitive advantage for consumers in terms of choice.

The practice by consumers to port in order to access value added services is done globally. This was evident in Thailand where 3G was indicated as a reason for porting (Satitsamitpong & Mitomo, 2008).

5.1.5. Experiences during porting

Seemingly, South Africa is doing well with regard to compliance on porting times. Most subscribers indicated that they had not experienced any porting delays because it took only two days. Few subscribers said that it took two weeks for their ports processes to be completed. A contributory factor could be the regulatory requirement which stipulated that porting requests are to be facilitated by recipient operator.

Both ICASA and operators developed a consumer guide which detailed porting processes including requirements for porting and reasons for disqualified ports. Based on the findings, it cannot be conclusively said that all port requests met the required standard but it could be lack of interest by consumers in lodging complaints. In 2007, Tahalani Igbal provided an analysis of the failure of MNP. He said in countries like the UK, consumers complained about delaying tactics by donor operators. Unlike in South Africa where port requests were recipient-led, in the UK, porting request at the beginning was consumer-led.

In the UK only one operator pushed for the introduction of MNP, and was supported by Oftel, the telecom regulator at the time. As a result, other operators imposed long porting times of about 25 days and even expected subscribers to obtain permission for moving from one network to another (Wieland, 2007). The porting process in The Netherlands took up to 5 weeks resulting in a failure of MNP in the country (Horrocks, 2007). The longer the time taken for porting, it is easier for donating operators to win back their customers through special promotions and personalised packages.

Another reason for low porting rates is because subscribers have no need to switch networks because of the 'homogeneity' of services on offer. The lack of competition in Ireland meant that subscribers did not perceive any benefits from a move from one operator to another, leading to low porting rates and economic failure of MNP. In Finland, operators imposed minimum contract periods which drove down porting rates from approximately 40 percent to 10 percent (Horrocks, 2007).

5.2. Weaknesses of MNP in promoting competitive markets

5.1.1. Uncompetitive markets

The Mobile sector in South Africa is regarded as uncompetitive because it has only three licensed mobile operators. Based on the literature review, competition in the telecommunications is more effective when there are more than three licensees. Haucup (2003) indicates that the level of competition among operators should be a measure for the success of MNP. He cited countries like Ireland where MNP failed because there were only three mobile operators. Furthermore, South African mobile operators have acknowledged that they all provide similar products and price hence making it difficult for consumers to get competitive services.

There is a disjuncture with the view that the success of MNP is determined on the oligopoly market, where market players are over four. If the market size contributes to MNP, the question is why it failed in Sweden where there are 16 mobile operators. A study by Guptal *et al* has shown that churn was preferred option by subscribers.

Furthermore, convergence of former VANS licenses in South Africa has somehow increased competition. But competition remains limited to the provision of network access than service access because all former VANS are not competing on mobile services. It is mentioned in the findings chapter

that service providers and virtual mobile operators such as Virgin Mobile are able to action porting request. Unlike in Japan where competition resulted in low prices, MTN, Vodacom and Cell C indicated there was no price and product differentiation in respect to mobile services and therefore implying that MNP is a failure.

There are subscribers who are not keen to port, instead preferring churn. There is a disjuncture again on how churn rate is viewed. Other operators perceive it as a threat and others as an opportunity. Operators like MTN are in favour of churn instead of MNP, whilst Cell C views it as a negative because continuous change of SIM-cards, therefore contributing negatively to the operator's subscriber base. For instance, Sweden's market was very competitive with 16 mobile operators but high number of subscribers preferred churn than MNP, presumably not giving value to their numbers. The preference of churn rate over MNP despite its benefits makes this option ambiguous. According to Gans, *et al* (2001), it is important to have a dynamic market and as many willing operators as possible. This will help regulators to work with a group of driven individuals ideally pushing for the facility.

The DoC mentioned that MNP has failed because of lack of competition and price collusion by operators. Another dynamic on competition was mentioned by Horrocks (2007), who said that MNP should be introduced in countries with bigger markets. This notion was shared by Ghana, which indicated in 2008 that it would take precautionary measures before introducing MNP.

In the UK, the study anticipated an economic boost through the implementation, however, delays contributed to low demand during the first year of MNP. The issue of churn rate was raised by MTN and Cell C as they are of the view that prepaid subscribers as the most significant category affecting churn in South Africa.

5.1.2. Poor quality service

Until ICASA is strengthened to effectively enforce compliance of its consumer regulations, this vacuum will continue to create customer dissatisfaction. Whilst all mobile operators mentioned that they had continued to upgrade their technology on regular basis, in contrary, the problem of poor network seem to cut across because all respondents from all three mobile operators ported with the assumption that they will get improved services but to no avail. As reported in the previous chapters, the effective regulator regulates in the public‘s interest by ensuring services at affordable prices. It develops regulations, monitors and enforces compliance.

During the years under MNP review, starting from 2006-2008, the End User and Service charter regulation was not yet in place and only got implemented late in 2009. Seemingly, operators leveraged on this gap in order to not provide quality of service. The MNP regulations as well did not address issues of monitoring and enforcement, and this left consumers who ported at the mercy of operators because of the vacuum with regard to the regulatory mechanisms to address the provision of inferior services.

The Authority has also implemented the regulations on the code of conduct three years after the implementation on MNP. These regulations address the behavior of operators when dealing with customers. This includes a turnaround time of 14 days to resolve complaints. However, these regulations were introduced three years after the implementation of MNP. As mentioned by ICASA, they have received complaints on porting, but had to negotiate with operators in order for them to resolve complaints. ICASA did not have a record on whether the complaints were finally resolved, which is indicative of regulatory failure in ensuring consumer protection.

The majority of subscribers said that they had ported because of persistent poor network coverage but surprisingly, the problem cuts across all mobile operators. Another challenge with this finding is that poor network coverage leaves consumers susceptible to abuse by the industry, especially the post-paid subscribers as they are expected to pay full subscription fee despite the fact that their calls are interrupted or cannot make calls as and when they wish where there is poor coverage. Whilst there is an attempt by ICASA to protect consumers against inferior services, the problem that remains is its lack of capacity to monitor and enforce compliance of its regulations.

There is a disjuncture between what subscribers have experienced on quality of service and the responses by mobile operators on the strategies they put in place to ensure improved services. The response to this issue is indicative of fact that operators did not take quality of service seriously, despite the impression they gave in their responses about investment they make to ensure that their infrastructure is upgraded occasionally to ensure a seamless operations.

5.1.3. High charges

In 2010 former Minister of Communications General Siphiwe Nyanda made a pronouncement about the reduction of termination costs, subsequently, ICASA published the termination regulations. Whilst this move received a big coverage by media, a question which remains unanswered is how the consumer will benefit from implementation of these regulations and to date, there is no answer (DoC, 2010).

There is a shortcoming to a certain extent in the way the ECA was crafted in comparison to the repealed Telecommunications Act. The latter gave powers to the authority to develop price regulations which addressed lack of price competition in the industry. The scenario currently is that the regulator does not have price regulations. An operator who wants to increase prices informs

the regulator through an application. That application is for information purposes, rather than decision making or intervention mechanism. Seemingly, the asymmetrical information on costs and prices still lie with the industry. The challenges with regard to the submission of six month COACAM reports could have also contributed to the authority lack of powers to manage tariff applications. In addition, delays by the authority's to define significant market power could be a regulatory failure in ensuring that termination call rates are reduced. Whilst the authority had promulgated the regulations in 2010, there is no clarity on whether consumers will benefit.

There is a possibility that ICASA will conduct a market study on termination rates in order to determine how much operators can apply to reduce call prices for end users. An analogy done by Boylaud and Nicolette in 2000 on telecommunications price and costs concluded that after the liberalization and privatisation of the market, there is strong empirical evidence that the impact of competition is negatively related to consumer prices.

Satitsamitpong & Mitomo mentioned that in 2008, in countries such as Thailand, consumers were able to identify their discounts through billing statements. Furthermore, mobile operators in the US provided competitive prices which resulted in growth in competition. To be more specific, for low plans, the prices fell at 4, 87%, and for medium and high plans at 6,9% (Park, 2009). On the contrary, Vodacom and MTN's view is that MNP did not bring about price cuts because of lack of competition in South Africa.

ICASA's view is that the inability by subscribers to understand their contracts and how they are billed does not mean that MNP failed to bring prices down. The DoC on the other hand said that MNP did not bring costs down due to collusion by operators. There is however a grey area in the MNP regulations. Section 6 (5) stipulates that "a donor operator shall not charge a subscriber when the subscriber ports their number and shall ensure that donor service

provider does not charge the subscriber when they port their number". In an interview with Vodacom, it was clear that MTN charges 'clawback' for subscribers' who wants to port. These charges as reported are not regulated. In order to protect consumers, the regulator has to review this clause and address it for the benefit of consumers but also to ensure consistency among operators. In 2004, Taaffe reported that operators in France even stipulated that customers who wanted to break their contracts had to provide up to three months' notice before doing so.

A scenario on cheaper prices was highlighted by Olla & Patel in 2006. Their perception is that market players introduced competitive prices in order to attract consumers to port, a view shared by Vodacom and MTN. On the contrary, a study by Ovum in 2005, highlighted in the literature review, indicated that that there is evidence that cheaper prices do not attract more porting among consumers. The study found that in most cases, there were challenges of long porting which discouraged consumers to switch. Another disjuncture with MNP was that, it could not conclude that shorter porting times attracted more customers. The impression created is that, MNP as a competition option does not guarantee demand, and low prices were not necessarily a determining factor for porting. The question that remains, is how will South Africa ensure that MNP as a facility attract consumers, whilst the market ensuring competitive prices.

As reported also by Ovum, Tahalani Igbal in 2007 indicated that MNP was not successful in several countries including Taiwan, Finland, UK and Malta. The same view was shared by Katka in 2004 who suggested that high porting charges, long-winded applications, lengthy porting times, and handset subsidies have suppressed the change of networks on a large scale. The ambiguity of MNP as an option becomes complicated based on these findings. Could it be that MNP as a facility should be limited to keeping the number when one switches operators? Do these findings suggest that policy

makers and regulators should look at other competition option such as incentives for those who comply? The conclusion and recommendations chapter will address these.

5.1.4. Poor consumer awareness on MNP

Seemingly, operators and ICASA are not doing enough to educate consumers about mobile number portability. Whilst all subscribers mentioned that they had received information on MNP; many explained that the information was not sufficient and educative as it merely addressed porting processes. An impact study by Levin in 2006 outlined factors impacting on MNP and they included: marketing campaigns, contractual obligations and mobile phones subsidies. In his conclusion, he indicated that "The more aggressive the marketing campaign is, the more aware customers become of the possibility of MNP, and the higher the usage of this service will be" (Levin, 2006).

The MNP regulation (Government Gazette, 28091) stipulated that operators and the regulator were duty bound to educate the public about MNP. During the interview, it became clear subscribers were ignorant about many attributes of MNP other than the processes. None of the respondents could elaborate when asked about the call charges they were paying with their new operator in comparison with the old one. They did not know charges of off and on peak after porting, nor were they aware about charges for on- net or off-net after porting.

All operators mentioned that they had information published in their websites, and moreover, had pamphlets available at their centers. Whilst operators indicated that information was available, it appears that those who could only access it are the ones in cosmopolitan areas where every town has internet café and many have access in their homes, either through Asymmetric Digital Subscriber Line (ADSL) technology or 3G.

The importance of consumer awareness with regard to MNP is captured in the literature review section. Scholars described how consumer ignorance leads to MNP complexities. A scenario which was not applicable prior to MNP because consumers were aware through the prefix number identification the network they were calling and it was easy to understand price differentiation. A study conducted by Shin, in 2007 found that consumers were paying indirect costs because of ignorance to distinguish between networks when placing calls and operators were not transparent about call rate information. Contrary to the study by Shin, Small in 2005 made an analysis on switching costs and found that costs were reduced and MNP improved the welfare of consumers. Podvisostskiy in 2006 indicated that switching costs impacted negatively on consumers. They conclude that porting costs by operators, customers ignorance on issues related to porting, welfare of benefits for consumers become ambiguous.

During the interview with ICASA Councilor, she indicated that it remains the operator's prerogative to charge any amount they deem it fit for switching as the authority was not responsible for tariffs, but acknowledged that lack of transparency could lead to exorbitant charges which may discourage consumers to port.

Notably, section 7 (4) of the MNP regulations address issues of service and requirements and states that: "to ensure tariff transparency for callers, where as a result of number portability the termination rate charge for a call to a ported number is more than 10% higher than the termination rate charged by the operator allocated the number block, that contains the ported number, the operator shall apply a warning to be agreed with the authority before connecting the call and shall not charge for the period during which the warning is applied".

Whilst the authority has agreed with operators on this requirement, the short-coming is that consumers, even though the beep occurs, don't know the difference in terms of charges. To a certain extent, awareness on the purpose of the beep is non-existent. In 1999, Baldwin and Cave indicated that when information is made easily accessible, it could capacitate consumers to make sound decisions on product and service choice. These were the same findings which emanated from the study in Australia whereby it was found that problems of porting were exacerbated by lack of quality of service and lack of information. A study conducted by Lee *et al* (2004) in South Korea, indicated that there was willingness by subscribers to pay monthly bill and this was associated with income, awareness on MNP and the intention to switch.

5.1.5. Unregulated bundled services

The Authority drafted the draft regulations on handsets subsidy. The former chairman of ICASA Paris Mashile said the regulator was forced to look into matters as a result of huge mountain of concerns raised by consumers. "The key issues are lack of transparency of details in the contract vis-a-vis handset subsidy and the service provided as well as the issue of unused minutes which have been paid for...They [operators] should communicate in a language best understood by consumers" (Government Gazette, 32083).

The irony with bundled services is the inability of ICASA to exercise its powers to stop industry from forcing bundled services on consumers, hence compromising the rights of consumers in respect of choice. In 2007, Iqbal wrote that the regulator should be able to wield significant authority over the sector and be committed to driving the facility in order to ensure that MNP is successful. Seemingly, ICASA is unable to exert pressure in ensuring that MNP is success. ICASA indicated that the industry was not cooperative with regard to the draft regulations on handsets subsidy and seemingly, the regulator was about to give up in ensuring its finalisation. In 2004,Smura reported that , when MNP in Finland was failing, regulators stepped in to

ensure that operators did not provide handset subsidies and long-term contracts.

Operators submitted that the draft regulations were “ultra *vires*” the ECA, and threatened ICASA with litigation should it proceed with the implementation. Basically, they indicated that ICASA was interfering with commercial business as handsets were not a regulatory issue. Also, they mentioned that the content of the draft regulation was a duplication of what is contained in the Consumer Protection Act no 68 of 2008. It cannot be said that consumers have benefited by merely getting a new package without understanding the costs model of handsets subsidy. The decision by ICASA to abandon these draft regulations since 2004 did not provide any solution.

The voice of mobile operators in this regard seems to be stronger and more powerful than that of the regulator and consumers. ICASA should be working towards influencing policy with regard to bundled services, and doing benchmarks with countries such as Finland and others which have succeeded in developing regulations.

The anomaly with regard to the bundles is the voice of consumers. The question is whether they prefer bundled services or not as no study has been made to conclude this. Most subscribers indicated that they wouldn’t have normally ported had it been not for the phone packages they required. There are various types of packages but in this context, the study refers to handsets. If a subscriber had identified a handset which his or her operator could not provide, then he or she would decide to make a port request. Most subscribers indicated that after porting, they wanted to return to their operators, and that could not be done until a period of three months expires. In most cases, it was difficult to switch back within a short space of time especially for contract subscribers as they had to pay off their contract.

Prices of mobile services are also affected by bundled services, especially for post-paid subscribers. When they sign their contract, they receive a 24 months contract with a hand set. The problem with bundled services is lack of transparency for consumers in understanding what they are exactly paying for. Furthermore, there is potential for consumers to encounter poor service or pay more with other operators instead of purchasing a handset separately from a service.

5.1.6. Limited understanding and description of choice

The researcher has realised that choice as described by all respondents is looked at selectively, whereby consumer moves from one operator to the other. Nothing was said in connection with a right to choose a product such as acquiring a handset anywhere without having to change operators as it was discussed with the handset subsidy. This is a gap which the regulator should address in order to protect the rights of consumers.

CHAPTER 6: CONCLUSION ON MNP AND COMPETITION

6. Introduction

This chapter sums up the discussions in the previous chapter. Furthermore, it provides a summary of the evolution of processes which led to the introduction of competition in the telecommunications sector. The purpose of this study was to investigate the extent to which MNP has made an impact on consumers of South Africa. In order to examine the effects, first, policy perspectives were sought from the Department of Communications including the regulator and operators. Second there was a need to have a regulatory perspective with leading responses from ICASA, DoC and operators, third, from four operators as well as 30 subscribers. The analysis was based on the strength and weaknesses of MNP with regard to competition. The themes that are analysed are competition growth, consumer choice, quality of service and lower costs. MNP is just but one of other components of competition**.**

6.1. Summary of arguments and findings in relation to the literature review

6.1.1. Policy in relation to competition in the telecommunication sector

The convergence of the telecommunications services has to a certain extent levelled the playing field. The convergence of former VANS licenses and the option of licensees to apply for electronic communication services and electronic communications network services licenses has open the market for more competition. The introduction of MNP is viewed as another enabler of competition. The regulatory strength in the converged environment is the power to license Electronic Communications Network Services licenses on Electronic Communications Services and vice – versa.

This could increase competition even further as it happened now with Telkom venturing into mobile services, as well as Multichoice acquiring a license on mobile TV services.

6.1.2. Regulatory power to facilitate for competition

The regulatory environment requires strengthening in order to ensure fair competition and consumer protection. Currently, ICASA is not capacitated to enforce and monitor compliance of regulations. There are gaps in respect to the MNP regulations as they lack monitoring and penalty clauses, therefore resulting in a weak regulator. One of the main attributes of MNP is freedom to choose whilst keeping one's phone number. The regulator should issue lock-in strategies by operators as MNP is not a favour but a regulatory obligation. Furthermore, penalty clauses incurred by consumers who want to port must be addressed, and based on a feedback from operators; the regulator has done nothing to address this problem.

It is a general observation that consumers don't know what they are paying for. There are several price competition issues affecting MNP: the issue of bundled services is still an issue especially for contract payers. Since 2004, the regulator held consultation processes on handsets subsidies but for over 5 years there has not been closure on the matter. The regulator should take a decision on handset subsidy regulations and may have to contact policy makers for a policy directive on bundled services.

Another issue impacting on pricing is interconnection rates. In 2010 the regulator published termination rate regulations. The challenge with these regulations is that the benefits of rate reduction are experienced by operators and not consumers. The regulator should conduct a market study and determine price cap for consumers.

Lack of price transparency is another challenge which is faced by consumers, especially on on-net and off-net calls, peak and off-pick calls. The regulator should enforce compliance and this could be done with the revision of penalties clauses as it is done by Competition Commission.

There was a general consensus among subscribers that both operators and ICASA were not providing awareness campaigns. Whilst operators maintained that information was available on their websites, there is an impression created by consumers that call centres were ignorant about MNP and failed to provide clarity when asked. The authority on the other hand mentioned that they conducted aggressive campaigns during the launch in 2006 but soon abandoned the programmes as they were expensive and also that operators did not want to take part required in the regulations. Consumer awareness programmes are vitally important for consumers to make informed decision on MNP but also on prices and products. Poor awareness programmes and marketing campaigns are indicative of the fact that operators are reluctant to continuously implement MNP.

South Africa had low ported numbers. According to the database from Number Portability Company, from 2006 to 2008, about half a million numbers were ported despite the 50 million subscriber's base claimed by operators. Based on the literature review, the success of MNP is measured on the number of ports. The number of mobile players with competitive prices and product differentiation are yard sticks for effective MNP implementation. The power of the independent regulator to ensure that issues of competition are taken seriously by mobile operators is important.

6.1.3. Competition strategies implemented by mobile operators

The impression created is that porting takes place as a matter of regulatory compliance than on the basis of competition. Technical efficiency is the determining factor of quality of service and measurements are important to ensure that operators comply. In 2009, the authority published regulations on End User Service charter. These regulations address issues of network coverage, drop calls and customer care turnaround times. The positive side with regard to the regulations is that they are available and are used as a

yard stick for compliance, despite the fact that came three years later after MNP was introduced.

The negative side on these regulations is that the regulator cannot use them in certain instances where operators claim *'force majeure'* on a high number of drop calls or poor network coverage. *Force majeure* is described as forces of nature which cause interference in the services. The penalty clauses placed in the regulations becomes null and void if the authority does not ensure proper technical skills and capacity to investigate causes of drop calls. The fact that the majority of respondents highlighted quality of service, mainly poor network coverage as the reason for porting, seems to indicate that operator services are poor, and because of lack of competition, the problem of poor network coverage cuts across all mobile operators.

The findings indicate that whilst consumers have a right to choice, it is marred by delaying tactics and penalty charges which are not transparent. The authority should not allow for anomalies in the way customers are treated. Consistency should apply in terms of application of penalty clauses to operators and this should be regulated.

In conclusion, the fundamental action which should be taken by ICASA in ensuring that MNP is a success is to ensure that proper measurable systems are in place. The success of MNP should not be ambiguous but the best way to demystify it is through regulations. As much as the regulator has come up with regulations on what constitutes quality of service, the same should apply to the reduction of prices. This could be linked to call rates for on-net or off-net calls, peak or off-peak calls, unbundling of services including handsets. ICASA should ensure that compliance is adhered to by operators and failure to do so should be met with penalties which will make ICASA gain respect in the industry and in the eyes of consumers.

6.2. Recommendations on MNP and competition

Advice on the need for policy amendment

The ECA No 36 of 2005 should be amended in order to address competition issues effectively. Pricing issues should be prioritised as it happened during the repealed Telecommunications Act of 1996. If the market is unable to compete on pricing then policy should call for price regulations. Until operators are forced by policy to lower prices, MNP will never benefit consumers.

Advice on the strengthening of regulation

A weak regulator will continue to expose consumers to industry abuse because of poor crafted regulations, lack of monitoring and enforcement**.** ICASA requires proper funding in order to employ specialist in the field of communications. There should be skills development and secondment of staff to under study countries where consumer regulations are successful. The MNP regulations and the End User and Service Charter regulations should be reviewed as a matter of urgency. Gillwald describes attributes of the regulator as follows:

> The effectiveness of a politically non- complaint regulator can be undermined by simply not providing them with adequate resources to attract skilled staff and councilors through competitive remuneration packages, utilising the best consultants, even having resources to fulfill the public administrative procedures and defending decisions in courts (2006, 13 quoted by SR.Hlongwane, 2009, p. 107).

Advice for mobile operators on MNP and competition strategies

Operators should take the needs of consumers seriously by ensuring that provision of lower prices and quality of services should be self-regulated. As it happened in other countries with MNP, consumers preferred churn than MNP because operators provided competitive prices and products, as well as quality of service. The choice should be left to consumers but options of competition should be plenty. With the new Consumer Protection Act of 2008, the regulator and the National Consumer Commission should sign MoU for collaboration and cooperation on issues pertaining to consumer complaints.

Advice for subscribers on the right to information

There is a tendency and reluctance by consumers not to read their contract terms and conditions. This challenge should be demystified and consumers should be activist in the field of knowledge when spending their money. It was clear during the interviews that consumers are ignorant of what they are paying for. They are not inclined on seeking information hence leaving mobile operators to leverage on that ignorance when setting up prices.

Finally, research and innovation should be taken seriously by the telecommunication industry in order to improve strategies with regard to competition. MNP should be viewed as a permanent feature of competition which should not change but remain for those who want to utilise it when they need to. Many consumers, both individual and business value their numbers and that should not change. Moreover, quality of service is another dimension of customer satisfaction.

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8. APPENDICES

Appendix 1: Approval Letter from Number Portability Company to acquire database of ported numbers

PO Box 1938 ROSETTENVILLE 2130. Email: thenjiwedube@hotmail.com.
Mobile: 082 376 0039

Mr. Clive Fagan
General Manager: Number Portability Company Ltd.
Thornhill Office Park
94 Bekker Road
MIDRAND
28 September 2009

Dear Mr. Fagan,

REF: 296539 – MASTER OF MANAGEMENT, ICT & REGULATION.

I am a registered student at the University of the Witwatersrand for the Master of Management, ICT and Regulation. I hereby request permission from your company to acquire data of mobile numbers which have been ported since 2006 from all three mobile companies namely; CELL C, VODACOM AND MTN. The purpose is to utilize the numbers for my approved academic research topic: *The impact of mobile number portability on consumers in South Africa'.* Subscribers will be interviewed and the results shall be made public.

Requested:

Thenjiwe Dube
Student number: 296539

Date: 28/09/09

Approved:

Number Portability Company (Pty) Ltd
Registration No: 2005/040348/07
VAT Registration No: 4830231124

Clive Fagan
GM: NUMBER PORTABILITY COMPANY (PTY)

Date: 29/09/2009

APPENDIX 3: SUBSCRIBER QUESTIONNAIRE

QUESTINNAIRE: THE IMPACT OF MOBILE NUMBER PORTABILITY TO

CONSUMERS OF SOUTH AFRICA

My name is Thenjiwe Dube. I am a Masters student at the University of Witwatersrand, conducting research on 'the impact of MNP'. As a mobile subscriber who has ported your number, I would like to ask you some questions. This is a confidential survey and no personal details will be released. Your answers will remain confidential.

SECTION A: INTERVIEWEE'S PROFILE

Details to be inserted before the interview

Cell phone number (Interviewer to record the number)	
Year ported (Interviewer to record the number)	

Questions

1. **Are you a contract or prepaid customer**

Contract	
Prepaid	

2. **Which Cell phone company did you port? (Your original service provider)**

MTN	
Vodacom	
Cell C	

3. **Which cellphone company did you port to? (Your current service provider)**

MTN	
Vodacom	
Cell C	

SECTION B: REASONS FOR PORTING

1. What were the main reasons for porting
2. Was it easy to understand the information on Mobile Number Portability?
3. Do you think that mobile operators are doing enough to advertise MNP?
4. Has ICASA and mobile operators did enough to educate consumers on MNP?

SECTION C: BENEFITS OF MNP

1. Since you ported your number, please explain the benefits you have experienced?
2. Have you experienced any changes with regard to call charges? Please explain
3. Can you describe any changes with regard to call charges? Please explain?

SECTION D: EXPERIENCES REGARDING PORTING

1. How long (days or hours) did it take you to port?
2. Were you charged any fee for porting?
3. How did you feel about the amount you paid?
4. Were you aware that you will pay the amount at the time ported?
5. What do you think should be done to improve porting?