SERVICE QUALITY PERCEPTIONS IN THE UGANDA MOBILE TELEPHONE BRANCH OF INDUSTRY

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DECLARATION

I, **Byarugaba Jotham Mbiito**, hereby declare that this thesis is my original work and that it has never been presented to any University or Institution for the award of any academic qualification. Any material that is not my original work is clearly identified and acknowledged.

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ABSTRACT

Standard practice dictates that mobile telephone service providers remain accurately aligned with the dynamic expectations structure of the target mobile telephone service users they serve. To comply with this requirement, literature sources assert that service providers need to adopt a candid marketing research orientation to understand what the users expect and in-build it in their service designs. Theory further contends that if such a business stance is diligently applied, any service provider is bound to gain a competitive edge in the market place.

Notwithstanding the aforementioned, service providers continue design services without sufficient understanding of what users expect. This mindset has led to disparities in both the designed and the received service. Despite the pioneering works of earlier researchers on the Gaps model, evidence shows that no research had been carried out to measure users' and providers' service quality perceptions in the mobile telephone branch of industry in Uganda. Much remains unknown as regards users' perceptions of expected and actual service quality and any potential disparity thereof. In the same spirit, much remains unknown as regards providers' perceptions of users' expectations and users' real expectations and potential disparity thereof.

In order to measure the aforementioned disparities, the Gaps Model was used in which Gaps 1 and 5 were measured for providers and users of mobile telephone services in the branch of industry in Uganda. The measurement was aimed at ascertaining the existence of these Gaps among the players in the branch of industry in Uganda. Because of the multi-language nature of the mobile telephone service environment with many interpretations of service quality concepts, it was imperative to be pre-emptive and use methodological triangulation to collect

quantitative and qualitative data in which the latter had to verify the former. Further, because methodological triangulation was adopted for data collection, the units of analysis were individual users and providers for quantitative data and users' and providers' focus groups for the qualitative data sourcing. Three hypothetical models were constructed for measuring users' service quality perceptions and the potential disparity between their expected and actual service quality (Gap 5); the providers' perceptions of users' expectations of service quality; and the potential disparity between users' service quality expectations and the providers' perceptions of users' service quality expectations (Gap 1).

In order to establish the influence of the selected variables on users' and providers' perceptions of service quality in the mobile telephone branch of industry in Uganda, an empirical survey was conducted to test the hypothetical models. The aim of this study was to quantify the significance of the hypothesised relationships between variables in the users' and providers' hypothetical models. However, because of the fallibility of concepts observed and measured in the multi-language environment in the mobile telephone service environment, a qualitative inquiry was also conducted using focus groups of users and providers in order to validate the study. Given that both quantitative and qualitative data were involved, deductive-inductive reasoning logic applied in the analyses. The findings indicated a poor fit of the hypothetical models.

Appropriate samples of mobile telephone users and providers from the current (December 2008) four mobile telephone networks were used in the positivistic survey. The samples comprised 195 mobile telephone providers and 262 mobile telephone users. Two research instruments were used for this study; one to source users' perceptions and the other providers' perceptions of service quality. Interval data was involved in measuring the variables in the study. For the phenomenological part, three focus groups each comprising between six and ten participants was assembled for users and providers of mobile telephone services. For each focus group, an interview lasting between one to two hours was

conducted and the resulting qualitative data analysed and reported. The purpose of group interviews was to benefit from group dynamics on individual participants in giving their opinions.

The pilot tests indicated that the users' instrument had good internal consistency with all Cronbach's alpha reliability coefficients over 0.8 for both expected and actual service perceptions. The providers' instrument revealed acceptable Cronbach's alpha reliability coefficients ranging between 0.67 and 0.71. Structural equations modeling (SEM) was used to test the theory through confirmatory factor analysis (CFA) and goodness-of-fit tests. The CFA established whether the users' and providers' models met the required minimum specifications. The goodness-of-fit tests established whether the researchers' models fitted their sub-sample data. The paired samples t-test indicated that the users' Gap 5 was non-existent while the independent samples t-test indicated existence of the providers' Gap1 in the mobile telephone branch of industry in Uganda. Qualitative findings which were used to verify quantitative results indicated that both Gaps 1 and 5 existed among users and providers of mobile telephone services in Uganda. Strategies were identified and recommendations made for possible adoption by providers of mobile telephone services in the branch of industry in Uganda.

KEY WORDS	Service quality, mobile telephone, mobile telephone service users, mobile telephone service providers, designed service, expected service, actual service, desired service, adequate service, service delight, disparity, focus group, business strategies, synchronised mindsets, positively not synchronised mindsets, negatively not synchronised mindsets.

CHAPTER ONE

BACKGROUND TO THE RESEARCH

1.1 INTRODUCTION

Uganda's services industry includes telecommunications, health, education, transportation, and financial services, to list only examples of the major service industries. In this research, the focus is on the mobile telephone services branch of the telecommunications industry in Uganda (Uganda Communications Commission 2005). The service industry is the largest sector in the Ugandan economy, contributing approximately 40 percent of the Gross Domestic Product (GDP) and 70 percent of the formal employment. Further, eight out of every ten new jobs in Uganda are service related thus making it the driving force of the economy (Uganda Export Promotion Board - UEPB). In the 2003/2004 financial year alone, the telecommunications branch of service industries in Uganda generated US $17.01 million and employed 150 000 citizens of the country (Uganda Telecommunications Sector Policy Review Report 2005:29).

In the 2006/2007 financial year, the revenue generated from this branch of industry was estimated to be US $360 million. However, for the financial year 2007/2008, the economy was riddled with high inflationary pressures (annual headline inflation rate was at 9.5 percent for the year ended March 2008) stemming from increased fuel and food prices. These inflationary pressures had a negative effect on the rate of growth for the communications industry (Status of the Communications Market, March 2008). While indirect employment in the branch of industry was estimated at 350 000 Ugandans, direct employment was 6 062 individuals (A Review of The Post and Telecommunications Sector 2007:10-12). With a sales turnover of US $30 million, the mobile telecommunications branch of industry in Uganda is small compared to global mobile telecommunication activities. In global terms, the telecommunications branch of industry turned over US $3.5 billion in 2005 (World Wide Worx Report (Phase 2) 2005:34; World Wide Worx Report (phase 4) 2005:31).

Prior to 1996, Uganda's telecommunications infrastructure was among the least developed, not only in Africa, but also in global terms, with a teledensity of only 0.21 per one hundred citizens. This teledensity figure was below the average

when compared with teledensities in other economies in the world. For example, the figure was below the African teledensity average of 25 per one hundred citizens. The situation was not any better when compared to other regions of the world namely Latin America with an average teledensity of 119 per one hundred citizens; South Asia with 22 per one hundred people; and East Asia with 79 per one hundred people (Shirley, Tusubira, Gebreab & Haggarty 2002: 8, 11).

By 2004, Uganda's teledensity had risen to 4.2 per one hundred, counting both mobile and fixed service lines with a projection of 20 per one hundred citizens by 2010. By March 2008, the aforementioned projection had been surpassed and the teledensity stood at 20.6 per one hundred. Interestingly, by December 2008, the teledensity was 29.5 per one hundred citizens and the current (2009) teledensity expected to be higher than the 2008 figure (Status of the Communications Market, December 2008; Market Review 2008:3; A Review of The Post and Telecommunications Sector 2007:14; Uganda Telecommunications Sector 2005:15).

Despite the fact that 80 per cent of the 31 million Ugandans are living in rural areas, up to 70 per cent of the telecommunication services are concentrated in urban areas, leaving the rural majority with the least access to these vital services (A Review of The Postal and Telecommunications Sector 2007; Uganda Telecommunications Sector Review Report 2005). Although the penetration rate is close to 30 per cent, other than mobile telephone interactivity, most of the complementary services such as pay phones, internet points, information and communication technology (ICT) training, access cards, electricity for battery charging, and handset repairs to list only a few, are still lacking in rural areas. This phenomenon has denied the rural majority of Ugandans the opportunity to initiate valuable interactions through the mobile telephone services branch of the industry. With the subscriber base close to 8.6 million Ugandans (December 2008) and a growth rate of 14 per cent, the demand for the complementary services requires urgent attention both from the Communications Commission and other service providers (Status of the Communications Market, March 2008).

With deregulation of the telecommunication services in Uganda in the mid 1990s, several mobile telephone service operators took the initiative to provide these vitally needed mobile communication services in Uganda (Uganda Telecommunications Sector Report 2005:15). Mobile telephone services represent more recent technologies that have been operational in Uganda for 13 years to date (Information and Communication Technologies 2006). By December 2008, four providers, namely, MTN, UTL, ZAIN and WARID provided communication technologies in Uganda. Currently (2009), the technologies are used by five mobile telephone service operators (providers), namely, Uganda Telecom Limited (UTL), Mobile Telephone Network (MTN), ZAIN, WARID Telecom, and ORANGE Uganda Limited to satisfy the augmented contemporary communications need of Ugandan users in the mobile telephone branch of industry (A Review of The Telecommunications Sector 2007:6; Status of the Communications Market, December 2008; Uganda Telecommunications Policy Report 2005:23). It should be noted that whereas "ZAIN" and "WARID" are not acronyms, but names of their respective owners, "ORANGE" on the other hand is brand name and is of European origin. Because ORANGE was launched recently, it was not possible to include it in this study.

With the continued growth in mobile telephone services in Uganda, two key questions come to the fore: Firstly, are the users receiving the mobile telecommunications services they expect? Secondly, do the providers' perceptions of users' expectations mirror the users' real expectations on mobile telecommunications? The first question implies a potential disparity between users' expected and actual service quality while the second implies a potential disparity between providers' perceptions of users' expectations and what the users' real expectations are. The aforementioned disparities have been investigated in this research. It is important to note that Uganda is a multi-cultural and multi-lingual country. Altogether, there are 32 local languages spoken in Uganda. It should be noted that the multi-cultural and multi-lingual situation impacts the usage of service quality concepts in the different languages, leading to a possibility of many interpretations of the same concept. Further, because of many local languages, it was not possible to translate the research instruments into each local language. Because English is the official

language in Uganda, a decision was made to conduct the investigation in English. Although English is the official language, the 32 local languages belong to two main local language families namely the Bantu language family, constituting one half, and the Nilo-Saharan language the other half of the population. (http://en.wikipedia.org/wiki/Languages_of_Uganda). Because of the many local languages, it was considered prudent to adopt positivistic as well as phenomenological research methodologies to allow for a broader perspective of the research problem. This would also increase the validity of the research (Collis & Hussey 2009:85, 2003:76).

Previous research findings singled out quality of services as the most important criterion among users' criteria for choosing mobile telephone services (World Wide Worx Report (phase 4) 2005:26). For this reason, mobile telephone service providers need to continuously assess whether the quality of the designed service they offer matches clients' expectations. Corrective steps are required should there be a disparity between expected and actual levels of service quality (Johnson & Sirikit 2002:694). To have a better understanding of the situation pertaining to service quality perceptions in the mobile telephone branch of industry in Uganda, the Gaps model of service quality by Parasuraman, Zeithaml and Berry (1985) is useful to illustrate the potential service quality gaps (Figure 1.1). For the purpose of this research, the focus is on the providers' gap one and users' gap five to assess whether the providers' designed service quality meet clients' expected and actual levels of service quality in the mobile telephone services branch of industry in Uganda.

1.2 PROBLEM STATEMENT

Because this investigation required the intervention of users and providers with different linguistic backgrounds, the problem statement pertaining to this research is phrased in a fourfold manner: Firstly, as shown by Gap 1, (Figure 1.1) a potential disparity may exist between Ugandan mobile telephone providers' understanding and designing of the service that mobile telephone users expect. The question is which variable(s) impact on this gap? Secondly, as shown by Gap 5, a potential disparity may arise between expected and actual service quality by users of mobile telephone services. As for Gap 1, the question

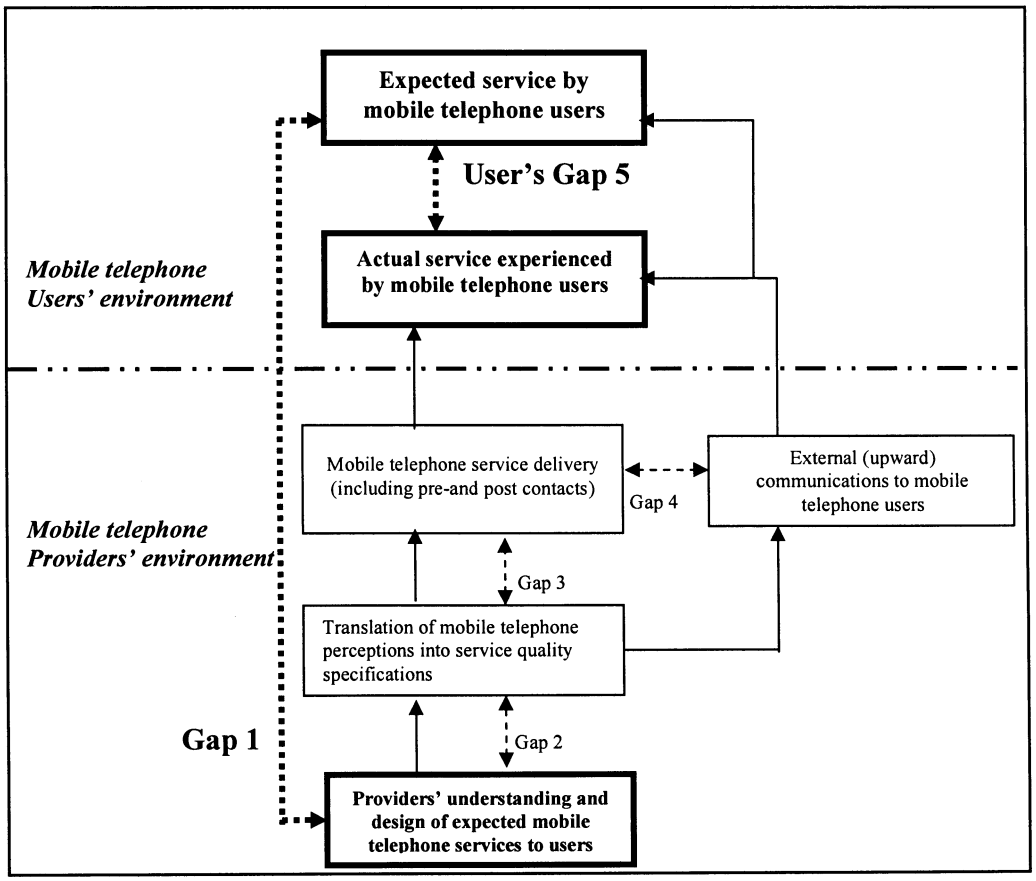
is which variables impact on Gap 5? Thirdly, because business firms operate in a competitive environment, the need to close Gaps 1 and 5 becomes imperative. The question then is, which variables need to be managed to close Gaps 1 and 5 and stay competitive? Fourthly, because the investigations were conducted in the official English language of Uganda despite its limited affiliation to the diversity of cultures and local languages of the respondents, the use of different research approaches becomes imperative. The question arises and will be addressed as to which research methodologies would be appropriate for this study in order to generate business strategies to address the potential shortcomings pertaining to the quality of mobile telephone services in Uganda?

1.3 THE SERVQUAL MODEL

The modified SERVQUAL model shown in Figure 1.1 is based on the seminal contribution by Parasuraman *et al.* (1988, 1985) that users judge the service in terms of whether the service received is equal or exceeds what was expected. Users' perceptions are based on the actual service delivered, while users' expectations are based on variables such as word of mouth communications, personal needs and past experiences. Literature sources report two conceptualisations of service quality, namely, the Nordic and the American perspectives (Hsieh & Hiang 2004:45). The Nordic perspective defines service quality in global terms as consisting of functional and technical quality, referring to "the delivery process" and "what is delivered" respectively. The American perspective uses the SERVQUAL scale to define service quality along several dimensions.

The model in Figure 1.1 depicts a set of gaps numbered 1 to 5. Gaps 1 to 4 represent mobile telephone service providers' potential internal service quality disparities ranging from design to delivery of promised service quality (Zeithaml, Bitner & Gremler 2006:46; Zeithaml & Bitner 1996:49).

FIGURE 1.1: The modified SERVQUAL model



Key: ■ In scope constructs

□ Out of scope constructs

Source: Adapted from Parasuraman, Zeithaml & Berry (1990:46; 1985:44).

Parasuraman *et al.* (1988:20) originally suggested that users evaluate the quality of a service according to ten service dimensions, namely tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding. Subsequent research tested the dimensions and made considerable modifications which reduced the original ten to five, namely tangibility, reliability, responsiveness, assurance and empathy (Zeithaml *et al.* 1990; Zeithaml & Bitner 1996). However, the five dimensions have received criticism that they focus on the functional aspects and overlook the technical quality aspects of the service (Kang & James 2004:270). In this research, despite the criticism levelled, the five SERVQUAL dimensions were

used in evaluating users' and providers' service quality in the mobile telephone branch of industry in Uganda.

Gap 5 represents the potential service quality disparity between mobile telephone users' expected and actual service quality (Zeithaml *et al.* 2006:46; Zeithaml & Bitner 1996:37). The concept "service quality disparity" refers to the difference between services as designed by providers on the one hand (Gap 1), and services expected and experienced by users on the other hand (Gap 5) (Parasuraman *et al.* 1985:44). Due to service heterogeneity, perceived service quality as expected and experienced by users may vary from user to user and may even vary from day to day for some users (Zeithaml *et al.* 2006:23). The same service characteristic explains why the designed service quality may vary from provider to provider (Boshoff & Gray 2004:27; Parasuraman *et al.* 1985:42; Zeithaml *et al.* 2006:41; Zeithaml *et al.* 1990:15).

Figure 1.1 further shows that potential gaps exist within the context of the wider service environments (Bosch, Tait & Venter 2006:48-95; Chartered Institute of Marketing (CIM) 2006:68-76; Kotler 2003:158-179; Liu 2008:10). The five disparities (gaps) related to mobile telephone services are:

- **Gap 1** depicts the potential disparity between mobile telephone providers' understanding and designing of the service that mobile telephone users expect (Zeithaml *et al.* 2006:35). Variables contributing to gap one may include providers' inadequate marketing research orientation; inadequate upward communication from lower to top levels of mobile telephone service providers; and insufficient relationship marketing focus on users, which impact on the service design and delivery processes. This potential disparity was investigated in this research for possible explanations of gap one as applicable to providers of mobile telephone services in the branch of industry in Uganda.

- **Gap 2** shows the potential disparity between providers' selection of the right service design standards or specifications and expected design standards by users (Zeithaml *et al.* 2006:38). Variables that play a role in this regard may include absence of customer-driven standards during service design; inadequate service leadership resulting in the perception of non-feasibility; and inadequate task standardisation leading to poor service design by providers of mobile telephone services in the branch of industry in Uganda.

- **Gap 3** depicts the potential disparity between providers' service delivery standards and expected user-driven service designs and standards (Zeithaml *et al.* 2006:41). Variables impacting on Gap 3 may be deficiencies in human resource policies like ineffective recruitment; failure to match supply and demand of mobile telephone services, problems with service intermediaries, and users not fulfilling their roles during service delivery in the mobile telephone services branch of industry in Uganda.

- **Gap 4** shows the potential disparity between mobile telephone providers' delivery of the promises and providers' external communications to users (Zeithaml *et al.* 2006:42). Variables playing a part in this regard are ineffective management of user expectations; over-promising and inadequate horizontal communication amongst contact personnel and business units.

- **Gap 5** illustrates a disparity between expected and actual service quality experienced by mobile telephone users (Zeithaml *et al.* 2006:34). Variables related to Gap 5 are word-of-mouth communication from other users, mobile telephone users' past experience associated with mobile telephone services, basic communication needs of mobile telephone users, and relationship marketing by mobile telephone service providers. This potential disparity was investigated in this research.

1.4 HYPOTHETICAL MODELS PERTAINING TO GAPS 1 AND 5

Based on the problem statement and the modified SERVQUAL model as depicted in Figure 1.1, it is now possible to develop three hypothetical models for this research. The three hypothetical models are shown in Figures 1.2, 1.3, and 1.4. The constructs of Figures 1.2, 1.3, and 1.4 are based on an extensive analysis of secondary sources pertaining to service quality. It was noted that Uganda is multi-cultural and multi-lingual country. Due to the multi-cultural and multi-language reality of the service environment of users and providers of mobile telephone services in Uganda, structural equation modeling (SEM) was used to test the relationships among the latent and observed variables in the hypothetical models. In order to use multiple sources of data, the strategy of methodological triangulation was adopted (Collis & Hussey 2009:85).

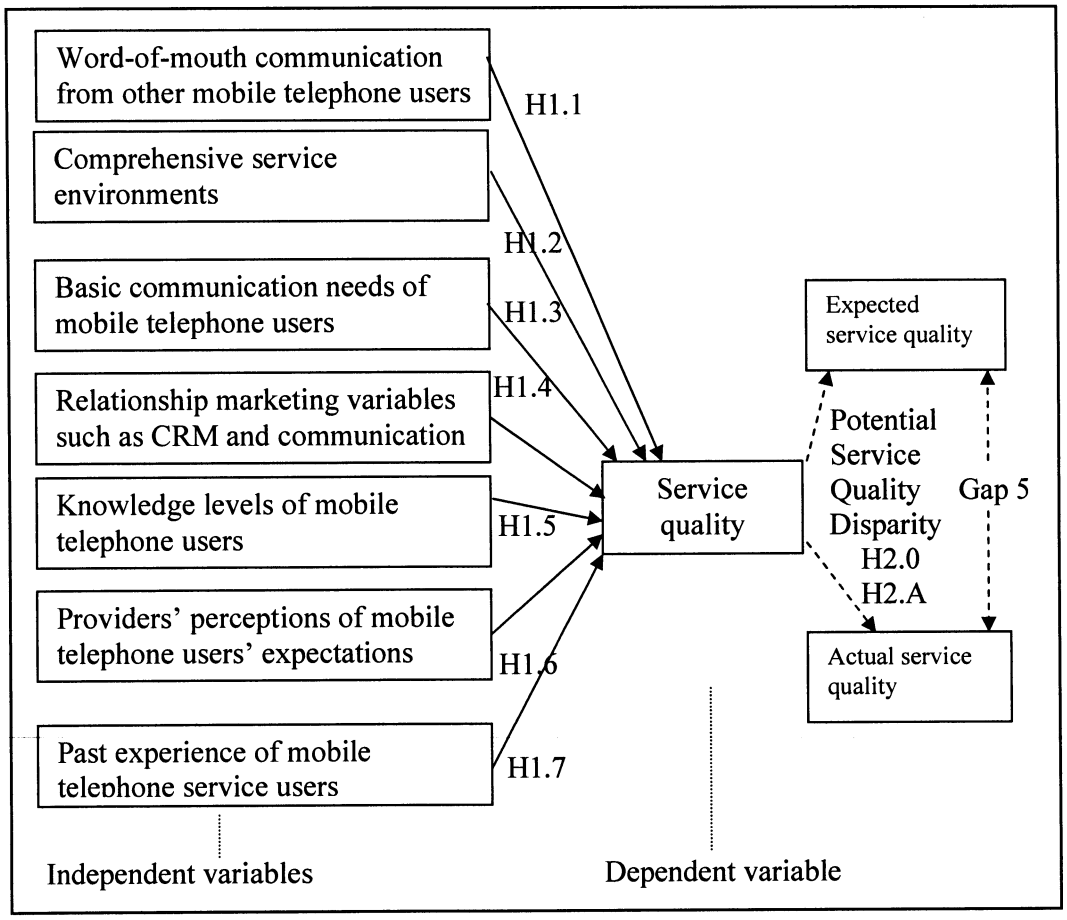
SEM is a multivariate statistical technique for building and testing statistical models. It is a hybrid technique that encompasses aspects of confirmatory factor analysis, path analysis and multiple regressions to estimate a series of interrelated dependence relationships simultaneously (Cooper & Schindler 2006:583; Hair, Bush & Ortinau 2006:724). SEM implies a structure for the co-variances between observed variables, and accordingly it is sometimes called covariance structure modeling. LISREL (linear structural relations) and AMOS (analysis of moment structures) models are more commonly used by researchers using structural equation modeling (http://userwww.sfsu.edu~efc/clsses/biol 710/path/SEMbgge.htm). In this research AMOS 16.0 was adopted for analysing the SEM procedures. Given that the researcher had pre-specified hypothetical models to confirm or disconfirm and establish whether they should be accepted or rejected, confirmatory factor analyses (CFA) and goodness-of-fit tests were performed to assess the validity of the hypothetical models depicted in Figures 1.2 and 1.3. Figure 1.4 required a t-test to establish whether a disparity existed between users' expectations and the providers' designed service.

SEM has two principal advantages over other multivariate techniques. Firstly, multiple and interrelated dependence relationships can be estimated simultaneously. Consequently, SEM as a general linear model can simultaneously estimate relationships between multiple independent, dependent and latent variables (unobserved concepts that are not measured directly). Secondly, SEM has the ability to incorporate latent variables into the analysis and account for measurement error in the estimation process (Cooper & Schindler 2006:584). As such, in contrast to other multivariate techniques, SEM allows the researcher to assess both measurement properties and test for key theoretical relationships in one technique (Hair *et al.* 2006.706). Chapter Six elaborates further on SEM analyses.

1.4.1 Hypothetical model pertaining to potential disparity between users' expected and actual service quality (Gap 5)

As explained, Gap 5 of the Parasuraman, Zeithaml and Berry model (Figure 1.1) depicts a potential disparity between expected and actual services experienced by the users of mobile telephone services in Uganda. Figure 1.2, indicates that the mobile telephone users' service quality (dependent variable) is influenced by seven independent variables. The seven independent variables are: word-of-mouth communication from other mobile telephone users, comprehensive service environments, basic communication needs of mobile telephone users, relationship marketing such as customer relationship marketing and management (CRM) and communications, knowledge levels of mobile telephone users, providers' perceptions of mobile telephone users' expectations, and past experience of mobile telephone service users as depicted in Figure 1.2.

FIGURE 1.2: Hypothetical model pertaining to potential disparity between users' expected and actual service quality (Gap 5)



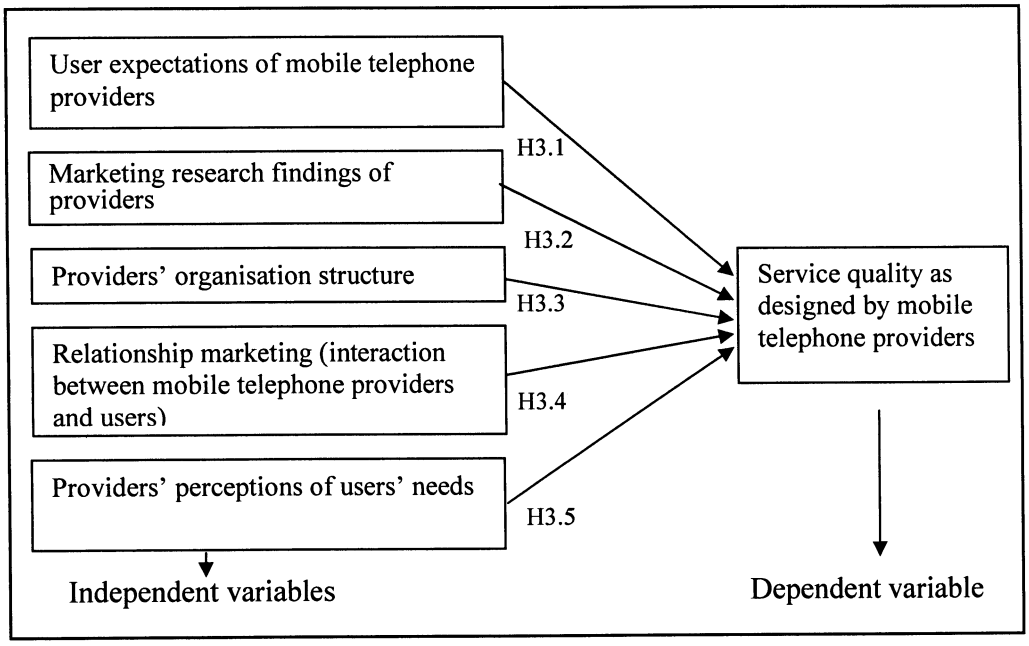
Source: Derived from Figure 1.1 and supplemented by secondary sources.

As stated, due to the multi-lingual service environment in Uganda, the impact of each independent variable on the dependent variable will be estimated through SEM procedures. Further, mobile telephone services to Ugandan users were investigated to establish whether a disparity existed between the expected and actual service quality in the branch of industry.

1.4.2 Hypothetical model pertaining to service quality as designed by mobile telephone providers

As shown in Figure 1.3, it is hypothesised that five independent variables impact on service quality as designed by the mobile telephone service providers. The five independent variables are: user expectations of mobile telephone providers, marketing research findings by mobile telephone providers, providers' organisation structure, relationship marketing (interaction between mobile telephone providers and users), and providers' perceptions of user needs.

FIGURE 1.3: Hypothetical model pertaining to service quality as designed by Mobile telephone service providers



Source: Derived from Figure 1.1and supplemented by secondary sources.

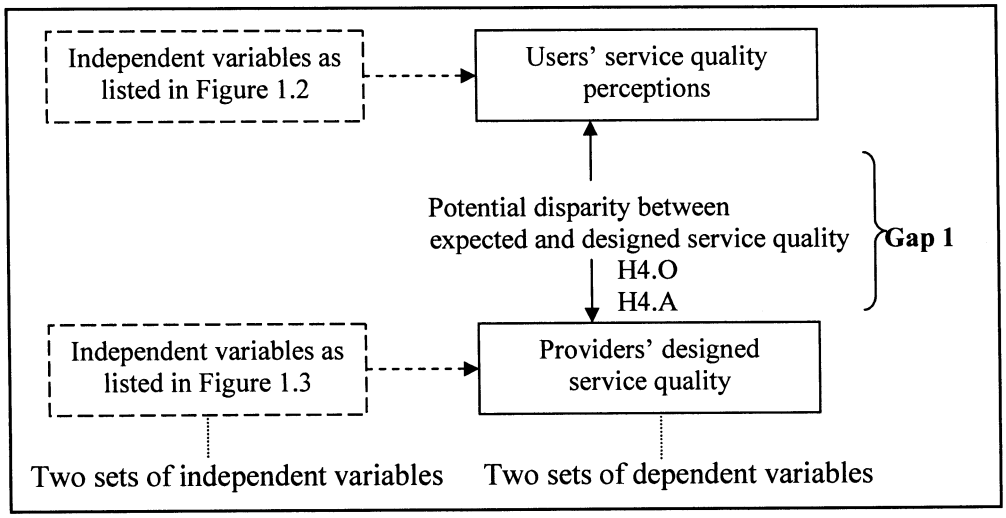
It is important to state that mobile telephone service quality expectations of users depicted in Figure 1.2 and mobile telephone service quality as perceived

by providers depicted in Figure 1.3 represent the two dependent variables for this research. The relationship between the two dependent variables constitutes the components of Gap 1 shown in Figure 1.4.

1.4.3 Hypothetical model pertaining to potential Gap 1

In the seminal publications of Parasuraman, Berry and Zeithaml (1988, 1985), Gap 1 was described as the potential disparity between mobile telephone providers' understanding and designing of the service that mobile telephone users expect. In Figure 1.2, it is hypothesised that the seven independent variables impacted directly on the dependent variable (service quality). It is further hypothesised in Figure 1.3 that the five independent variables impact directly on the dependent variable (service quality as designed by mobile telephone providers).

FIGURE 1.4 Hypothetical model pertaining to potential disparity between users' service quality perceptions and service quality as designed by providers (Gap 1)



Source: Derived from Figures 1.2 and 1.3 supplemented by secondary sources.

Figure 1.4 brings together the two dependent variables, where it is hypothesised that a disparity exists between users' service quality and service quality as designed by mobile telephone service providers in the branch of industry in Uganda, which is described as Gap 1 by Parasuraman, Zeithaml and Berry (1988).

1.5 OPERATIONALISATION OF RESEARCH VARIABLES AND HYPOTHESES

To test the hypotheses in Figures 1.2, 1.3 and 1.4 to have a clear understanding of the meaning of the identified research variables, each variable needs to be brought into the context of mobile telephone services in the branch of industry in Uganda.

1.5.1 Service quality dimensions

Research shows that users do not perceive quality in a unidimensional way but rather judge quality based on multiple factors relevant to the context (Tan & Pawitra 2001:419; Zeithaml *et al.* 2006:116-120; Zeithaml & Bitner 1996:118). As previously stated, in their pioneering work, Parasuraman *et al.* (1985:47) identified ten dimensions linked to the measurement of service quality, namely tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding the user. Parasuraman *et al.* (1988) reduced the ten to five dimensions namely tangibles, reliability, responsiveness, assurance and empathy (Buttle 1996:9; Parasuraman 2004:46; Zeithaml & Bitner 1996:118; Zeithaml *et al.* 1990).

Using only five service quality dimensions have been criticised and therefore modified into functional or process quality alongside technical or outcome quality and image quality (Kang & James 2004:267). Functional quality includes the former five dimensions by Parasuraman *et al.* (Kang & James 2004:270; Santos 2003:233; Zeithaml *et al.* 1990). Technical quality on the other includes the consumption experiences and image quality reputation of such experiences, To harmonise Zeithaml *et al.* (1990) and Kang and James' (2004) definitions of service quality, five functional dimensions of service quality will be applicable in this research, namely tangibles, reliability, responsiveness, assurance, and empathy.

1.5.2 Hypotheses pertaining to users' service quality (Figure 1.2)

From the literature review, service quality from the perspective of users has been defined as the disparity between users' expectations (desires) and their actual experience with the service (Zeithaml *et al.* 2006:33; Zeithaml *et al.* 1990:19).

Users' expectations are standards (reference points) that users bring into the service experience, and reflect what users believe should or will happen (Zeithaml *et al.* 2006:33; Zeithaml & Bitner 1996:76). The user perceptions reflect the subjective assessments of the actual service experiences (level of satisfaction derived from service encounter) (Zeithaml *et al.* 2006:34; Zeithaml & Bitner 1996:104). The theory of expectancy disconfirmation (disparity), that has been tested and confirmed in several studies, asserts that users purchase services with pre-purchase expectations about anticipated experience (Imrie 2005:377; Pizam & Ellis 1999:328). In the context of mobile telephone services to users in Uganda, the question arises whether significant disparities exist between their expectations and actual experiences with the services. Seven independent variables hypothesised to have an influence on users' service quality disparities in Uganda are:

- **Word-of-mouth communication** from other mobile telephone users can be defined as personal and sometimes non-personal statements made by parties other than the provider conveying to users what the service will be. The influence that this type of communication has on both, expected and actual service, has been reported (Brink & Berndt 2004:59; Zeithaml *et al.* 2006:95). Word-of-mouth communication is perceived by users as an unbiased source of information. Because of high credence and experience properties, word-of-mouth communication are considered important in evaluating services before purchase and/or consumption. Word-of-mouth communication is a potential determinant of potential disparity between users' expected and actual service quality (Wangenheim & Bayon 2004:1173; Zeithaml & Bitner 1996:90; Zeithaml *et al.*1990:19). The potential impact of word-of-mouth communication from other users on service quality is investigated for mobile telephone service users in the branch of industry in Uganda. Based on the above evidence that word-of-mouth communication impacts users' expected and actual service quality, a hypothesis was formulated as follows:

  $H_{1.1}$: "Word-of-mouth" from other mobile telephone users influences "service quality" of mobile telephone users.

- **Comprehensive service environments** may be defined as the sum of all the variables or forces that have a positive or negative effect on the establishment,

survival, growth and goal achievement of the service organisation. It is not clear to what extent the service environment influences Ugandan mobile telephone users' expected and actual service. It comprises internal and external sub-environments. The internal environment represents the providers' ambient conditions, spatial layout and functionality, signs, symbols and artefacts that impact on service quality (Zeithaml *et al.* 2006:328). The external sub-environment represents the market (micro) and macro (mega) variables that impact service quality (Bosch *et al.*. 2006:48-95; Chartered Institute of Marketing 2006:68-76). Service researchers have suggested that users judge the quality of services based on their perceptions of the technical outcome provided, the process by which that outcome was delivered, and the quality of the physical environment of the service encounter point (Zeithaml *et al.* 2006:333). For example, a restaurant patron will judge the service on her/his perceptions of the meal (technical outcome quality), how the meal was served, and on how the employee interacted with her/him (interaction quality). The décor and surroundings (physical environment quality) of the restaurant will also impact users' (patrons') service quality (Zeithaml *et al.*. 2006:116). Since a considerable body of research concluded that the comprehensive service environments impact users' expected and actual service quality, it was hypothesised that:

$H_{1.2}$: "Comprehensive business environments" influences "service quality" of mobile telephone users.

- **Basic communication needs of mobile telephone users** can be described in terms of Maslow's hierarchy of needs pyramid that impact users' service quality (Bosch *et al.* 2006:9; Zeithaml *et al.* 2006:53). Though mobile telephone services may not meet the users' physiological needs, evidence exists that mobile telephone services meet users' safety and security needs, social needs, self-esteem (ego) needs, and self-actualisation needs (Zeithaml *et al.* 2006:54; Zeithaml *et al.* 1990:19). According to Brink and Berndt (2004:73), users judge the telephone service encounter based on voice of the provider, providers' knowledge levels, and providers' effectiveness in customer issues. Based on the above, the following hypothesis was formulated:

$H_{1.3}$: "Basic communication needs" of mobile telephone users influences "service quality" of mobile telephone users.

- **Relationship marketing (RM) variables (such as customer relationship marketing and management, and communication):** Relationship marketing refers to the attempt by service providers to build and maintain a base of committed customers who are profitable for the provider (Brink & Berndt 2004:195; Zeithaml *et al.* 2006:182). Whereas the customers benefit from such relationships by receiving greater value relative to what they expect from competing providers, the providers benefit economically from having a substantial loyal customer base. Over time, the two parties develop a history of shared values and interdependence (Rootman 2005:3, 30).

  According to Zeithaml and Bitner (1996:171,173), users will remain loyal to a provider from whom they receive greater value. Christopher, Payne and Ballantyne (2002:16) describe customer relationship management (CRM) as a strategic approach to improving owner's value through the development of appropriate relationships with key customers and customer segments. CRM unites the potential of Information Technology (IT) and relationship marketing strategies to deliver profitable, long-term relationships. Importantly, CRM provides enhanced opportunities to use data and information both to understand customers and implement relationship marketing strategies better. This requires a cross-functional integration of people, operations and marketing capabilities enabled through information technology and applications. Relationship marketing is realised through deliberate user profiling to aid in users (customers) relationship management (CRM) (Rootman 2005:3; Zeithaml *et al.* 2006:162; Zeithaml & Bitner 1996:171,173). From the above research supporting the theory that relationship marketing had a potential impact on users' service quality, it was hypothesised that:

  $H_{1.4}$: "Relationship marketing" influences "service quality" of mobile telephone users.

- **Knowledge levels of mobile telephone users** refer to their cognitive experience of users regarding the service in question. Evidence exists that knowledgeable users are able to make effective and efficient decisions regarding service use

(Rootman 2006:95). The literature indicates that users' knowledge levels of their roles in service co-creation and delivery impact on their service quality (Rootman 2006:98; Zeithaml *et al.*. 2006:397; Zeithaml & Bitner 1996:93). Research findings from a study on satisfaction and quality indicated that the two constructs were independent but closely related and that an increase in one was likely to lead to an increase in the other (Sureshchandar, Rajendran & Anantharaman 2002:363). Based on the above, it was hypothesised that:

$H_{1.5}$: "Knowledge levels" of mobile telephone users influences "service quality" of mobile telephone users.

- **Providers' perception of mobile telephone users' expectations** are probably most critical step in delivering quality service and is closely linked to marketing research activities. Providers need to perform intensive marketing research on user expectations to gather information necessary for quality service designs that will meet users' expected and actual service quality (Tsang & Qu 2000:317; Zeithaml & Bitner 1996:49; Zeithaml *et al.*1990:51). The literature shows that users' active participation in a marketing research enquiry on their expectations impacts their service quality (Zeithaml *et al.* 2006:397). Parasuraman (2004:47) argues that providers need to understand users' desired and adequate expectations and how these relate to the zones of tolerance if they are close to the market information gap. Despite the involvement of the support staff, the impact of providers' perceptions on users' service quality is shaped by the customer-contact personnel of service providers. Based on the above, the hypothesis pertaining to the impact of providers' perceptions on users' service quality expectations was formulated as follows:

  $H_{1.6}$: "Provider' perceptions of user expectations" influences "service quality" of mobile telephone users.

- **Past experience of mobile telephone users** refers to users' previous exposure to the service in question. According to Zeithaml *et al.* (2006:95), users base on their previous experiences with the service to evaluate and predict subsequent service encounters. Past experience with the service represents a potential impact on users' service quality (Zeithaml & Bitner 1996:90; Zeithaml *et al.*

1990:19). Evidence exists that past experience is not a universal phenomenon and not everyone perceives the same experiences due to differences in needs and objectives of users (Pizam & Ellis 1999:329). From the above, the following hypothesis was formulated:

$H_{1.7}$: "Past experience" with mobile telephone service influences "service quality" of mobile telephone users.

1.5.3 Hypotheses pertaining to users' "Potential Service Quality Disparity"

As shown in the hypothetical model in Figure 1.2, a potential disparity is hypothesised between users' expected and actual services quality. The question as to whether the disparities are significant among mobile telephone users in Uganda comes to the fore. The theory of disconfirmation asserts that users' concept of service quality depends on how well their experienced service matches their expected service (Ojasalo 2001:200). Kang and James (2004:270) and Zeithaml and Bitner (1996:117) argue that process and technical outcome quality may be judged (perceived) differently by users. The existence and failure to close the service quality perception gaps has been acknowledged in the tourism industry (Augustyn 1988:145). This research investigated whether a potential disparity exists between mobile telephone users' expected and actual service quality in the mobile telephone branch of industry in Uganda. From the above research evidence on the potential disparities between users' expected and actual mobile telephone services, null and alternative hypotheses were formulated as follows:

$H_{2.0}$: There are no disparities between "expected" and "actual" mobile telephone service to users.

$H_{2.A}$: There are disparities between "expected" and "actual" mobile telephone service quality to users.

1.5.4 Hypotheses pertaining to the providers' designed service quality (Figure 1.3)

Based on the literature review, five independent variables were identified to have an impact on service quality as designed by providers (Zeithaml *et al.*. 2006:35; Zeithaml & Bitner 1996:38; Zeithaml *et al.*1990:52). The insights from the study of Gap 1 show that providers understand what users expect in terms of

quality of the designed service (Tsang & Qu 2000:318). The question as to whether the identified variables influence the providers' designed service quality in the mobile telephone branch of industry in Uganda comes to the fore. The five independent variables hypothesised to impact on providers' designed service quality in Uganda are:

- **Users' expectations from mobile telephone providers** represent beliefs about service delivery that serve as standards or points of reference against which performance is judged (Zeithaml *et al.* 2006:81; Zeithaml & Bitner 1996:49). According to Brink and Berndt (2004:52), user expectations are a range of desires or wants the user expects from the provider. It should be noted that these expectations are in most instances different from what the user gets in real-life situations from the providers. Literature sources indicate that users hold three different types of expectations: Firstly, desired service, which reflects what the users want; secondly, adequate service, which reflects what the users are willing to accept; and thirdly, predicted services, which reflects what users believe they are likely to get from providers (Douglas & Connor 2003:165; Zeithaml *et al.* 2006:102) Further, what users expect from the provider poses a potential impact on service quality as designed by providers. Because users compare their actual service with the reference points as they evaluate service quality as designed by providers, thorough knowledge about users' expectations is critical to service providers intending to offer a quality service. Based on the above, it was hypothesised that:

  $H_{3.1}$: "User expectations" awareness influences "service quality as designed" by mobile telephone providers.

- **Marketing research findings by mobile telephone providers** refer to marketing research based findings that impact providers' designed service. An analysis of the literature shows that the primary cause of not meeting users' expectations is the providers' lack of accurate marketing research findings to help them accurately understand what those expectations are (Zeithaml *et al.*. 2006:35; Zeithaml *et al.*.1990:53). To appropriately understand users' expectations, thus closing the providers' Gap 1, providers need to put

mechanisms in place for channelling feedback from front-line staff to senior managers, enhance management-customer contact, and occasionally perform customer contact roles to get users' real expectations (Parasuraman 2004:47). It is important to note that accurate marketing research findings impact understanding of users' expectations and the designed service quality that meets such expectations. Based on these arguments put forward, the following hypothesis was formulated:

$H_{3.2}$: "Marketing research" influences "service quality as designed" by mobile telephone providers.

- **Providers' organisational structure** depicts a system or network of tasks, authoritative relationships, and lines of communication between individuals and groups within the providers' service organisation. It is synonymous with organisation systems (Marx *et al.* 1998:375; Zeithaml *et al.* 1990:52). The structure impacts on information flows in the system which may constrain or enhance the designed service quality. The structure may also impact service recovery mechanisms to meet users' expectations (Zeithaml *et al.* 2006:35; Zeithaml *et al.* 1990:63). Brink and Berndt (2004:193) advise that care needs to be taken to develop a structure that can support the execution of strategy. From the above it was hypothesised that:

  $H_{3.3}$: "Provider organisational structure" influences "service quality as designed" by mobile telephone providers.

- **Relationship marketing (extent of interaction between mobile telephone providers and users)** refers to a process of building long term relationships with valued users to achieve mutual (win-win) benefits. Evidence exists that providers make attempts to maintain and enhance such relationship for long term survival through customer relationship management (CRM) initiatives (Rootman 2005:3; Zeithaml *et al.* 2006:177; Zeithaml & Bitner1996:171,173). According to Pizam and Ellis (1999:326), effective relationship marketing has assisted providers to benefit from cheap means of promotion in the form of positive word-of-mouth testimony from loyal customers. Because providers would want

to please their loyal users, relationship marketing is deemed to impact on the quality of the providers' designed service as hypothesised below:

$H_{3.4}$: "Relationship marketing (interaction between providers and users)" influences "service quality as designed" by mobile telephone providers.

- **Providers' perceptions of users' needs** refer to the providers' understanding of users' needs. Despite the different ways of characterising needs that exist, the most widely known is Maslow's hierarchy of needs, with five need category specifications arranged in a sequence from basic lower-level needs to higher-level needs namely physiological, safety, social, ego, and self-actualisation (Zeithaml *et al.* 2006:53). It should be noted that services fill all these levels and are particularly important in higher-level social, ego, and self-actualisation needs. Evidence shows that needs may change depending on the changes in users' situation (Bosch *et al.*. 2006:9). Providers need to continuously review their understanding of users' needs in order to design quality services that continuously meet any changes in users' needs (Zeithaml *et al.*. 2006:54; Zeithaml *et al.*.1990:19). Other sources in the literature indicate that identifying user needs and their impact on developing service design frameworks that meet the identified needs should be the main focus of all service providers (Tsang & Qu 2000:316; Zeithaml *et al.*1990:54). Based on the above, it was hypothesised that:

  $H_{3.5}$: "Providers' perceptions of users' needs" influences "service quality as designed" by mobile telephone service providers.

1.5.5 Hypotheses pertaining to potential disparities between designed and expected service (Figure 1.4)

As already stated for mobile telephone users in Sub-section 1.5.3, a potential disparity is hypothesised to exist between users' service quality expectations and the providers' designed service quality. The question as to whether mobile telephone service providers in Uganda are responsible for the disparities between their designed mobile telephone service to users and the service expected by users, comes to the fore. Further, the study by Seth, Deshmukh and Vrat (2005:913) reveals that in addition to service setting, situation, time and other similar factors, users' expectations towards particular services are also

changing with respect to factors like time, increase in number of encounters with specific service, the competitive environment, to mention only a few examples. Zeithaml *et al.* (2006:35) state that providers' failure to know what their customers expect is attributed to factors like inadequate marketing research practices, lack of upward communications, insufficient relationship marketing practices, and inadequate service recovery effort. Figure 1.4 shows the potential disparity between the dependent variables stemming from Figures 1.2 and 1.3 on users' expected service and providers' designed service quality respectively. Based on the above, the following null and alternative hypotheses were formulated:

$H_{4.0}$: There is no disparity between users' "expected service quality" and service quality as designed by providers in the mobile telephone services branch of industry in Uganda.

$H_{4.1}$: There is a disparity between users' "expected service quality" and "service quality as designed" by providers in the mobile telephone services branch of industry in Uganda.

1.6 RESEARCH OBJECTIVES

1.6.1 Primary research objective

The primary research objective is to empirically test the three hypothetical models in Section 1.4 and the associated hypotheses as motivated by secondary sources in Section 1.5 and to use triangulation strategies to investigate the impact of the identified variables on service quality. By applying triangulation strategies the validity of the research is also enhanced.

1.6.2 Secondary research objectives

Seven secondary objectives have been identified namely:

(i) To investigate which research paradigms, research methodologies, data collection methods and analyses are most appropriate to research the problem in question. This objective implies debating the rationale for adopting methodological triangulation in data collection and analysis phases for this research.

(ii) To execute an in-depth analysis of secondary sources dealing with service quality as experienced by mobile telephone users, service quality as designed by

mobile telephone providers, and the independent variables as shown in the hypothetical models. This analysis of secondary sources shed more light on the available business strategies in the telephonic brand of the mobile telephone industry in Uganda.

(iii) To develop appropriate research instruments for primary data sourcing from users and providers of mobile telephone services.

(iv) To source quantitative and qualitative primary data from users and providers in the mobile telephone services branch of industry in Uganda.

(v) To analyse the primary data and test the hypotheses as stated and present quantitative findings on potential service quality disparity issues in the mobile telephone services branch of industry in Uganda.

(vi) To analyse and present qualitative findings on potential service quality disparities in the mobile telephone branch of industry in Uganda.

(vii) To analyse and recommend possible strategic actions mobile telephone service providers can implement to address issues related to Gaps 1 and 5.

1.7 PROPOSED RESEARCH METHODOLOGY

Given the three hypothetical models and the operationalisation thereof, the positivistic approach will be supplemented by the phenomenological approach (Collis & Hussey 2009:57, 2003:47; Santos 2006:290). The adoption of both paradigms is a pre-emptive measure against the possible effects of distortion because of a multi-cultural and multi-lingual service environment in which low levels of education are prevalent. It should be noted that due to the multi-languages in the Ugandan service environment and the general low levels of education, many interpretations of service quality concepts are possible. The aforementioned nature of the mobile telephone service environment requires the use of methodological triangulation strategies in which quantitative data are supplemented by qualitative data to enhance the validity of the study findings (Collis & Hussey 2009:85). The approaches and strategies described will enable the models to be empirically tested with a view of confirming service quality theory with regard to users' Gap 5 and providers' Gap 1 among users and providers of mobile telephone services in Uganda. Structural equation modeling was used through confirmatory factor analyses and goodness-of-fit tests.

1.8 METHODS OF DATA COLLECTION AND ANALYSIS

1.8.1 Motivation for using triangulation strategies

As depicted in Figure 1.1, despite the overlaps in practical terms, users' and providers' mobile telephone service environments are theoretically different (Zeithaml *et al.* 2006:46). Further, the environment is complicated by the many local languages spoken by users and providers. The level of education of the majority of the role players in the service environment is generally low. Given that mobile telephone services can be used in any language and by any level of education in the service environment, the economic affordability seems to be the determining factor (http://en.wikipedia.org/wiki/Languages_of_Uganda). Because positivistic and phenomenological approaches were adopted, methodological triangulation was required to source quantitative and qualitative data with the objective of better understanding of quantitative data. Further, because data from users and providers were collected at different times and from two sub-samples, methodological triangulation was adopted.

1.8. 2 Data collection

Given that methodological triangulation was used in this research, both quantitative and qualitative primary and secondary data will be collected (Collis & Hussey 2009:85). Chapter Five provides more on the procedures.

(a) Quantitative data collection

The research instruments gather data to measure variables pertaining to potential disparity between users' expected and actual service quality and providers' perceptions of users' expectations were constructed along the five (5) dimensions of service quality. The statements were linked to a five-point Likert-type interval scale anchored by "strongly disagree (1)" and "strongly agree (5)" (Gronroos 2001:151; Kang & James 2004:270; Zeithaml *et al.* 1990:175-186). Individual users and providers were the units of analysis. Data collection is covered in detail in Chapter Five.

(b) Qualitative data collection

As motivated for quantitative data collection, users and providers of mobile telephone services serve as the units of analysis. However, users and providers were organised in different focus groups to conduct focus group interviews. Different focus groups of users and providers were interviewed during the collection of qualitative data in the mobile telephone branch of industry in

Uganda. The use of focus group interviews as a method of qualitative data collection is widely reported (Cooper & Schindler 2006; Hair *et al.* 2003; Krueger 1998; McNamara 2008; Miles & Huberman 1994). Chapter Five will give the details on qualitative data collection.

1.8.3 Reliability and validity of the measurement instruments

Reliability refers to absence of differences in the results if the research were repeated (Collis & Hussey 2009:64). The quantitative research instruments were tested for reliability by interpreting the Cronbach alpha reliability coefficients of the scale items in the two instruments as reported in Chapter Five (Blumberg, Cooper & Schindler 2005:385; Collis & Hussey 2003:58; Kothari 2005:154). Validity on the other is the extent to which the research findings accurately reflect the phenomenon under study (Collis & Hussey 2009:65). The findings on validity of the study are reported in Chapters Six and Seven.

1.8.4 Population, sampling procedure and sample size

The research population is limited to mobile telephone users and providers in the mobile telephone services branch of industry in Uganda. Chapter Five elaborates on these issues.

1.8.5 Data analysis

(a) Quantitative data analysis

After data cleaning, quantitative data analysis procedures (all explained in Chapter 6) will comprise the following phases:

- An assessment of the internal reliability of each item in each of the instruments was assessed by using Cronbach's Alpha reliability coefficients (Cooper & Schindler 2006:321-3; Blumberg *et al.*. 2005:385; Sekaran 2003:37). Chapter Five reports on the Cronbach's alpha reliability coefficients.
- Cooper and Schindler (2006:590) and Sekaran (2003:408) state that to discover patterns among the variables that determine if any underlying pattern of the original variables (factors) can summarise the original set, a confirmatory factor analysis (CFA) as part structural equation modelling (SEM) technique was performed to validate the hypothetical models as depicted in Figures 1.2 and 1.3 will be explained in Chapter Six.
- The factors that emerge from the confirmatory factor analysis phase were then used in structural equation modeling (SEM) to estimate the goodness-of-fit of

the researcher's pre-specified hypothetical models to the data. Chapter Six reports on the results.

- Further, to test for the potential disparity between expected and actual service quality among mobile telephone users sub-sample in Uganda, a paired samples t-test was performed as hypothesised by the null and alternative hypotheses in Figure 1.2 (Kothari 2005:196).
- To test for the potential disparities between mobile telephone service quality as expected by users and service quality as designed by providers depicted in Figure 1.4, an independent samples t-test was performed on the two independent sub-samples (Kothari 2005:157). The independent t-test will compare expectations scores on the users' and providers' instruments to determine the extent of Gap 1 Kothari 2005:214).

(b) Qualitative data analysis

As explained in Chapter Seven, informal methods of quantifying qualitative data were used to establish the frequency of occurrence of the phenomena under study (Collis & Hussey 2009:164). All responses from all focus groups that referred to Gaps 1 and 5 were considered for counting in these informal methods of quantifying qualitative data. Chapter Seven describes the empirical results of the qualitative data analysis.

1.9 SCOPE OF THE RESEARCH

In terms of the hypothetical models depicted in Figures 1.2, 1.3 and 1.4, this research focused on the potential disparity between users' expected and actual service quality on the one hand, and between users' service quality expectations and service quality as designed by providers in the mobile telephone services branch of industry in Uganda. Stated differently, in terms of the Parasuraman, Berry and Zeithaml model, this research focuses only on Gaps 1 and 5. Being the first study in the mobile telephone services branch of industry in Uganda, this study will contribute to the level of knowledge on the effects that a multi-cultural, multi-lingual and low levels of education have on service quality perceptions and evaluations of the potential disparities between users' expected and actual service quality and between users' service quality expectations and the providers' designed service quality in the branch of industry. The study recommended strategies to close the identified service quality gaps.

1.10 PRIOR RESEARCH

The initial step in this research was to undertake an in-depth literature search on service quality. The seminal research by Parasuraman *et al.* (1985) identified the users' Gap 5 as a difference between expected and actual service quality. It also identified the providers' Gap 1 as failure by providers to understand service quality as expected by users. Further, it became apparent that a potential disparity exists between service quality as expected and experienced by users on the one hand, and between users' service quality expectations and service quality as designed by providers. Several websites were visited (http://www.globalcompact.org/About TheGC/index.html; http://www.ucc.ug.org/html; http://www.mtn.co.ug; http:// www.utl.co.ug). Appropriate secondary sources were sourced from the libraries of the Nelson Mandela Metropolitan University (NMMU) and Makerere University Business School (MUBS).

Kekale and Kekale (1995) defined the disparity concept from a cultural perspective while Emmerik & Sanders (2005) have defined disparity in terms of working hours. Allred and Addams (2000) and Gronroos (2001) only defined the disparity concept in terms of user expectations and actual experiences. Studies in the Tourism industry have considered the providers disparities among Gaps 1 to 4 (Boshoff & Tait 1996; Newman 2001; Philip & Hazlett 1997; Sureshchandar *et al.* 2003; Augustyn 1988; Tsang & Qu 2000). Given the need to be pre-emptive, positivistic and phenomenological approaches were used with methodological triangulation to better understand service quality perceptions in a multi-cultural, multi-lingual and low education level service environment in Uganda.

1.11 PLAN OF THE RESEARCH

Chapter One provided the background to the research, problem statement, the SERVQUAL model, hypothetical models pertaining to Gaps 1 and 5, operationalisation of research variables and hypotheses, research objectives.

In ***Chapter Two***, the research design and methodology adopted for this research will be explained and motivated.

***Chapter* Three** will focus on service quality perceptions in the mobile telephone services branch of industry and the theoretical background underlying hypothetical models in Figures 1.2, 1.3, and 1.4.

Chapter Four focuses on devising strategies which mobile telephone providers may adopt to solve problems related to service quality Gaps in Uganda.

Chapter Five will focus on the primary data collection and sourcing techniques.

Chapter Six will explain the primary phases, procedures, of data analysis and presented the empirical findings.

Chapter seven will focus on qualitative data analysis and supplemented quantitative findings.

Chapter eight will present a summary of the research based on the empirical findings, conclusions, recommendations, and directions for future research on service quality perceptions in the mobile telephone branch of industry in Uganda.

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CHAPTER TWO

RESEARCH DESIGN AND METHODOLOGY

2.1 INTRODUCTION

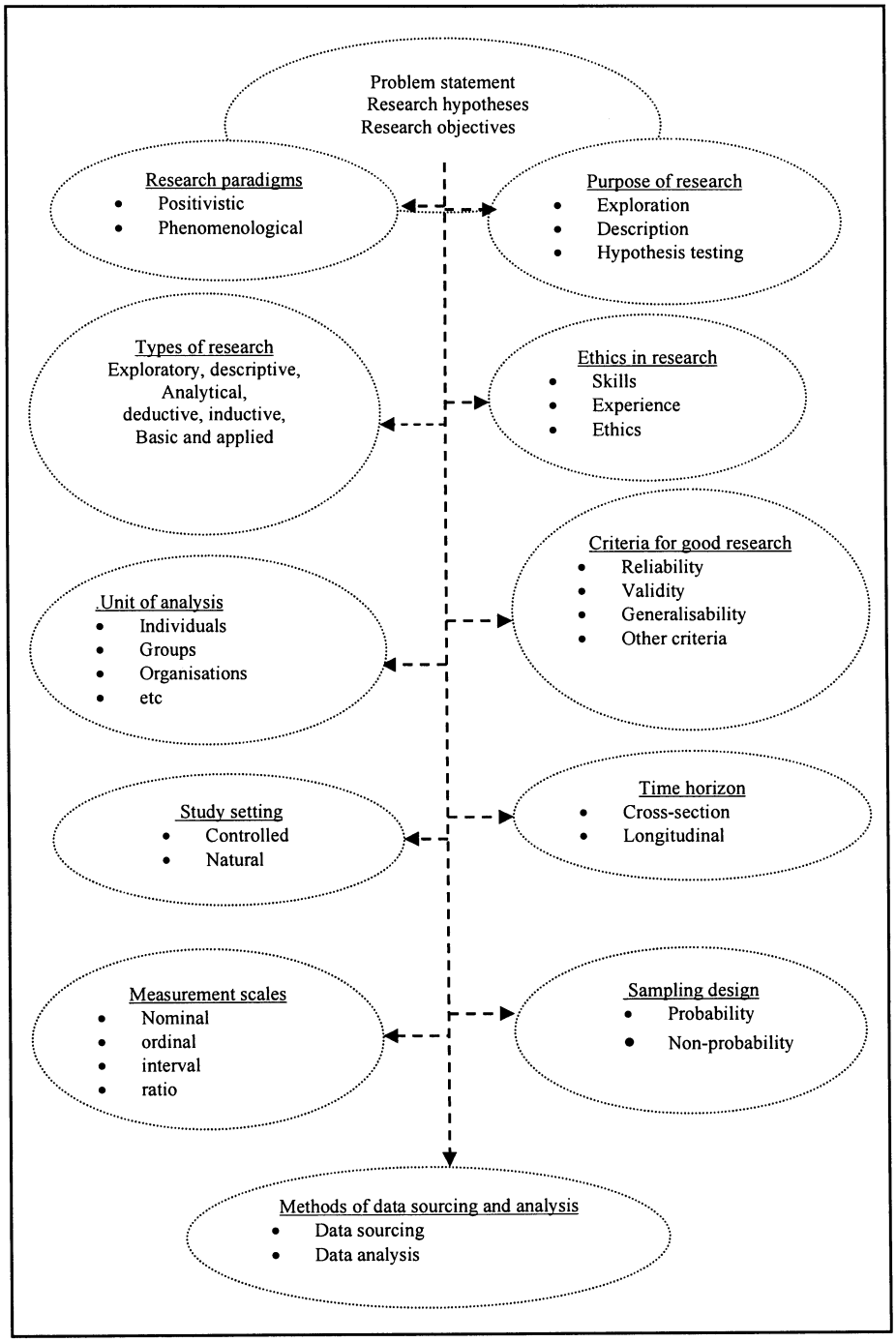
This Chapter addresses the first secondary research objective as stated in section 1.6.2 of Chapter One, namely to investigate which research paradigms, research methodologies, data collection methods and analyses are most appropriate to research the problem in question. In this Chapter, the research design framework will be diagrammatically illustrated in Figure 2.1. The research paradigms will be explained and motivated to the research, thereafter the criteria for a well designed research project is elaborated on and types of research explained and motivated. The unit of analysis will be explained as well as the study setting will be described. Brief explanations will be given on sampling design, measurement scales, methods of data sourcing and analysis as these topics are explained in detail in subsequent Chapters. Because of the multi-language nature of the service environment in Uganda, many interpretations of concepts are possible. The low levels of education of the majority of the respondents of this research can also lead to different interpretations of service quality concepts. Because of the aforementioned complexities and the adoption of positivistic and phenomenological approaches, it is considered prudent to use triangulation strategies in this research.

2.2 THE RESEARCH DESIGN FRAMEWORK

The need for an appropriate research design is widely reported in the literature. According to Cooper and Schindler (2006:71) a research design is the blueprint for fulfilling objectives and answering research questions. Sekaran (2003:117) states that a research design reflects a series of rational decision-making choices the researcher has to make. Other studies indicate that a research design is an arrangement of the requirements for collection and analysis of data in a manner consistent to the research purpose and the economy of the procedures employed (Collis & Hussey 2009:11, 2003:113; Kothari 2005:31).

According to Viviers (2007:37) a research design is closely linked to the study's problem statement and research objectives as depicted in Figure 2.1.

FIGURE 2.1: The research design framework



Source: Adapted from Sekaran (2003:118) and Collis and Hussey (2003:83).

2.3 RESEARCH PARADIGMS

A research paradigm is a framework that guides the way in which scientific research should be conducted (Collis & Hussey 2009:55). The research literature

defines research paradigms as beliefs about the world that determine the way the research is designed, how data is collected, analysed, and results communicated (Blumberg *et al.* 2005:18; Brady & Cronin 2001:34; Santos 2006:290). From the aforementioned, it is important that the researcher recognises and understands his/her personal paradigm as it will determine the entire research. Despite their considerable overlap features, two main paradigms or philosophies have been reported in the literature namely the "positivistic" and "phenomenological" (Collis & Hussey 2009:56). The positivistic paradigm is also known as the quantitative, objective, scientific, experimentalist or traditional research paradigm. On the other hand, the phenomenological paradigm is labelled as the qualitative, subjective, humanistic or interpretive research paradigm. It should be noted that the two paradigms reflect the two extremes of a continuum of assumptions in which the features of one paradigm are gradually relaxed and replaced by those of the other paradigm as one moves along the continuum (Collis & Hussey 2009:57; 2003:48). The two main paradigms are contextualised to this research as explained in the following sections.

2.3.1 Positivistic (quantitative) paradigm

According to Collis and Hussey (2009:56, 2003:52), a positivistic paradigm permits a researcher to adopt the role of an independent observer of a pre-existing reality with a view to conducting research which is value-free, unbiased and unable to distort the objective views. Thus a positivistic paradigm seeks facts or causes of social phenomena regardless of the subjective state of the individual researcher. As such, positivism is founded on the belief that human behavioural studies should be conducted in the same manner as studies in the natural sciences (Blumberg *et al.* 2005:18-19).

It can be stated that positivism can be based on realism in that it searches for the truths "out there". According to Jankowicz (2005:110) "truth" can only be recognised in two ways: either by seeing that an assertion makes sense by itself and is consistent with deductions made from it, or by recognising that it is supported by empirical evidence. This belief is based on the assumption that the social reality is independent of research objectives and exists regardless of whether or not the researcher is aware of it. Therefore, the ontological debate on

what constitutes the nature of reality can be kept distinct from the epistemological question of how researchers obtain knowledge of the reality (Blumberg *et al.* 2005:18-19; Collis & Hussey 2009:56, 2003:52-53).

In order to adopt an appropriate mindset regarding the nature of the relationship between the researcher and the research problem, three fundamental principles come into play namely:

- The social world exists externally and is viewed objectively;
- The research is value-free i.e. researcher is detached from what is being researched; and
- The researcher is independent, taking on the role of an objective analyst (Collis & Hussey 2009:59).

Positivists place a strong emphasis on the quantification of constructs with a belief that the best or the only way of measuring the properties of phenomena is through quantitative measurement. In this case, users' Gap 5 and providers' Gap 1 in the multi-language mobile telephone service environments in the branch of industry in Uganda was measured.

2.3.2 Phenomenological (qualitative) paradigm

According to Collis and Hussey (2009:56, 2003:53), a phenomenological research paradigm or mindset is concerned with understanding human behaviour from the researcher's own frame of reference. Phenomenological mindsets focus on the meaning rather than on the measurement of social problems (Collis & Hussey 2003:53). Phenomenological research describes the meaning several individuals attach to the actual experiences related to a concept or a phenomenon. This paradigm essentially searches for the core or central underlying meaning of the experience relevant to the problem. This implies that researchers who adopt the phenomenological approach have to interact personally with the objects (units of analysis) being investigated (Blumberg *et al.* 2005:19; Collis & Hussey 2003:53). Several principles are applicable to the phenomenological paradigm:

- The social reality is subjective because it is socially constructed. Therefore, each person has his or her own sense of reality and there are multiple realities;
- The researcher is part of what is observed and interacts with that being researched, in the process, beliefs determine what should be facts; and
- The research is driven by the interests of the researcher. The researcher acknowledges that research is value-laden and biases are present (Collis & Hussey 2009:59; Blumberg *et al.* 2005:19).

Given the 32 local languages spoken in the Ugandan mobile telephone service environment and the likelihood of many interpretations of service quality concepts, understanding what the concepts mean to users and providers of services was imperative.

2.3.3 Comparison between phenomenological and positivistic paradigms

Drawing on a number of other authors, Collis and Hussey (2009) provide features of the two main paradigms as presented in Table 2.1. It should be noted that one paradigm is not "right" and the other "wrong" as choice is partly determined by the researcher's assumptions, research area and nature of the research problem.

In this research, the two paradigms and their assumptions have been adopted in investigating perceptions of service quality of users and providers of mobile telephone services in the branch of industry in Uganda.

TABLE 2.1: Positivistic and phenomenological paradigms compared

Positivistic paradigm	Phenomenological paradigm
Ontological view is that reality is external to the researcher and is objective.	Ontological view is that reality is socially constructed by the researcher and is subjective.
Epistemological view is that the researcher is independent of that being researched.	Epistemological view is that the researcher is part of what is observed.
The axiological view is that the research is value-free and unbiased.	The axiological view is that the research is driven by human interests, value-laden and biased.
Assumes that observations are objective, often quantitative and factual.	Assumes that observations are qualitative, often subjectively interpreted in meaning.

TABLE 2.1: Positivistic and phenomenological paradigms compared (cont.)

Positivistic paradigm	Phenomenological paradigm
Assumes that knowledge is developed by reducing phenomena to simple elements representing general laws.	Assumes that knowledge is developed by taking a broad and total view of the phenomena to detect explanations beyond the current knowledge.
Suitable for the study of phenomena that are conceptually and theoretically well developed, seeks to measure phenomena.	Suitable for the study of a relatively unknown terrain, seeks to get the meaning to understand phenomena.
Concepts are converted into operational definitions; results appear in numeric form and are eventually reported in statistical language.	Participants' natural language is used in order to come to a genuine understanding of their world.
Reasoning process utilises deductive logic.	Reasoning process utilises inductive logic.
The research design is standardised according to a fixed procedure and can be replicated.	The research design is flexible and unique and evolves throughout the research process
Tends to produce quantitative data in a standardised manner from large samples.	Tends to produce qualitative data that are modified to enrich understanding from small samples.
Concerned with hypothesis testing.	Concerned with generating theories.
Purpose is to test predictive and cause-and-effect hypotheses about social reality.	Purpose is to construct detailed descriptions of social reality.
Data are highly specific and precise.	Data are rich and subjective.
The location of the study is normally a contrived (artificial) setting.	The location of the study is normally an un-contrived (natural) setting.
High reliability and low validity.	Low reliability and high validity.
Generalises from sample to population.	Generalises from one setting to another.
The unit of analysis is a variable that is atomistic i.e. elements that form the whole.	The unit of analysis is holistic, concentrating on the relationships between elements, contexts, etc, and the whole is always more than the sum of parts.

Source: Adapted from Blumberg *et al.* (2005:21); Collis and Hussey (2009:58-62)

2.3.4 Motivation for using methodological triangulation

Uganda is a multi-cultural and multi-lingual country with a low education level prevalence. The complexities of the aforementioned service environment have implications for interpretations of service quality concepts. Because in Uganda 32 local languages are spoken despite English being the official language, many interpretations to service quality concepts are possible. In order to increase the validity of the study, it was considered prudent to be pre-emptive and adopt both the positivistic and phenomenological research paradigms to investigate service quality perceptions amidst all the possible interpretation errors that may be responsible for the users' Gap 5 and the providers' Gap 1 in this multi-language service environment. It should be noted that whereas the users' Gap 5 reflects the potential disparities between users' expected and actual service quality (Gap

5), the providers' Gap 1 reflects the potential disparity between providers' perceptions of users' expectations and the users' real expectations.

Having investigated the multi-language nature of the service environment for this research and the profiles of the users and providers of mobile telephone services in the branch of industry in Uganda, a decision to use triangulation in data collection and analysis was made. Four triangulation strategies have been identified (Collis & Hussey 2009:85):

- Triangulation of theories: A theory is taken from one discipline (e.g. psychology) and used to explain a phenomenon in another discipline (e.g. marketing).
- Data triangulation: Data are collected at different times or from different sources in the study of a phenomenon.
- Investigator triangulation: Different researchers independently collect data on the same phenomenon and compare the results.
- Methodological triangulation: More than one method is used to collect and/or analyse the data.

Although four triangulation strategies have been identified, only methodological triangulation was used in this research as it enhanced the collection of both quantitative and qualitative data and the use of multiple analytical methods (Collis & Hussey 2009:85, 2003:78; Cooper & Schindler 2006:219; Jankowicz 2004:214; Trochim 2006). The choice of methodological triangulation was based on a number of considerations. Methodological triangulation allowed the use of both quantitative and qualitative methods of data collection and analysis in this study. From a positivistic point of view, social reality is singular and objective, and is not affected by the act of investigating it. However, from a phenomenological point of view, it is impossible to separate people from the social contexts in which they exist (Collis & Hussey 2009:56). Because the two paradigms have been adopted in this research, it is imperative to adopt methodological triangulation to harmonise the different points of views.

2.4 CRITERIA FOR A WELL DESIGNED RESEARCH PROJECT

According to Collis and Hussey (2009:15), a good research project is developed by adopting a methodological rigour that ensures appropriateness and intellectual soundness of the research design and the systematic application of

the research methods. Researchers are still divided in their opinions as to what constitutes a legitimate inquiry and warrantable knowledge in specific situations (Haider & Sue 1999:103; Trochim 2008). In a multi-culture, multi-language environment where low levels of education are prevalent, as is the case in the mobile telephone service environment in Uganda, service quality concepts are likely to have varied interpretations among users and providers of services. To enhance the design of this research, three basic sets of criteria which have been widely used to evaluate a well-designed research project, namely, reliability, validity and generalisability have been used (Cooper & Schindler 2006:138; Kothari 2005:33; Sekaran 2003:117). Besides these criteria, a collection of other criteria has been added. It is important to demonstrate how this research project incorporates these criteria, as explained in the following section.

2.4.1 Reliability

The concept "reliability" has a bearing on the absence of differences in the results if the research were repeated (Collis & Hussey 2009:64). Other sources in the literature similarly assert that reliability refers to the replication of the study by other researchers with the same results (Cooper & Schindler 2006; Kothari 2005; Sekaran 2003). Further, secondary sources indicate that whereas reliability is high under the quantitative paradigm, it is low under the qualitative paradigm (Collis & Hussey 2009:64; Cooper & Schindler 2006:321).Whilst replication is an important aspect in positivistic studies where reliability is usually high, the idea of dependability is important in phenomenological studies where reliability is low (Trochim 2008). Reliability depends on the methods employed to collect and analyse the data.

It should be noted that reliability is a necessary contributor to validity but is not a sufficient condition for validity. A typical example is provided by a bathroom scale that consistently overweighs a person by five kilograms. To the extent that the scale erratically overweighs from day to day, it is not reliable, i.e. because it is inaccurate, it is not regarded as valid (Blumberg *et al.* 2005:385). In the mobile telephone branch of industry, the congestion of mobile telephone networks on festive holidays makes network services unreliable although it remains a valid source service for sending short messages (SMSs) to friends.

Given the adoption of positivistic and phenomenological approaches in which methodological triangulation was used in the collection and analysis of data, replication and dependability issues of the study were investigated in this research on users' and providers' service quality perceptions in the mobile telephone branch of industry in Uganda.

In quantitative methods, the issues of reliability are based on stability, equivalent, and internal consistency of the measurement instruments (Cooper & Schindler 2006:321-3). A measurement instrument is said to possess stability if one can secure consistent results. It is said to possess equivalence when one can secure consistent results with repeated measures by the same investigator or different samples. Lastly, the measure requires to exhibit internal consistency or homogeneity among the items. In the quantitative part of this research, internal consistency was adopted as a positivistic measure of reliability of the instruments used to tap service quality perceptions of users and providers in the mobile telephone branch of industry in Uganda. Several sources in the literature propose that the reliability of the research instrument for quantitative data collection can be estimated in three ways (Blumberg *et al.* 2005:385-389; Collis & Hussey 2009:204-206). The three reliability enhancement methods are explained and contextualized next.

- Test re-tests and parallel form methods: The same questionnaire is administered *twice* to the same respondents, but on two separate occasions to measure the stability and equivalence of the measures (Cooper & Schindler 2006:321; Sekaran 2003:308). The responses for the two "tests" are correlated and a correlation coefficient for the two sets of data is computed, thus providing an index of reliability. The interpretation of correlation coefficients (zero, negative, positive) is documented in statistical literature. This method was not applicable to this research because it was not possible to identify the specific respondents for a second time.

- Split-half method: In this method, the questionnaires are divided into two equal halves (numbers) and the correlation coefficient of the two sets of data is then computed and interpreted to determine the internal consistency of the measures (Cooper & Schindler 2006:323; Sekaran 2003:307). This method was not

applicable to this research because SEM was adopted which incorporated validity measures.

- Interpretation of the Cronbach's alpha reliability coefficients: The Cronbach's alpha reliability coefficient reflects the average inter-correlations among the items (variables) measuring the concept. The closer Cronbach's alpha is to 1, the higher the internal consistency reliability (Cooper & Schindler 2006:322). The aim of this method is to establish which items of the research instrument are homogenous and reflect the same underlying constructs. Every item in the questionnaire is correlated with every other item across the entire sample and the average inter-item correlation is used as the index of reliability. Alpha equals to zero when the true score is not measured at all, reflecting an error component. Alpha equals 1.0 when all items measure only the true score and there is no error component.

Cronbach's alpha reliability coefficients can be interpreted as the percentage of variance the observed scale can explain in the hypothetical true scale composed of all possible items in the universe. Alternatively, it can be interpreted as the correlation of the observed scale with all possible other scales measuring the same thing and using the same number of items. Although by convention alpha scores of 0.60 are acceptable in exploratory research, alpha scores should be at least 0.70 or higher in analytical or predictive research. Alpha scores above 0.80 are considered good for any scale (Collis & Hussey 2009:206; Cooper & Schindler 2006:323; Sekaran 2003:307). Because Cronbach's alpha is computed in terms of the average inter-correlations among the items measuring the concept, it is expected to give some indication of the level of interpretation of perceptions of service quality concepts existing among users and providers of mobile telephone services in the service environment in Uganda. The selection and drawing of the sub-samples, as well as the statistical procedures used, are explained in Chapters Five and Six.

Given that methodological triangulation was adopted, collection of both quantitative and qualitative data in which the latter supplemented the former, the need to assess the reliability of the qualitative approach is imperative. It should be noted that whereas the term reliability is used in quantitative approaches, the

concept dependability is used in qualitative approaches (Krueger 2002; McNamara 2008). Because concepts on service quality perceptions are likely to have many interpretations due to the use of many languages in the Ugandan service environment, dependability of qualitative findings is important. Dependability was particularly important for this research given the complexities of the nature of the service environment in which users and providers of mobile telephone services in Uganda operate. Dependability as a criterion for judging the reliability of qualitative research was enhanced through careful selection of participant users and providers for the focus group interviews in the branch of industry in Uganda.

2.4.2 Validity (Internal validity)

Validity is the extent to which the research findings accurately reflect the phenomena under study (Collis & Hussey 2009:65). It should be noted that because interactive parts of the mobile telephone service permeates all languages spoken in Uganda, service quality concepts are likely to have many interpretations in the different local languages. It should be noted that whereas internal validity in quantitative methods refers to the ability of the research instrument to measure what it is purported to measure, in qualitative methods, the emphasis shifts to credibility of the data collection method used to ensure believability of the research findings from the participant's point of view (Trochim 2008). To ensure that valid data is collected amidst the complexities in the Ugandan mobile telephone service environment, triangulation of quantitative methods of data collection were supplemented with qualitative methods.

The aforementioned decisions were made to enhance the validity of the research in question. Sources in the literature support such a decision with assertions that a study is valid if it measures what it intends to measure and there are no logical errors in drawing conclusions from the data (Blumberg *et al.* 2005:380; Collis & Hussey 2003:59; Viviers 2007:54). A review of the literature shows that there are many descriptions of the different types of internal validity with one common feature: they all have to do with threats and biases which can undermine the meaningfulness of the research (Cooper & Schindler 2006:218;

Hair *et al.* 2003: 379; Kothari 2005:74; Liu 2008:65; Sekaran 2003:206-208). Figure 2.2 shows the types of internal validity by different authors each of which will be defined and contextualised to the research in question.

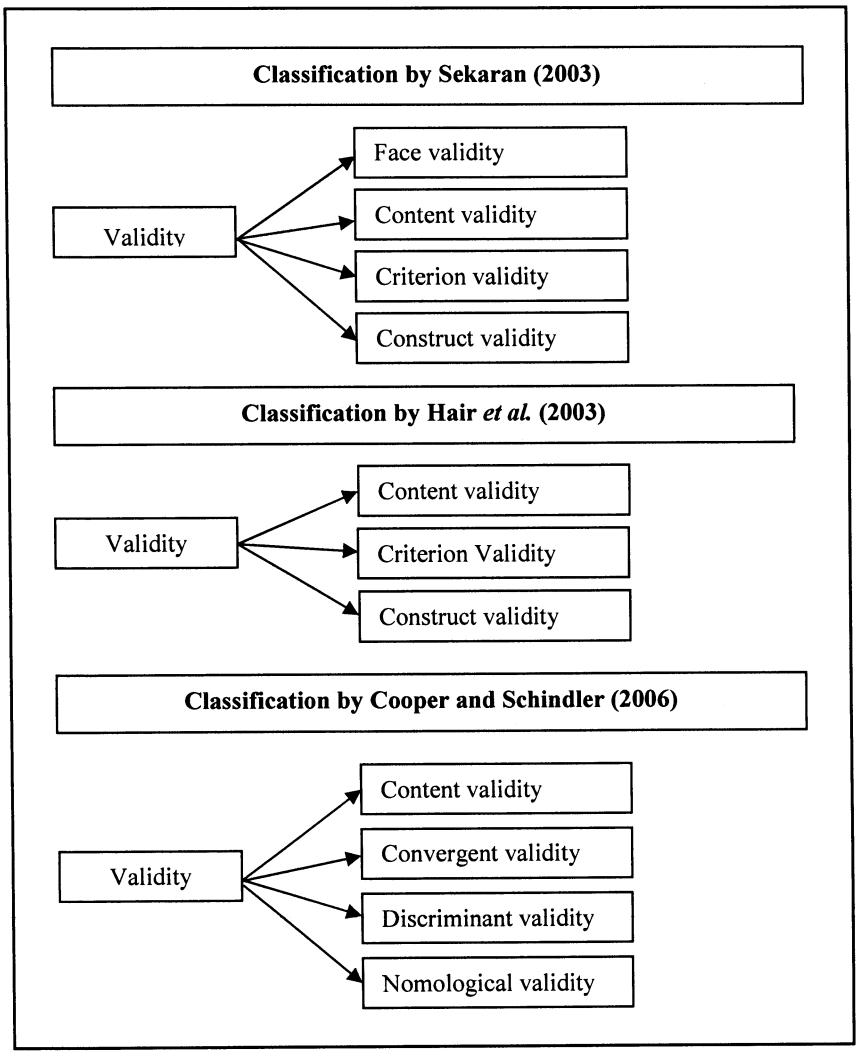
- Face validity: Secondary sources pertaining to the research indicate that face validity is the extent to which items that are intended to measure a concept, do on the face of it, look like they measure the concept (Collis & Hussey 2003:59; Sekaran 2003:206). In this respect, Likert scales were subjected to experts' scrutiny to ensure that the right concepts were included in the users' and providers' measurement instruments. However, because 32 languages are spoken in the mobile telephone service environment in Uganda, it is possible that different interpretations for service quality concepts exist among users and providers of mobile telephone services.

- Criterion validity: This type of validity reflects the ability of a measure to predict or estimate a phenomenon (Kothari 2005:74; Sekaran 2003:206). Criterion validity reflects the degree to which the predictor (independent variable) is adequate in capturing the relevant aspects of the criterion (Cooper & Schindler 2006:319). In this research, the estimates of the users' and providers' hypothetical models were established to validate them.

- Construct validity: A review of the research literature indicates that construct validity refers to the degree to which a research instrument is able to provide evidence based on theory (Collis & Hussey 2009:65; Cooper & Schindler 2006:720; Blumberg *et al.* 2005:382; Sekaran 2003:207). Two types of construct validity have been identified in the literature namely convergent and discriminant validity. Whereas convergent validity refers to the degree to which scores on a scale correlate with scores on other scales designed to assess the same construct, discriminant validity refers to the degree to which scores on a scale do not correlate with scores from scales designed to measure different constructs. Given the nature of the mobile telephone service environment in Uganda in which constructs are likely to have many interpretations, discriminant validity will be performed for scales in the research instruments. Construct validity measures phenomena which are not directly observable, such as service quality perceptions (Cooper & Schindler 2006:320).

Because the constructs are assumed to exist as factors which explain observable phenomena, they are known as hypothetical constructs as shown in Figures 1.2, 1.3, and 1.4 of Chapter One. Given the hypothetical nature of the constructs in this research, it is imperative to simultaneously estimate multiple and interrelated dependence relationships and incorporate the latent variables into the analysis to account for the measurement error in the estimation process (Hair *et al.* 2006:707). Structural equation modeling (SEM) as a multivariate statistical technique for building and testing statistical models was used. In this research, SEM was used to test the estimates of researcher's hypothetical models for validation purposes.

FIGURE 2.2: Internal validity types according to various authors



Source: Adapted from Cooper and Schindler (2006:319), Sekaran (2003:206).

It is important to note that from hypothetical constructs, the researcher must be able to demonstrate that the data and research findings can be explained by the constructs. SEM tests included confirmatory factor analyses (CFA) and goodness-of-fit tests to the data. CFA resulted into estimates of pattern coefficients that confirmed of disconfirmed the hypothetical models 1.2 and 1.3. The goodness-of-tests resulted into estimates that accepted or rejected the hypothetical models 1.2 and 1.3 (http://www2.chass.ncsu.edu/garson/pa765/ structure.html). Therefore construct validity requires that the empirical evidence generated by a measure must be consistent with the theoretical logic of the underlying concepts. For this reason, when researchers ask questions (or make statements) as a way of assessing a construct, they should have obtained some kind of evidence based on theory from the literature that their approach does, in fact, measure the construct in question. Whereas Chapter Six gives results on construct validity using SEM, Chapter Seven verifies the credibility of the study findings using reflective thinking (Cooper & Schindler 2006:199; Miles & Huberman 1994).

- Convergent validity: This type of validity is demonstrated by showing that indicators for latent variables correlate with each other to an acceptable degree. Convergent validity is indicated correlation coefficients ≥ 0.70 for all indicators using a common rule of thumb (http://davidakenny.net/cm/mfactor.htm). For the quantitative part of the research in question, convergent validity is out of scope.

- Discriminant validity: This types of validity is confirmed when the correlation between two variables (factors) is very close to zero (0) (Cooper & Schindler 2006:320; http://davidakenny.net/cm/mfactor.htm). Confirmatory factor analysis and goodness-of-fit SEM tests will be performed to establish whether constructs are indeed uncorrelated as depicted in the hypothetical models in Figures 1.2 and 1.3 of Chapter One. It should be noted that poor discriminant validity confirms multi co linearity, a situation where more than two independent variables are highly correlated and difficult to interpret (http://davidakenny.net/ cm/mfactor. htm).

In contrast to positivistic methodologies, phenomenological research methodologies generally reveal high levels of validity as the researcher acts as the research instrument. Chapter Six presents the quantitative empirical results on discriminant validity among the independent variables in hypothetical models in Figure 1.2 and 1.3. Chapter Seven reports on the qualitative empirical results to enhance the understanding of service quality in the mobile telephone branch of industry in Uganda.

- Nomological validity: This type of validity refers to the degree to which the summated scale makes accurate predictions of particular constructs, theoretically networked yet different (Hair *et al.* 2003:380). SEM, using confirmatory factor analysis methodologies was used to establish whether relationships existed among the variables in the hypothetical models in Figures 1.2 and 1.3 of Chapter One as theorised in the SERVQUAL model (Zeithaml *et al.* 2006:152; Zeithaml *et al.* 1990:25).

- Statistical validity: This type of validity bases a conclusion on statistical evidence. Violation of statistical assumptions may lead to errors in the testing of hypotheses. Two errors pertaining to statistical validity are of concern, namely Type I and Type II errors (Cooper & Schindler 2006:497-500). A Type I error (α) occurs when a researcher rejects a true null hypothesis and concludes that there is a relationship between variables, when actually there is none. A Type II error (β) occurs when a researcher fails to reject a false null hypothesis and concludes that there is no relationship between variables, when a relationship actually exists (Collis & Hussey 2009:251). Qualitative credibility of the study is given in Chapter Seven.

As stated, given the multi-cultural, multi-lingual and prevalence of low education levels in the mobile telephone service environment in Uganda, it is possible that service quality concepts have many interpretations. Because the English language is the official language, it was used in data sourcing. Due to the possible interpretation errors of the concepts as the users and providers responded to the investigative measures, it was imperative to use structural equation modeling (SEM) tests to validate the relationships among variables. In this respect, confirmatory factor analysis (CFA) was used to estimate

relationships among the independent variables and the dependent variables. Similarly, goodness-of-fit of the models to the data was tested through SEM validations.

2.4.3 External validity (Generalisability)

Generalisability (external validity) refers to the extent to which the research results can apply to cases or situations beyond those in the particular study (Collis & Hussey 2003:59; Cooper & Schindler 2006:284; Hair *et al.* 2003:305; Sekaran 2003:149; Trochim 2008). Vogt (1993:99) states that generalisability is concerned with the extent to which a researcher can come to conclusions about one thing (often population), based on information from another (often the sample). Generalisability is thus the ability to generalise beyond the data of the study to other subjects or groups in the target population under study.

According to Norman (1970) and Gummesson (1991), in a phenomenological study, the researcher can generalise from one setting to another or a few cases or even a single case if the analysis has captured the interactions and characteristics of the phenomena being studied. Trochim (2008) proposes the use of the term transferability instead of external validity to refer to the degree to which the results of qualitative research can be generalised or transferred to other contexts or settings (Cooper & Schindler 2006:284). In a phenomenological paradigm, the concern is whether the patterns, concepts, and theories which have been generated in a particular environment can be applied in other environments (Collis & Hussey 2003:60). With regard to the research in question, generalisability implies the applicability of the findings on service quality perceptions from the two sub-samples of users and providers of mobile telephone services to the entire two target populations of users and providers of mobile telephone services in the branch of industry in Uganda. It also means the transferability of the results to other contexts or settings of mobile telephone service settings in Uganda.

2.4.4 Other criteria for a good research project

According to Jankowicz (2005:55-56) and Collis and Hussey (2003:19), besides reliability, validity and generalisability, a well designed research project displays attributes such as the following:

- Originality as a requirement for good research implies that the capacity to act or think independently regarding the research and not to simply copy someone else's work. In this research, originality was demonstrated *inter alia* by the modification of the SERVQUAL model (Figure 1.1 of Chapter One) to reflect gaps 1 and 5 of interest in this study and the construct of the hypothetical models to explain phenomena as depicted in Figures 1.2, 1.3 and 1.4. Further, the adoption of both basic research paradigms with an emphasis on methodological triangulation for gathering quantitative and qualitative data and using SEM methodologies to validate the study indicated originality.

- Sound scientific reasoning is another essential tenet of a well designed research project (Cooper & Schindler 2006:30; Kothari 2005:9). Despite the complexities of a multi-language mobile telephone service environment in the branch of industry in Uganda, compliance with scientific methods require rigorous procedures to study users' and providers' perceptions of service quality. In this respect, logical and systematic methods will be used in data collection and analysis to enhance the validity of the study's findings.

- Purposiveness in research is another tenet that focuses the study on solving a well-identified and defined problem rather than aimlessly looking for answers to vague questions (Collis & Hussey 2003:119; Cooper & Schindler 2006:22; Sekaran 2003:422). The primary objective of this research was to empirically test the users' and providers' hypothetical models using SEM methodologies.

- A logical research framework is another tenet for good research. This requirement is underpinned by an overall research design as depicted by Figure 2.1. The design framework integrates all the research activities needed for the study in question. As motivated earlier, a research design is a blueprint for fulfilling research objectives and answering questions (Cooper & Schindler 2006:716).

- Practicality: According to Cooper and Schindler (2006:323), practicality as a scientific requirement calls for the measurement to be reliable, valid and operationally practical. Practicality also refers to the economy, convenience, and interpretability of the research results (Cooper & Schindler 2006:324). In this research, the composition of the focus groups was kept within the recommended minimum of five to ten members per group. The statements within the research instruments were limited in number because of time constraints (Krueger 2002).

- Ethics in research: Despite the adoption of both positivistic and phenomenological approaches, ethical behaviours that pervade each step of the research process were followed in data collection and analysis (Collis & Hussey 2003:37; Cooper & Schindler 2006:116; Sekaran 2003:17). As Cooper and Schindler (2006:23) recommended, the researcher will adhere to ethical standards and ensured *inter alia* that the rights, privacy, and safety of the respondents and/or participants were both respected and protected during the data collection period.

2.5 TYPES OF RESEARCH

At the most basic level, a distinction can be made between conceptual and empirical research (Kothari 2005:4; Viviers 2007:39). Conceptual studies deal with philosophical and conceptual analyses as well as theory building and do not require new (primary) data to be gathered. In contrast, empirical studies, which aim to address the need for lay and scientific knowledge, call for the collection of both new (primary) and existing (secondary) data (Cooper & Schindler 2006:31; Kothari 2005:4). Given that this research is data-based and will provide conclusions capable of being verified by observation or experience, it is empirical. Table 2.2 shows the types of research which are explained briefly in the following section.

TABLE 2.2: Classification of the main types of research

Type of research classification	Basis of classification
Exploratory, descriptive, analytical, predictive	Purpose of the research
Quantitative or qualitative research	Process of the research
Deductive or inductive research	Logic of the research
Applied or basic research	Outcome of the research

Source: Adapted from Collis and Hussey (2009:4)

2.5.1 Exploratory, descriptive, analytical and predictive research

- With regard to purpose, the research can be classified as exploratory, descriptive, analytical or predictive. Exploratory research is undertaken when few or no prior studies are available (Collis & Hussey 2009:5; Cooper & Schindler 2006:164; Sekaran 2003:119). Since the purpose of this research is to test and/or confirm hypotheses, it cannot be classified as exploratory.

- Descriptive research on the other hand is conducted to describe phenomena as they exist (Collis & Hussey 2009:5). It is used to identify and obtain information on the characteristics of a particular problem or issue (Cooper & Schindler 2006:141; Sekaran 2003:121). As the research in question will not carry strong descriptive features of the relationships among variables, it cannot be classified as such.

- Analytical or explanatory research goes beyond the mere description of characteristics, phenomena or events, to analysing and explaining why or how the phenomenon being studied is happening (Blumberg *et al.* 2005:10; Collis & Hussey 2009:6; Sekaran 2003:124). Cooper and Schindler (2006:492) state that inferential statistics use samples and testing of hypotheses to estimate population values. Since this research will test empirically the generated hypotheses on service quality perceptions among users and providers of mobile telephone services in the branch of industry in Uganda, it is classified as explanatory or analytical research.

- Predictive research goes even further than explanatory research (Blumberg *et al.* 2005:12; Collis & Hussey 2009:6). Whereas explanatory research establishes an explanation of what is happening in a particular situation, predictive research forecasts the likelihood of a similar situation occurring elsewhere. Since this research on service quality perceptions of users and providers of mobile telephone services in Uganda will not forecast a similar situation occurring elsewhere, it will not be classified as predictive.

2.5.2 Qualitative and quantitative research

Research can also be classified according to the approach adopted by the researcher namely quantitative approach and qualitative approach (Blumberg *et al.* 2005:124; Collis & Hussey 2009:7. 2003:13; Cooper & Schindler 2006:196; Hair *et al.* 2003:211-213; Kothari 2005:3; Sekaran 2005:13). The outstanding features of qualitative and quantitative research approaches can be summarised as follows:

- Qualitative research is typically used to answer questions about the complex nature of phenomena. Often the researcher's purpose is to explore, expand, describe and understand the meaning of such phenomena from the participant's point of view (Haider & Sue 1999:104). According to Hair *et al.* (2003:212) qualitative research refers to selected research methods used in exploratory research designs to gain preliminary insights into a phenomenon. Cooper and Schindler (2006:196) state that qualitative research includes an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning and not the frequency, of the phenomena in the social world. This implies that the researcher interprets the data and then draws conclusions about its meaning (Collis & Hussey 2009:7). Collis and Hussey (2003:13) refer to qualitative research as an inquiry into the subjective understanding of social and human activities. Some of the interpretive techniques used in qualitative research have been reported: diaries, focus groups, interviews, observation, and questionnaires. It is important to note that the qualitative approach is typical of a phenomenological research paradigm and gathers data in its nominal form (Collis & Hussey 2003:151). In this research, users' and providers' focus group interviews were conducted for the collection

of qualitative data on their perceptions of service quality in the mobile telephone branch of industry in Uganda.

- In contrast, quantitative research is deemed to be objective in nature and focuses on measuring the phenomena by collecting numerical data from large numbers of respondents, analysing the data and applying statistical tests to measure the phenomena (Collis & Hussey 2009:7, 2003:13, 151; Hair *et al.* 2003:211; Jankowicz 2004:127). According to Cooper and Schindler (2006:198), quantitative research is undertaken to answer questions about relationships between variables with the purpose of explaining, predicting and controlling phenomena. Quantitative research is based on positivistic methodologies for developing knowledge (i.e. cause-and-effect relationships; reduction of specific variables in the analysis; and the use of statistical measurement and observation) (Collis & Hussey 2009:63).

2.5.3 Deductive and Inductive research

The concepts deductive and inductive researches pertain to the logic of the research (Collis & Hussey 2009:4,8; Cooper & Schindler 2006:33; Hair *et al.* 2003:302; Sekaran 2003:31). Because quantitative and qualitative data were collected, deductive and inductive means of reasoning applied in explaining the research findings on service quality perceptions of users and providers in the mobile telephone branch of industry in Uganda. Because the hypothetical models were developed to be tested by empirical observations thus particular instances being deduced from general inferences, the research can be classified as deductive. Because general inferences were induced from particular instances, this research can also be classified as inductive.

2.5.4 Basic and applied research

A standard classification of research that divides projects into applied and basic secondary sources in literature, it describes applied research as a study designed to apply its findings to solving a specific, existing problem (Blumberg *et al.* 2005:13; Collis & Hussey 2009:6, 2003:13; Cooper & Schindler 2006:705; Sekaran 2003:7). Since the aim of this research was to apply its outcome to solve specific perceptual problems regarding the users' Gap 5 and the providers'

Gap 1 in the mobile telephone services branch of industry in Uganda, it is classified as applied research. Basic research on the other hand refers to fundamental or pure research that is designed to make a contribution to general knowledge and theoretical understanding, rather than solve a specific problem (Collis & Hussey 2009:7, 2003:13; Cooper & Schindler 2006:715; Sekaran 2003:7). Because the outcome of this research is not designed to make a contribution to general knowledge on perceptions of service quality in the whole service industry in Uganda, it cannot be classified as basic research

2.5.5 Conclusions on types of research

Given that there are many ways in which research can be classified, it is imperative to identify and classify the research in question. Firstly, because 32 languages are spoken and education levels are generally low, these complexities of the mobile telephone service environment in Uganda need data analyses that can explain service quality perception phenomena in the branch of industry. For this reason, the purpose of the research was classified as analytical. Secondly, given that methodological triangulation was adopted in which quantitative and qualitative data were collected, the process or approach for this research was both quantitative and qualitative. Thirdly, since the hypothetical models were tested by empirical observation and specific instances deduced from general inferences, the logic of the research is deductive. The logic is also inductive since general inferences were induced from particular instances. Finally, the research was applied since its findings were to be used to solve specific perceptual problems regarding users' Gap 5 and providers' Gap 1 in the mobile telephone services branch of industry in Uganda through formulation of strategies to use to close the said Gaps.

2.6 UNIT OF ANALYSIS

Secondary sources in the literature indicate that a unit of analysis is the object to which the variables or phenomena under study and the research problem refer, and from which data are collected and analysed (Collis & Hussey 2009:115, 2003:68; Sekaran 2003:132). In this research, the unit of analysis was an individual user or provider of mobile telephone services in the branch of industry in Uganda from whom data were collected and analysed. For the

phenomenological approach, a focus group of either users and/or providers of mobile telephones in the service environment in Uganda will be the unit of analysis.

2.7 STUDY SETTING

A review of the literature shows that in terms of the study setting, research projects may be carried out in either natural or controlled environmental conditions (Collis & Hussey 2003:61; Cooper & Schindler 2006:142; Sekaran 2003:129). According to Sekaran (2003:130), three study settings are possible namely: field studies, field experiments, and laboratory experiments. Whereas field conditions relate to correlation studies, field experiments relate to cause-and-effect relationships in natural conditions. Laboratory experiments are on the other hand carried out in controlled environmental conditions. For the research in question, since the process of research required the collection of quantitative and qualitative data from users and providers of mobile telephone services in their natural service environments in the branch of industry in Uganda, the study setting for this research is natural.

2.8 SUMMARY AND CONCLUSIONS

This chapter described the overall research design and methodology to be used in this research. The range of questions from why, what, when, where, how and to whom the research was conducted, were responded to in this chapter. At the beginning of the chapter, the research design framework was briefly explained and presented diagrammatically. Because of the multi-lingual nature of the mobile telephone service environment in Uganda and the features of the respondents, this research adopted a mixture of positivistic and phenomenological methodologies in which data and methodological triangulation was used in data collection. As a result, the positivistic and phenomenological paradigms were explained and contextualised to this research. A motivation for use of triangulation strategies was also given.

The chapter addressed the criteria for a well-designed research project and indicated how each criterion impacted the study. The chapter also explained the various research classifications and motivated their contextualisation to the

research in question. In terms of purpose of the research, this research is classified as analytical. In respect of the process of research, this research is classified both as quantitative and qualitative. In terms of the logic of the research, due to methodological triangulation, this research is classified as both deductive and inductive. Finally, because the results of this research will be applied in solving problems identified in this research, it is classified as applied. The chapter explained and contextualised issues of units of analysis and study setting for this research. The sampling methods used, measurement scales used, and methods of data sourcing and analysis will be presented in Chapters Five, Six and Seven.

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CHAPTER THREE

PERSPECTIVES ON SERVICE QUALITY

3.1 INTRODUCTION

This chapter addresses the second secondary research objective as stated in section 1.6.2 of Chapter One, namely to execute an in-depth analysis of secondary sources dealing with service quality perceptions of users, service quality as understood and designed by mobile telephone providers, and the independent variables shown in the hypothetical models. In this chapter, the analysis of secondary sources will cover the nature of service, perspectives of users' service quality expectations and Gap 5 thereof, as well as perspectives of providers' service quality perceptions Gap 1 thereof.

3.2 NATURE OF SERVICES

Services can be seen as economic activities, the output of which, is not a physical product but rather in the form of deeds, processes and performances (Zeithaml *et al.* 2006:4; Zeithaml & Bitner 1996:5). Because services can satisfy communication needs, they are viewed as products representing a wide range of intangible offerings that users value and pay for in the marketplace (Zeithaml *et al.* 2006:5). Due to its non physical nature, a service is generally consumed at the time of production. Despite being intangible, mobile telephone services like any other services are nonetheless able to provide added value to their users (receivers) in Uganda. Users value and pay for the service, enabling service providers to invest more in the production of the needed services as is the case in the mobile telephone branch of industry in Uganda.

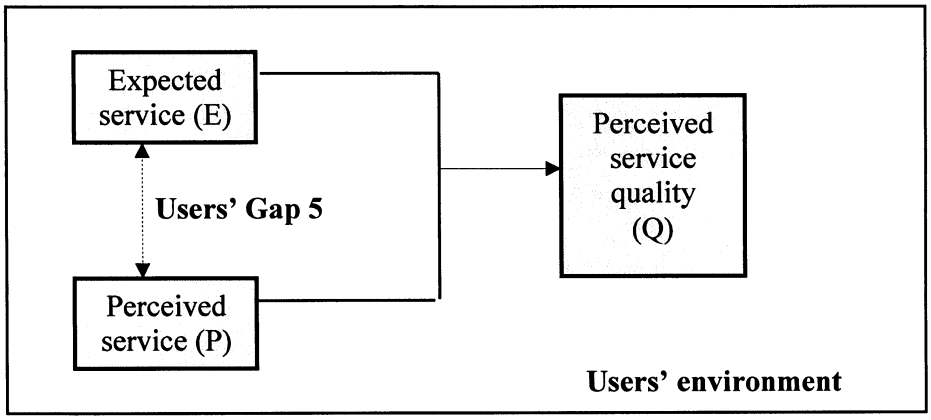
3.3 USERS' PERCEPTIONS OF SERVICE QUALITY

3.3.1 The users' Gap 5

The analysis of users' perceptions of service quality in this research is based on the user's Gap 5 of the seminal gaps model of service quality by Parasuraman *et al.* (1985). Gap 5 of the Parasuraman model, shows that there can potentially be a discrepancy between users' expectations and actual experiences (perceptions) of the service as (Figure 3.1). Pizam and Ellis (1999:330) state that service

quality (Q) is measured by subtracting the user's expectation scores (E) from user's perception scores (P). Terefore: Q = P- E as depicted in Figure 3.1.

FIGURE 3.1: Perceptions of service by mobile telephone users



Source: Adapted and modified from Zeithaml and Bitner (1996:103)

From the above equation, positive Q scores imply users have received satisfactory quality service. Negative Q scores on the other hand reflect that users have not received good quality service since actual experiences are less than prior expectations. According to Zeithaml *et al.* (2006:33) and Zeithaml *et al.* (1990:46), users' expectations establishes a yardstick whereby actual service experiences (performances) are judged. It is important to note that users' perceptions reflect the subjective assessment of their actual service experiences. For purposes of clarity, variables pertaining to users' expectations of service quality are analysed and contextualised in the following section.

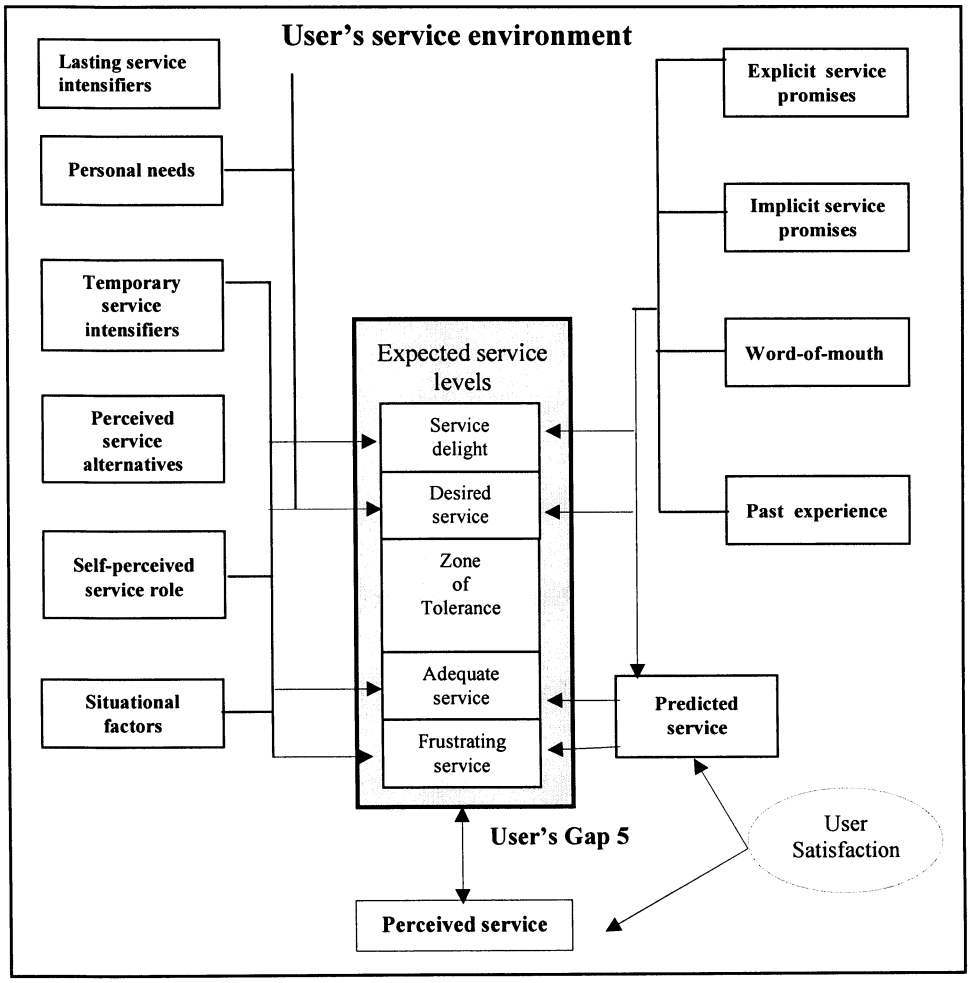
3.3.2 Variables that influence expectations of mobile telephone users

According to Zeithaml *et al.* (2006:81), users' expectations are beliefs about service delivery that serve as standards or benchmarks against which performance is judged. Users in general and mobile telephone users in particular, have two levels of expectations, namely: desired (maximum) expectations and adequate (minimum) expectations (Brink & Berndt 2004:52; Tsang & Qu 2000: 317; Zeithaml *et al.* 2006:83). Because of heterogeneity of service performance by providers users recognise and are willing to accept a zone of tolerance in their service perceptions (Zeithaml *et al.* 2006:85).

However, in certain situations, users' expectations fall outside the desired and adequate service range leading to levels of service that delights or frustrates users (Zeithaml *et al.* 2006:85, 99). The expectations frame depicted in Figure 3.1 in Sub-section 3.3.1 has been expanded in Figure 3.2 to reflect a continuum of levels of users' expectations. For this research, the desired service expectations refer to the services a mobile telephone user expects to receive from the service providers. In Figure 3.2 the upper end of the zone of tolerance is the desired service reflecting an ideal level of service quality that users expect. In the event that the service quality delivered exceeds the desired (ideal) level of the user's expectations, a service delight is experienced. A further observation from Figure 3.2 show that the lower end of the zone of tolerance is the adequate or "acceptable minimum" level of service expectations reflecting the minimum level of service the user hopes to receive. Although the adequate service level is lower than the desired level, it may still be more realistic to users given that the ultimate desired service quality is not always reliably attainable. In the event that the user's service quality expectations fall below the acceptable minimum levels, frustration in service quality is experienced.

By implication the users' desired and adequate service expectations levels can each be split into two service quality levels. The upper end of the desired service level would delight the user, while the lower end of the adequate service depicts a frustrating service level (Figure 3.2). The extent, to which users recognise the variations in the desired and adequate levels of service expectations and their willingness to accept it, is known as the tolerance zone. The user's continuum of expectations is explained in the following sub-sections.

FIGURE 3.2: Variables that influence expectations of mobile telephone users



Source: Zeithaml & Bitner (1996:91) and Zeithaml *et al.* (2006:93).

(a) The users' zone of tolerance

The zone of tolerance reflects the user's willingness to recognise and accept variations between desired and adequate levels of expected service (Brink & Berndt 2004:52; Zeithaml *et al.* 2006:85). The importance of the zone of tolerance in distinguishing between the desired and adequate expected service quality levels has been reported (Kettinger & Lee 2005:607). Evidence exists that the desired expected service level is relatively stable while adequate expected service levels fluctuate as user circumstances and needs change (Dean 2004:62). Therefore, the user's zone of tolerance is least affected by the user's desired service expectations.

According to Zeithaml *et al.* (2006:86-89), the user's adequate expectations fluctuate more than desired expectations because of accumulated experiences. Several sources in the literature show that the zones of tolerance differ for different users as well as for the different service quality dimensions (Brink & Berndt 2004:53; Cant, Brink & Brijbal 2002:240; Ojasalo 2001:200). Sources in the services marketing literature indicate that narrow zones of tolerance require a tighter range of services from service providers whereas wider zones of tolerance allow a greater range of services from service providers (Johnson 1995:47; Zeithaml & Bitner 1996:79; Zeithaml *et al.* 2006: 86-87).

In situations where the provider's performance is higher than the user's zone of tolerance, the user is pleased and probably surprised as well. If however, the performance is below the zone of tolerance, the user is frustrated and dissatisfied with the service. It is important to note that service providers who perform within the zone of tolerance succeed in meeting the user's optimal levels of service quality expectations. For this research, the zone of tolerance is equated to that of users of mobile telephone services in Uganda. The zone of tolerance separates the four levels of service quality expectations into two distinct groups, namely service delight and desired service at the higher end of it, and adequate service and frustrating service at the lower end of it.

(b) Users' desired service expectations

The user's desired expectations refer to the "ideal" or "ultimate" service the user expects to receive. Desired expectations are based on what users believe "can be" and "should be" the service (Zeithaml *et al.* 2006:83). For the research in question, desired expectations have been contextualized to users of mobile telephone services in Uganda. Several influences that shape the user's desired expectations as depicted in Figure 3.2 have been reported. The two largest influences on desired service expectations are personal needs and philosophies about the service and lasting service intensifiers (Brink & Berndt 2004:54; Zeithaml & Bitner 1996:82-84; Zeithaml *et al.* 2006:88-89). The influences on users' desired service expectations are explained next:

- Normally, users hold expectations that the service will meet their personal needs. As pivotal factors that shape what users desire in a service, personal needs fall

into many categories namely: physical, social, psychological and functional needs. In instances where a user has high social and dependency personal needs, the tendency is to exhibit high service expectations that demand high levels of performance from service providers. For the research in question, the four categories of users' personal needs have been linked to the communication needs that the mobile telephone service providers have to meet. Since users' desired expectations vary with changes in personal needs and philosophies, it is imperative that service providers have a thorough understanding of such changes in order to design services that will meet the desired expectations (Allred & Adams 2000:201; Brink & Berndt 2004:52; Parasuraman *et al.* 2004:47; Wal *et al.* 2002:325; Zeithaml *et al.* 2006:88).

- In addition to personal needs and philosophies, the user's desired expectations are influenced by heightened sensitivity to the service commonly referred to as lasting service intensifiers. Two ways in which lasting service intensifiers influence user's desired expectations have been reported in the literature (Zeithaml *et al.* 2006:88). Firstly, the user's desired service expectations are often influenced by the sensitivity derived from other people or groups of people leading to what is termed as derived service expectations. Parents (secondary users) who use their derived service expectations to choose mobile telephone network providers for their children (primary users) is a typical example of derived expectations. Secondly, service expectations can be influenced by mobile telephone user's underlying personal service philosophy. Evidence exists that personal philosophies serve as standards against which employees' desired service expectations tend to be shaped by their training and experience (Zeithaml *et al.* 2006:89).

(c) Users' service delight expectations

Given that the desired service expectations reflect the maximum level of service the user hopes to receive, service delight on the other hand reflects a profoundly positive emotional state resulting from having exceeded the user's maximum expectations to a surprising degree (Johnson 1995:46). Users' expectations of service quality result in service delight when unexpected, random, extraordinary, and disproportionately positive emotions result from unexpected and

surprisingly enjoyable features of the service as shown in Figure 3.2. However, it is important to note that although meeting users' service delight expectations may be used as a competitive tool, it comes at a cost to the providers. As a result, the benefits of meeting a user's delight expectations need to be weighed against the associated costs. For this aforesaid, it is important to note that users who experienced service delight raise their future expectations, thus making it difficult for the providers to satisfy subsequent expectations. When users expect service quality to surpass their desired expectations, anything less than service delight will be disappointing to them due to the widened zone of tolerance (Zeithaml *et al.* 2006:99).

(d) Users' adequate service expectations

Adequate service expectations reflect the minimum level of service quality acceptable to the user (Zeithaml *et al.* 2006:89). It has been stated that adequate service expectations are short-term and fluctuate more than the desired service expectations due to the user's attempts to dissociate with low levels of service (Brink & Berndt 2004:52; Dean 2004:62; Zeithaml & Bitner 1996:84-88). It is important to note that in situations of turbulent adequate service expectations, frequent monitoring is necessity. According to Zeithaml *et al.* (2006:89-93), adequate service expectations are shaped by four sets of factors as depicted in Figure 3.2 namely: temporary service intensifiers, perceived service alternatives, customers' self-perceived service role, situational factors, and predicted service which are briefly explained next.

- **Temporary service intensifiers** are short term in nature and influence users' adequate expectations by narrowing the zone of tolerance thereby making users more aware of the need for the minimum service (Zeithaml & Bitner 1996:84; Zeithaml *et al.* 2006:89). An example of the influence of temporary service intensifiers is provided by the anxiety during peak periods when congestion raises the level of adequate service through narrowing the user's zone of tolerance. The net effect is the acceptance of a poor quality service by the user.

- **Perceived service alternatives** comprise a set of variables that influence the user's adequate service expectations. Perceived service alternatives refer to

other providers from whom the user can obtain the service. Given that the mobile telephone service branch of industry in Uganda had four network providers in 2008 and are currently (2009) five, perceived service alternatives have thus increased (Status of the Communications Market - December 2008). Literature sources indicate that the user's perception of service alternatives that exist, raises the level of adequate service and narrows the zone of tolerance (Zeithaml *et al.* 2006:90; Zeithaml & Bitner 1996:85).

- **User's self-perceived service role** has also been reported to influence users' adequate service expectations (Brink & Berndt 2004:52; Zeithaml & Bitner 1996:86; Zeithaml *et al.* 2006:91). Users' self-perceived service roles refer to the users' perceptions of the degree to which the level of service received can be influenced by the user. Examples of a mobile telephone user's self-perceived roles include specifying the service expected, replenishing the airtime account or operating the handset, for example.

- **Situational factors** are factors that influence users' adequate service expectations (Zeithaml *et al.* 2006:92). The set reflects factors that users realistically believe are beyond the control of the service provider. For example, because users believe emergencies are beyond the control of the service provider, they develop a forgiving spirit which lowers their adequate service expectations thereby increasing their zones of tolerance (Zeithaml & Bitner 1996:86).

- **Predicted service** also influences users' adequate service expectations (Zeithaml & Bitner 1996:87; Zeithaml *et al.* 2006:92). The above sources state that when users predict good quality services, their zones of tolerance contract, thus raising their levels of adequate service. Conversely, when users predict poor quality services, their zones of tolerance expand, thus lowering their adequate service expectations. A typical example of prediction of low service levels is provided by the congestion of mobile telephone networks at Christmas and the New Year's Days when users experience poor quality of service. For this reason, users' zones of tolerance expand which enables them to accept a low level quality of service during Christmas and New Year Season in Uganda.

(e) Users' frustrating service expectations

When users doubt that adequate service will be possible, they become emotionally upset due to potential frustrating service expectations. According to Zeithaml *et al.* (2006:101), frustrating service expectations occur when a user anticipates less than adequate service from the provider. A typical example of frustrating expectations is when mobile telephone users hold beliefs that they are likely to receive less than their adequate service expectations. In such situations, the zone of tolerance expands below its lowest acceptable limit and service quality expectations are below the minimum acceptable levels. It is important to note that when users are frustrated with the service, they normally take their business to the competitor i.e. they desert the business. Frustrating service situations are widely reported in the literature (Brogowicz *et al.* 1990; Johnson 1995:46; Parasuraman *et al.* 1985).

(f) Sources of both desired and predicted users' service expectations

According to literature, users interested in a service, gather information from several different internal and external sources (Zeithaml & Bitner 1996:88-90; Zeithaml *et al.* 2006:94; Zeithaml *et al.* 1990:19). Some of the external sources of telephony information include mobile telephone service outlets, friends, and communication via television, hearing unsolicited comments from other service users, and tracking newspaper advertisements for the best priced offerings. In addition, users may draw on their past experience with the service of their current provider as an internal source of information that influences their desired and predicted service expectations. It is important to note that user's satisfaction is a reflection of the difference between predicted and adequate service expectations as shown in Figure 3.2.

Sources in the services marketing literature indicate that four variables influence users' desired and predicted service expectations namely: explicit service promises, implicit service promises, word-of-mouth communications, and past experience with the service (Brink & Berndt 2004:58-59; Zeithaml *et al.* 006:94-95; Zeithaml *et al.* 1990:19). Given that word-of-mouth communications from other users and past experience with the service have been explained under

operationalisation of independent variables in Chapter One, only implicit and explicit service promises are explained next.

- Literature sources show that **explicit service promises** influence users' desired and predicted service expectations. Evidence is available that explicit service promises reflect personal and non-personal statements about the service made by providers to users (Zeithaml & Bitner 1996:89; Zeithaml *et al.* 2006:94). The statements are personal when they are communicated by employees in a service encounter such as retail outlets or repair facilities. The statements are non personal when they originate from advertising, brochures, and other written publications. Explicit service promises are one of the few influences of desired and predicted service expectations that are in complete control of the service provider.

- Users' desired and predicted service expectations may be influenced by the provider's **implicit service promises** that encompass indirect service promises communicated to users (Brink & Berndt 2004:58; Zeithaml & Bitner 1996:89). Implicit service promises are service-related cues other than explicit promises that lead to inferences about what the service should or will be like. Typical examples of service-related cues are the promises implied in prices and tangibles associated with the service (Zeithaml *et al.* 2006:94). In general, the higher the price and the more impressive the tangibles, the more users expect from the service provider and vice versa. Several studies indicate that in selecting the message and media to use for their service promises, it is imperative that providers bear in mind the influences such impressions are likely to have on users' desired and predicted service expectations (Cant *et al.* 2002:18; Doyle 2002:262; Svensson 2006:249; Zeithaml *et al.* 2006:491).

3.3.3 Variables that influence service quality as perceived by telephony users

According to Zeithaml *et al.* (2006:33), user's perceptions of service quality refer to the subjective assessment of the actual service experiences. Brink and Berndt (2004:59) describe perceptions as the end result of a number of observations by the customer. Other studies in services marketing literature show that users perceive services in terms of the quality of the service and their

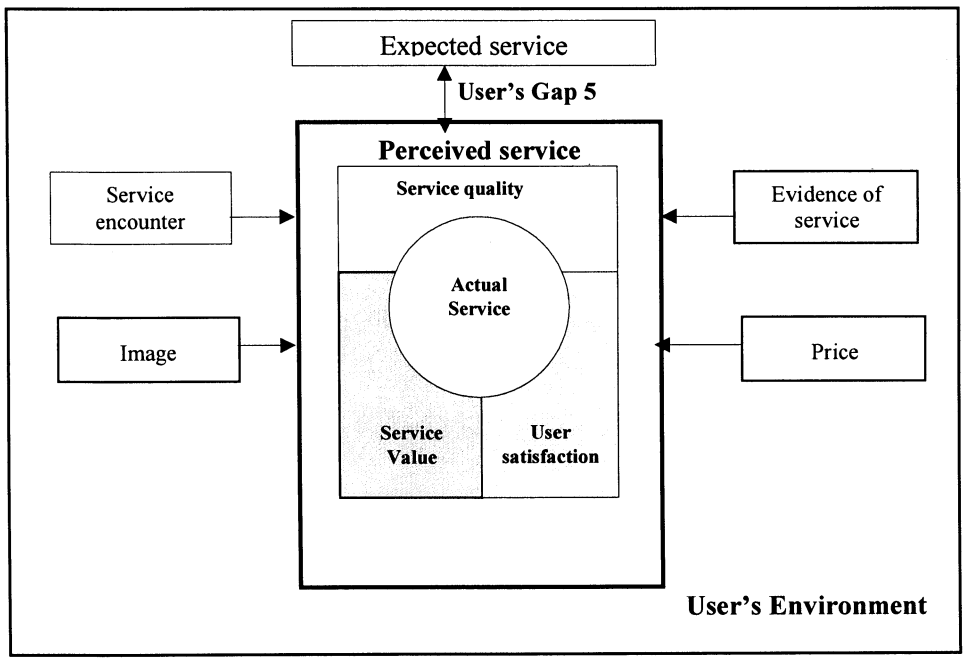
overall satisfaction with the experience (Brogowicz, Delene & Lyth 1990; Chi Cui, Lewis & Park 2003; Nadiri & Hussain 2005; Tan & Pawitra 2001:418; Van, Pampallis & Bond 2002).

An attempt to define user's perceptions as the process of receiving, organising and assigning meaning to information or stimuli detected by the user's five senses in terms of environment the user has been made (Brink & Berndt 2004:59). The role of service quality, satisfaction and value in perceived service is also acknowledged in the services marketing literature (Caruana, Money & Berthon 2000:1338; Zeithaml *et al.* 2006:106). However, to Parasuraman *et al.* (1988:5) service quality is an elusive construct that may be difficult to measure.

In this section, the focus is on the users' perceived service box as depicted in Figure 3.3. The difference between the expectations and perceptions boxes which explains the extent of the user's Gap 5 has been reported (Seth *et al.* 2005: 917; Zeithaml *et al.* 2006:34). The variables that influence users' perceived service are shown in Figure 3.3. It is important to note that because perceptions are always considered relative to the dynamic expectations, users' evaluations may also shift over time (Brink & Berndt 2004:59).

Users' perceptions of service are evaluated in terms of the quality of the service, how satisfied they are overall with their experiences, and the level of perceived added value received from the service. Zeithaml and Bitner (1996:104) state that users' perceived service is also evaluated in terms of four additional variables (Figure 3.3), namely: service encounter, evidence of service, service image, and the price of the service. These variables will be investigated in the following sections.

FIGURE 3.3: Variables that influence users' perceived service



Source: Adapted and modified from Zeithaml and Bitner (1996:104).

(a) Influence of service encounter on users' perceived service

Zeithaml *et al.* (2006:123) state that **service encounters or "moments of truth"** refer to the real-time marketing points where the provider's promises to users are either honoured or broken. Several studies show service encounters as points where the most vivid impression of quality of service are made when the user comes face-to-face with the service provider or its associated self-service technology (Bitner, Booms & Tetreault 1990:71; Brink & Berndt 2004:73; Svensson 2006:246). It should be noted that mobile telephone service users interact with services at diverse encounters ranging from self-service portable handset technologies to the physical service repair or delivery points of the telephony services distribution channel. Given the mobile nature of the encounters associated with the portable handset technologies, it implies that the mobile telephone services can be accessed anywhere, and anytime. For other services such as handset repair or replenishment of the account, the encounters are fixed and users have to find the service at its delivery or repair point (Zeithaml & Bitner 1996:105).

Several studies have reported three types of service encounters, namely: **remote encounters, telephonic encounters, and face-to-face encounters** (Bitner, Booms & Tetreault 1990:71; Brink & Berndt 2004:73; Liu 2008:85; Zeithaml & Bitner 1996:107; Zeithaml *et al.* 2006:125). It is important to note that a mobile telephone user can experience any of the three or a combination thereof during the utilisation of the service, thus::

- Firstly, a remote encounter occurs without any direct human contact. Remote encounters are referred to as faceless encounters as they occur without any direct human contact. A typical example of a remote encounter is given by an ATM machine that offers banking services. Evidence is available that in remote encounters, the tangible feature of the service and the quality of the technical processes and systems become the primary bases for judging quality (Mude & Cottam 1999:109; Zeithaml *et al.* 2006:125).

- Secondly, an encounter can occur telephonically, commonly referred to as telephone (electronic*)* encounters. In telephonic encounters between an end user and the provider, the user's judgement of quality is different from remote encounters because there is greater potential for variability in such telephone interactions. The variability may arise from the tone of voice, employee knowledge, and the effectiveness and efficiency employed in handling customer issues over the phone (Mude & Cottam 1999:109; Zeithaml *et al.* 2006:126). A typical example of a telephonic encounter is reflected by service updates and other communications from mobile telephone providers.

- Thirdly, an encounter occurs when a user comes into direct contact with the employee of the service provider commonly referred to as direct contact (face-to-face) encounters (Brink & Berndt 2004:73; Mude & Cottam 1999:110). A typical example of a face-to-face encounter is when a user takes the mobile telephone handset to a repair services provider. In face-to-face encounters, both verbal and nonverbal behaviours are important determinants of service quality as tangible cues such as employee dress and other inanimate symbols of the service. Evidence exists that the user's appropriate execution of his or her roles in a face-

to-face encounter influences the level of perceived service quality (Lin & Ding 2005:55; Zeithaml *et al.* 2006:126).

(b) Influence of price of service on users' perceived service

Evidence exists that because services are intangible and often difficult to evaluate before purchase, users often rely on prices as surrogate indicators of the quality of the services (Zeithaml *et al.* 2006:519). According to Zeithaml and Bitner (1996:116), the price of a service greatly influences users' perceptions of quality, satisfaction, value, and quality of the service as depicted in Figure 3.3. In addition to being chosen as a competitive tool, price conveys the appropriate quality signal of a service to the user. As a result, although low prices may convey inaccurate inferences about the quality of the service, they are however perceived as reflections of poor quality. Conversely, although high prices reflect high quality, they may set expectations that are difficult to deliver. For this reason, providers need to exercise reasonable care when setting prices of their services since they are perceived as surrogates for quality of service. In this research, price as a surrogate for quality service will be investigated in the mobile telephone branch of industry in Uganda. Because users' expected and actual service quality may differ, a number of service quality dimensions are used to evaluate the levels of perceived service quality.

(c) Influence of the image of the provider on users' perceived service

According to Zeithaml and Bitner (1996:114), besides impressions from the immediate service encounter and evaluation of service evidence, user's perceptions of a service can be influenced by the image or reputation of the provider. In this respect, while evaluating the quality of perceived service, users relate their service experience to the provider's image. Through communication activities, for instance advertising, public relations, appearance of physical facilities, and word-of-mouth communication, users are able to form images in their minds that influence their perceptions of a service (Ingram & Daskalakis 1999:24; Zeithaml *et al.* 2006:323). Kang and James (2004:270) have identified three different levels of image: brand, product, and corporate image. Each of the three image levels impacts differently on the user's perceived service quality. Whereas brand and product images operate at lower levels of the provider

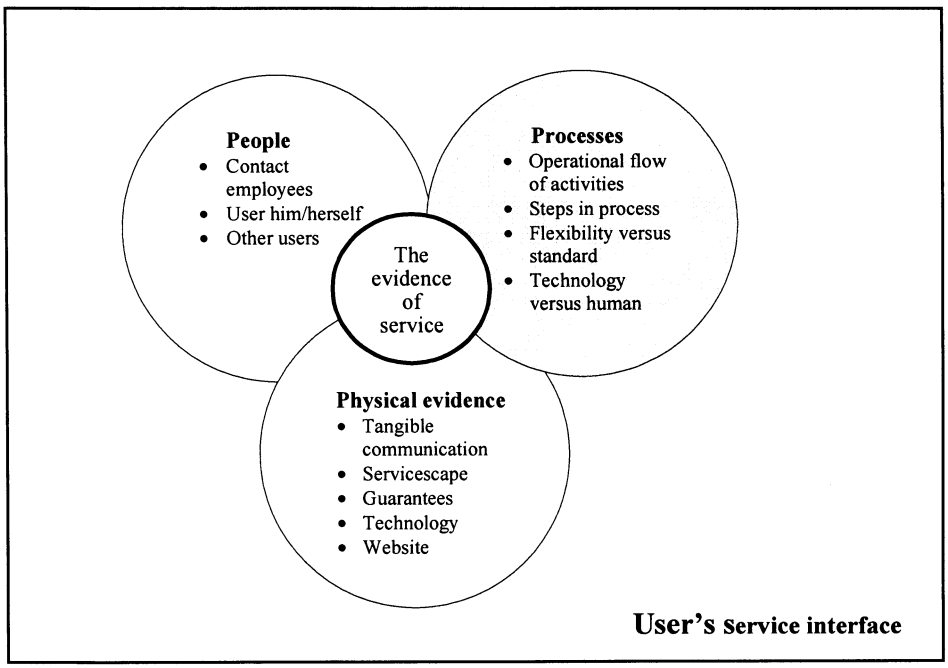
organisation to influence users' perceived service quality, corporate image operates at a higher level and impacts significantly on the former two types of images (Zeithaml & Bitner 1996:115). The aforementioned explain why in the infancy stage of an industry providers emphasise corporate image, as is the case in the mobile telephone branch of industry in Uganda (UCC Sector Review 2007:2).

(d) Influence of the evidence of service on users' perceived service

Because services are essentially intangible, users endeavour to search for evidence of service in every interaction they have with the service provider. Irrespective of their service experiences, when service offerings are difficult to evaluate as is the case in some mobile telephone service encounters, users first search for the evidence of quality (Lin & Ding 2005:55). Because service quality is subjectively evaluated, the act of searching for evidence of quality of service demonstrates that quality is always in the eyes of the beholder. Zeithaml *et al.* (2006:132) have identified three elements of evidence of service that influence users' perceptions namely: people, processes, and physical evidence as depicted in Figure 3.4.

From Figure 3.4, it is clear that the three modified marketing mix elements essentially are the evidence of service in each moment of truth (Zeithaml *et al.* 2006:132). Firstly, the **people** as animate evidence of a service refer to the presence of the provider's contact personnel, other users, and the user him/herself in the encounter. Encounters devoid of people are a reflection of service unavailability. Secondly, the **process** as evidence of a service refers to the operational flow of work in the interface. For example, evidence of some steps in the process should be clear. Lastly, the inanimate (non human) **physical** evidence of a service refers to the appeal and attractiveness of the tangibles associated with the service such as physical facilities, signage, and equipment, to list only examples.

FIGURE 3.4: Modified marketing mix elements (3Ps) (users' evidence of service)



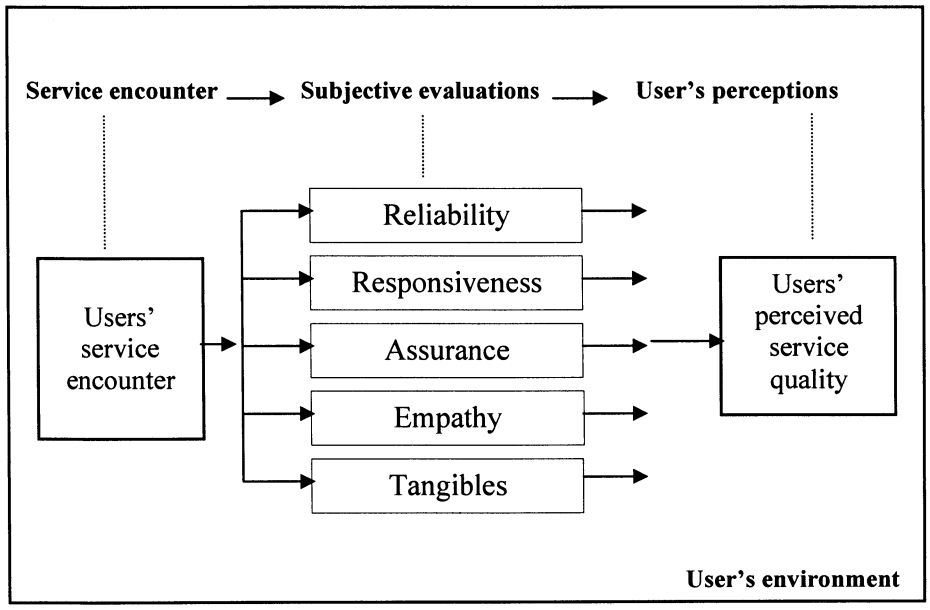
Source: Adapted from and modified from Zeithaml *et al.* (2006:132)

It is important to note that tangibles communicate the implicit quality of service associated with such tangibles. The use of the physical evidence of a service to evaluate users' hedonic and utilitarian expectations has been reported (Reimer & Kuehn 2005:785). The evidence of service has been referred to as the expanded marketing mix (Zeithaml *et al.* 2006:26).

3.3.4 A critical assessment of users' evaluation of perceived service quality

Services marketing literature sources report two conceptualisations of service quality, namely the Nordic and American perspectives (Hsieh &Hiang 2004:45). Further, literature sources indicate that whereas the Nordic perspective defines service quality in global terms as consisting of functional and technical quality, the American perspective uses the SERVQUAL scale to define service quality along five dimensions of service as depicted in Figure 3.5 (Bahia & Natntel 2000:84; Brogowics *et al.* 1990; Gronroos 2001; Hwang, Eves & Desombre 2003:143; Kang 2006:37; Parasuraman *et al.* 1988; Van *et al.* 2002:325).

FIGURE 3.5 Five dimensions for evaluating perceived service quality



Source: Adapted and modified from Zeithaml and Bitner (1996:119)

It was previously reported that the reduced five SERVQUAL dimensions have been criticised by Kang and James (2004:270) who advocate the use of seven service quality dimensions namely tangibles, reliability, responsiveness, assurance, empathy, technical quality and image quality of a service. As a recent study asserted, generalisation of service quality dimensions to all services is not possible (Chowdhary & Pariahs 2007:493). In this research, five dimensions of service quality have been adopted to evaluate users' perceptions of service quality in the mobile telephone branch of industry in Uganda, namely tangibles, reliability, responsiveness, assurance and empathy. The influence of the unique characteristics of service offerings on service evaluation is widely reported in the literature (Mude & Cottam 1999:5, 14; Parasuraman *et al.* 1985: 42; Philip & Hazlett 1997:262; Svensson 2006:468; Zeithaml *et al.* 1988:33; Zeithaml *et al.* 2006:22). Figure 3.5 depicts the five dimensions for evaluating users' perceived mobile telephone service quality in the branch of industry in Uganda. These sets of variables will be investigated.

(a) Perceived service reliability: Delivering on promises

According to Svensson (2006:245), perceived service reliability refers to the users' evaluations of the provider's ability to perform the promised service dependably and accurately. Several studies have echoed the same definitions and further emphasised that users prefer to do business with providers who keep their service promises (Galetzka, Verhoeven & Pruyn 2006:271; Parasuraman *et al.* 1988:6; Zeithaml *et al.* 2006:117; Zeithaml & Bitner 1996:118; Zeithaml *et al.* 1990:21).

(b) Perceived service responsiveness: Willingness to help

Perceived service responsiveness as users' reference to the providers' willingness to help and provide a prompt service is well documented (Parasuraman *et al.* 1985:47; Parasuraman *et al.* 1988:6; Zeithaml & Bitner 1996:121; Zeithaml *et al.* 2006:554; Zeithaml *et al.* 1990:21). With the rapid changes in technology, the responsiveness dimension is particularly important in respect of providers' attentiveness to user requests, complaints, questions, and problems.

(c) Perceived service assurance: Inspiring trust and confidence

Sources in the services marketing literature define perceived service assurance as users' evaluations of employees' knowledgeability, courtesy, and ability to inspire trust and confidence in the service (Cowles 1997:273; Kang & James 2004:277; Parasuraman *et al.* 1988:6; Zeithaml & Bitner 1996:121). According to Zeithaml *et al.* (2006:119), the assurance dimension is particularly important for services that users perceive as high in experience or credence properties such as insurance, medical, and legal services to list only a few examples. The dimension may be linked to phone-tapping concerns among users in the branch of industry in Uganda. Phone tapping, whether done for political or social reasons, intrudes on users' trust and confidence in the mobile telephone services (Daily Monitor 30 May 2007). Since information is transmitted electronically, the possible effect of electro-magnetic waves on the health of mobile telephone users in Uganda has also been questioned.

(d) Perceived service empathy: Treating users as high quality customers

Perceived service empathy as users' evaluation of providers' caring and individualised attention has been reported (Parasuraman *et al.* 1988:6; Zeithaml *et al.* 2006:120; Zeithaml & Bitner 1996:122). The essence of perceived service empathy is to convey that users are important and deserve a customised service that will meet their specific individual needs. Given that the unit of analysis in this research is a dynamic individual service user, or provider, understanding users' dynamic needs with empathy and delivering on them is particularly demanding for service providers (Kang & James 2004:277; Parasuraman *et al.* 1985; Zeithaml *et al.* 1990:183). Services marketing literature indicates that an attempt has been made to explain the role of empathy in sport tourism services (Costa, Glinia & Drakou 2004:331).

(e) Service tangibles: Physical representations of a service

Users' inability to either touch, smell, see, taste, or hear a service prior to purchasing is well documented in the services marketing literature (Kotler 2003:446; Lee & Chen 2006:301; Mude & Cottam 1999:5; Parasuraman *et al.* 1985:42; Svensson 2006: 244; Zeithaml *et al.* 1990:15). The use of tangibles as physical representations for service quality evaluation has been reported (Parasuraman *et al.* 1988:6; Parasuraman *et al.* 1985:47; Zeithaml & Bitner 1996:122; Zeithaml *et al.* 2006:120). Unlike goods, services are not dependent on physical manifestations of the associated tangibles as they are sometimes deceptive (Tait, Mazibuko & Gray 2006:444).

Given that tangibles only provide an image of the intangible service offering, users' pre-encounter convictions that the services will meet their expectations remain a mystery (Bebko 2000:9). Evidence is available that intangibles associated with services are more important than the tangibles associated with the same service (Kara, Lonial, Tarim and Zaim 2005:5). However, tangibles are quickly copied by competitors thus losing their competitive strength (Kang & James 2004:277; Zeithaml *et al.* 1990:181).

3.3.5 Users' perceived service quality and satisfaction

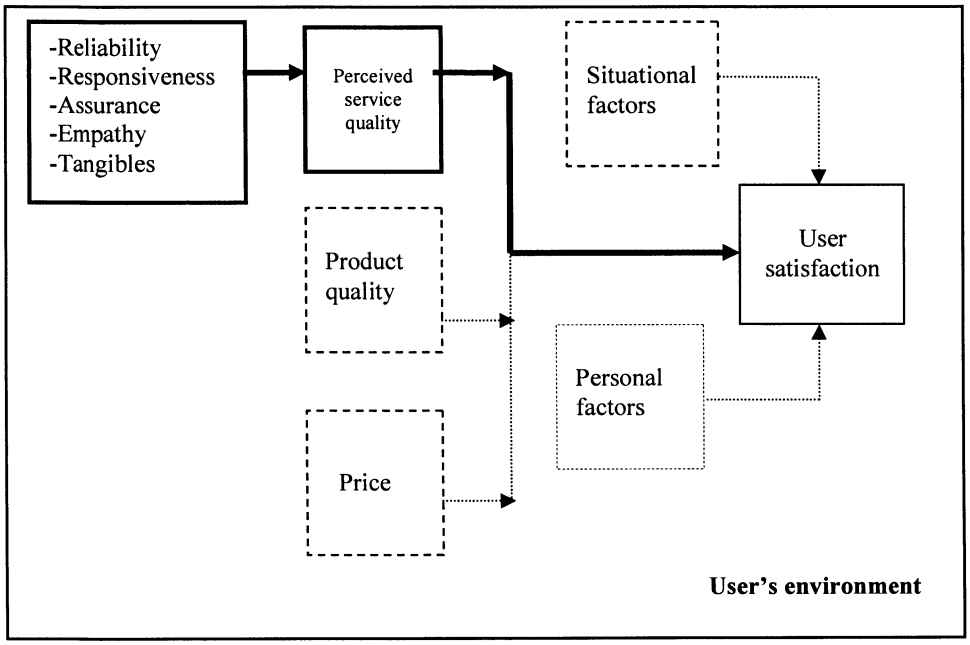
According to the principle of service offerings, satisfaction reflects the degree to which perceived service quality has met or exceeded expected service quality

(Mudie & Cottam 1999:15). However, the principle does not differentiate between service quality and user satisfaction (Pizam and Ellis (1999:330). The use of service quality and satisfaction interchangeably is widely reported in services marketing literature (Cronin & Taylor 1992; Seth, Deshmukh & Vrat 2005:927; Tian-Cole & Crompton 2003:70). Since the seminal study on service quality by Parasuraman *et al.* (1985:41-50), efforts have been made to differentiate between service quality and user satisfaction without consensus in opinion.

According to Zeithaml *et al.* (2006:106-7) and Zeithaml and Bitner (1996:104), service quality is one of the antecedents of user satisfaction. Zeithaml *et al.* (2006:6) further argue that although satisfaction and service quality have a lot in common, satisfaction is viewed as a broader concept, whereas service quality focuses specifically on dimensions of service quality. Based on this view, perceived service quality is an antecedent of user satisfaction (Brink & Berndt 2004:60). Satisfaction as a reflection of user fulfilment has also been reported (Pizam & Ellis 1999:326; Zeithaml *et al.* 2006:110). A logical attempt has been made by Mudie and Cottam (1996:15) to differentiate between the two concepts by stating that whereas service quality is evaluated during the consumption process, user satisfaction is a post-consumption evaluation of the service.

According to Dean (2004:62) and Zeithaml *et al.* (2006:110) service quality is a focused evaluation that reflects the user's perceptions of service quality along the five dimensions. Satisfaction however, is more inclusive and is influenced by product or service features, perceptions of product and service quality, price, personal factors such as user moods, and situational factors such as family members' opinions as antecedents. Tan and Pawitra (2001:418) state that users assess service quality by comparing the service level that they receive against both the service level that they would have preferred (desired), and the service level that they are willing to accept (adequate). Further, Zeithaml *et al.* (2006:110) state that user satisfaction is assessed by comparing users' expected (predicted) service with perceived service. Figure 3.6 depicts users' perceived service quality as an antecedent of users' perceived satisfaction.

FIGURE 3.6 Users' perceived service quality versus satisfaction



Source: Adapted from Zeithaml *et al.* (2006:107)

Zeithaml and Bitner (1996:124) make a distinction between service quality and service satisfaction by stating that whereas quality perceptions can occur in the absence of actual experience with the service provider, user satisfaction can only be assessed following an experience with the service provider. Evidence exists that improving the surroundings through decorative measures, enhancing user's emotions, charging appropriate prices, and product quality also increase user satisfaction (Lee and Chen 2006:30; Zeithaml *et al.* 2006:108). In this research, perceived service quality has been contextualised as an antecedent of perceived satisfaction from the consumption of mobile telephone services in the branch of industry in Uganda.

3.3.6 Users' perceived service value

In addition to evaluating services on the basis of quality and satisfaction, users also evaluate services according to the value received from their consumption (Kang & James 2004:270; Seth *et al.* 2005: 927; Zeithaml & Bitner 1996:124). Perceived service value as a reflection of the "get-versus-give" features of the

consumption experience has been reported (Sigala 2006:405). Zeithaml *et al.* (2006:525) identify four meanings of perceived value:

- Firstly, some users equate value with low price for the service.
- Others emphasise benefits received from the service as the most important component of value.
- Some users see value as a trade-off between the money they have forfeited and the quality of service received.
- Finally, some users consider all benefits received as well as all the sacrifice components (money, time, effort) when evaluating value of service.

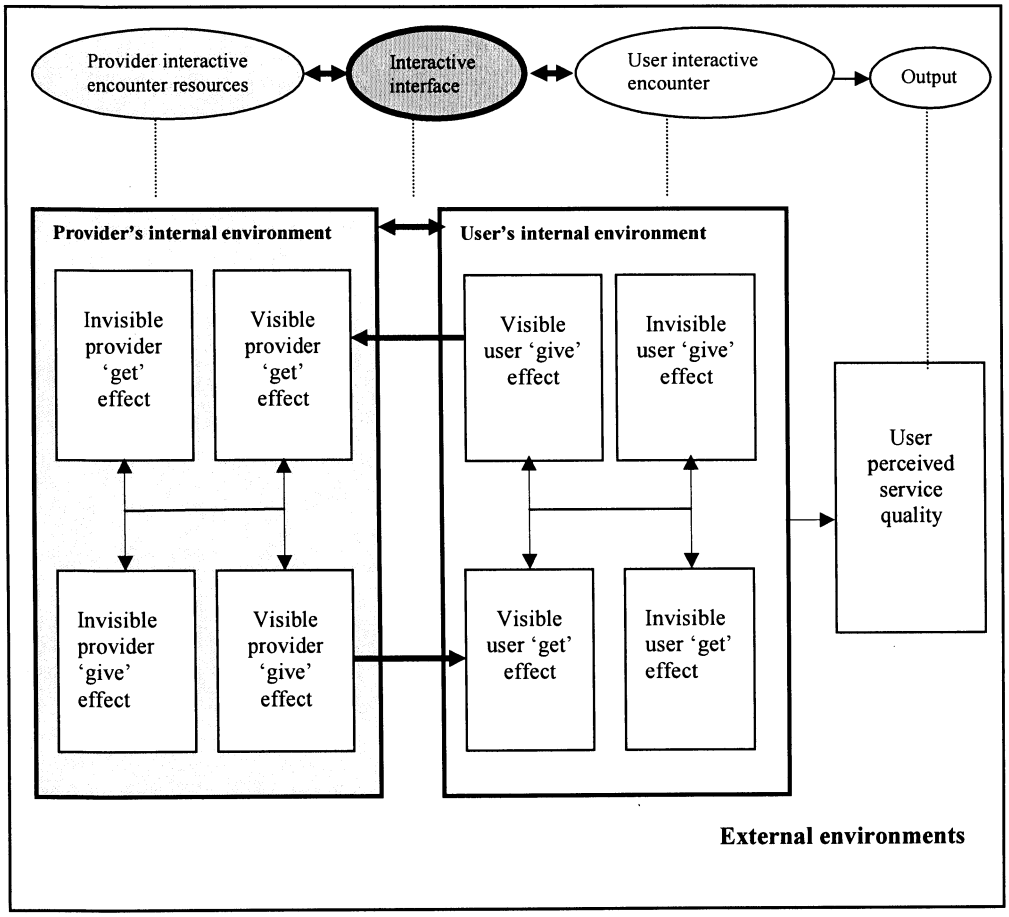
Perceived service value as the users' overall assessment of the utility of a service based on what is received relative to what is given or exchanged will be investigated for users of mobile telephone services in the branch of industry in Uganda. Sources in the services marketing literature subscribe to the views of perceived service value in terms of both the users' hedonic (pleasurable) and utilitarian (functional) expectations (Carpenter, Moore & Fairhurst 2005:43; Edverdsson 2005:128).

3.3.7 The interactive human resources in service encounters

A review of the literature shows that over the last 20 years, service encounters as human interaction points between users and providers are well documented (Brady & Cronin 2001; Buttle 1996; Chow-Chua & Komaran 2002; Dedeke 2003; Garavan 1997; Gronroos 2001; Seth *et al.* 2005; Svensson 2001; Svensson 2006). Reference to faceless encounters has been made in reference to internet service encounters (Long & McMellon 2004:78). It is important to note that some encounters are faceless as the provider has been substituted by an interactive technology as is the case with Serial Identification Module (SIM) cards in mobile telephone handsets and ATM services in banks (Czepiel 1990; Parasuraman 2004:49; Santos 2003:233; Svensson 2006:243, 245). Because services are essentially intangible packages, users are on most occasions compelled to interact with the providers as they interface with the service. Consequently, it is rational to consider perspectives of both users' and providers' roles in the encounter in order to understand the interactive processes

in such service encounters and avoid unidirectional understanding of the concept 'interactive service quality' as shown in Figure 3.7.

FIGURE 3.7: The interactive 'get' and 'give' human resources in service encounters



Source: Adapted and modified from Sigala (2006:405), Thwaites (1999:505), Svensson (2006:249).

Figure 3.7 illustrates what happens in the service encounter when the user meets face-to-face with a service provider. Both the user and the provider come to the encounter with some resources to exchange. The resources may be physical or non physical but relevant to the production and/or consumption of the service. Because the user and the provider are physical beings in the encounter, they are depicted as visible elements in direct contact with each other. The non physical aspects of the interactive encounter that interact indirectly are shown as the invisible elements.

It should be noted that both the user and the provider go through internal 'give' and 'get' processes of their invisible elements before any exchanges take place during the interactive interface. The output of the interactions in the service encounter is evaluated in terms of the users' service quality experiences.

Several studies reveal that the necessity for the interaction between users and providers cannot be over emphasised given that service resources are intangible and inseparable from the provider (Augustyn 1998:147; Goode, Moutinho & Chien 1996:4; Sigala 2006:400; Silvetro 2005:216; Svensson 2003:267; Zeithaml *et al.* 2006:537). In essence, users measure their perceived service quality in terms of the match between the expected and actual animate and inanimate service resources the provider has in the encounter.

As shown in Figure 3.7, the user approaches the encounter with both invisible and visible 'give' effects that represent the resource inputs the provider requires to produce the users expected service. The user simultaneously interacts with invisible and visible 'get' effects representing the resources the user receives from the provider during interactive service consumption. In a similar manner, the provider designs the encounter with both invisible and visible 'give' effects representing the resource inputs that the users require to appropriately play their interactive roles as they encounter the designed service. Further, the provider designs how to receive the invisible and visible 'get' effects representing the benefits received from the users for the appropriate production of the service as expected by users.

It is logical to state that for any perceived service quality, both the user and the provider must 'give' and 'get' some resources from each other during the interactive interface. Due to service intangibility, it is important to note that visible resources represent animate and inanimate resources in direct contact with the user as shown in Figure 3.7. References to visible 'give' and 'get' resources as tangible animate and inanimate resources and invisible 'give' and 'get' effects as intangible resources in the interactive interface has been reported (Brink & Berndt 2004:31; Sigala 2006:400; Svensson 2006:250; Zeithaml *et al.* 2006:184).

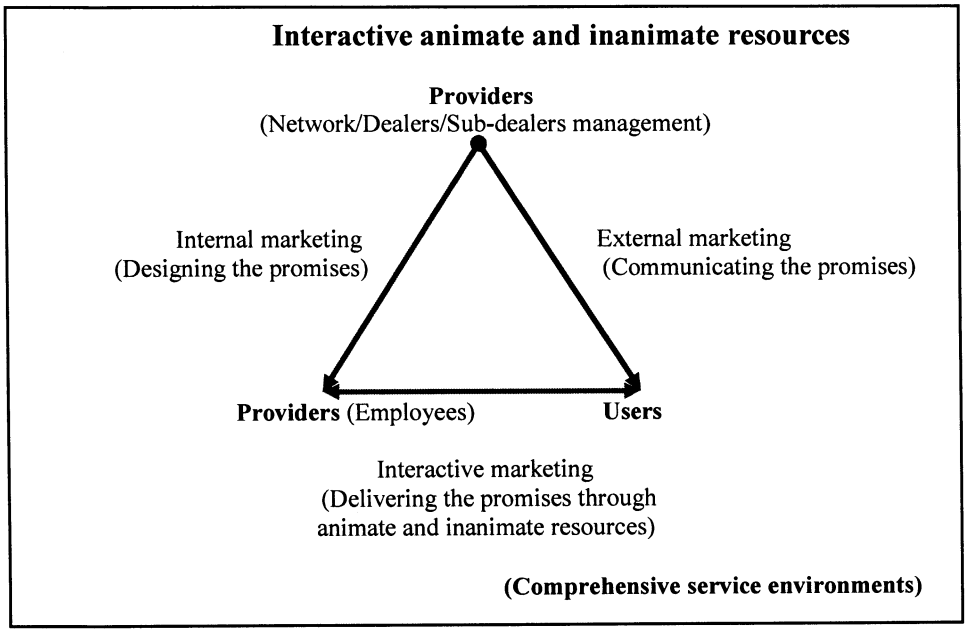
From Figure 3.7, it is clear that users expect to simultaneously receive functional, social, personal, and experiential resources from the interactive service encounter. A typical example is provided by a user's purchase of a Nokia mobile telephone handset which has all the four aforementioned encounter resources. In the first instance, because the Nokia mobile telephone handset enables a 24-hour interactive resource, the user is able to receive the service on a 24-hour basis. Similarly, the fact that a Nokia brand is widely felt to be the best mobile telephone handset in the world, the user derives social, personal, and experiential resources from its possession (Brink & Berndt 2004:31). Further elaboration of the interactive interface is given in Figure 3.8 and Table 3.1.

As Figure 3.8 illustrates, internal and external marketing originate from management to employees and users respectively while interactive marketing takes place between employees and service users (Hsieh & Hsieh 2001:147; Svensson 2006:249; Thwartes 1999:506). This is not to say that there is no direct interaction between management and users at all. It is important to note that interactive marketing is effected though animate (human beings) and inanimate (non-human technologies) telephony communication resources. Because of users' subjective evaluation during the interaction, the perceived service quality differs from user to user (Johnson & Sirikit 2002:699). It should be noted that interactive processes in the service encounter occur every time a mobile telephone service user interacts with the mobile telephone service provider's animate and inanimate resources in the mobile telephone branch of industry in Uganda.

According to Svensson (2006:249) and Thwartes (1999:506), the interactive service encounter reflects a service triangle of three main animate resources namely: management, employees, and users as illustrated in Figure 3.8. According to the theory of social exchange, the inseparability of services from providers necessitates the interaction between user's and providers' animate resources leading to an inevitable social exchange (Sierra & McQuitty 2005:392).

It is important to note that such social interactions create a sense of shared social responsibility as each party performs their appropriate roles in the service encounter. Wilkinson and Young (1999) state that as affective social beings, the interaction between users and providers evokes affection from both parties leading to relationship development and better performance of their respective roles during

FIGURE 3.8: The interactive human resources in a service triangle



Source: Adapted from Svensson (2006:249); Thwartes (1999:506).

the encounter. The relationships thus established enhance the user's perceived service quality. Secondary source also indicate that perceived service quality requires theappreciation of the service encounter as an interactive interface where resources from both the users and the providers of services are exchanged in the process (Gronroos 2001). Despite this evidence, some secondary sources in the services marketing literature have not included the provider's perspective in the service encounter (Bienstock, Mentzer & Bird 1997; Dabholkar, Thorpe & Rentz 1996; Parasuraman *et al.* 1988; Svensson 2004:468), while some have evidently done so (Sigala 2006:405; Thwaites 1999:505).

Although it may not always be the case, Miciak and Desmarais (2001:340) state that when users contact a service centre (encounter), they expect accurate and prompt answers from knowledgeable providers as a sign of quality service. Perspectives of both the user's and provider's resources in the encounter have been captured to enhance the understanding of how users' perceived service quality is shaped in the mobile telephone branch of industry in Uganda. This research has considered the constructs underlying deeds, actions and reactions as service encounter resources interact between users and providers of mobile telephone services in the branch of industry in Uganda.

TABLE 3.1 Generic resources for an interactive mobile telephone service encounter

Generic source	Input 'give-get' effects of users	Output for the user
Explicit tangible: Visible resources in the interactive interface.	• 'Give-effects' include users' money and physical presence. • 'Get-effects' include providers' physical presence and materials associated with the service.	• Serial identification module (SIM) card, phone battery charger, access cards, phone handset colour, and handset cover possessed.
Implicit intangibles: Invisible resources in the interactive interface.	• 'Give-effects' include users' time, money value. • 'Get-effects' include providers' time, energy, delivered value, SIM card information, network access.	• Self-service knowledgeability, Technical support, Extra memory, Service affect.
Interactive intangibles: Doings, actions, and reactions generated in the interactive interface.	• 'Give-effects' include encounter roles played by users • 'Get-effects' include encounter roles played by providers.	• Account replenishment, SMS alerts, Mobile banking, Internet access, Who called, Contacts, Radio, Reminders, Countdown, Borderless services.
Interfacial intangibles: Atmospheres and environments surrounding the interactive interface.	• 'Give-effects' include users' emotions and energy. • 'Get-effects' include provider's emotions and energy.	• Pre-programmed services from the handset SIM card. E.g. Games, Calendar, Calculator, Alarm clock, Ring tones, Profiles, and composer.
Actual outcome: Observable, verifiable tangibles and intangibles in the interactive interface.	• 'Give-effects' include user's roles as per the mindset • 'Get-effects' include provider's roles and the enabling service equipment.	• Mindsets at the encounter point, and spatial convenience.
Interpreted outcome: Non-observable, non-verifiable tangibles and intangibles in the interactive interface.	• 'Give-effects' include user self-service. • 'Get-effects' include received service	• Perceived service (surprise, desired, adequate, frustrating quality)

Source: Adapted from Sigala (2006:400); Svensson (2006:249).

The interactive interface between users and providers are further elaborated on in Table 3.1. Only the details underlying the encounter of generic resources for mobile telephone service users in the branch of industry in Uganda have been included. Users' typical interactive resources in the mobile telephone encounter include: Short Message Service (SMS), internet access, mathematical computations, games, and SIM card to list only a few (Status of the Communications Market –December 2008:7; The New Vision, 28 June 2007). Although the level of interactive mobile telephone service quality may vary from encounter to encounter, there is a general belief that the more the features in the SIM card, the better the interactive quality of the SIM card as a service encounter resource. As shown in Table 3.1, the encounter (visible/tangible and invisible/intangible) resources blend into perceived service quality as an outcome for the user (Sigala 2006:405; Svensson 2006:249). It is important to note that the invisible encounter resources are synonymous with the faceless encounters (Long & McMellon 2004:78). Faceless encounters are synonymous with the interactive component of the mobile telephone services in the branch of industry in Uganda.

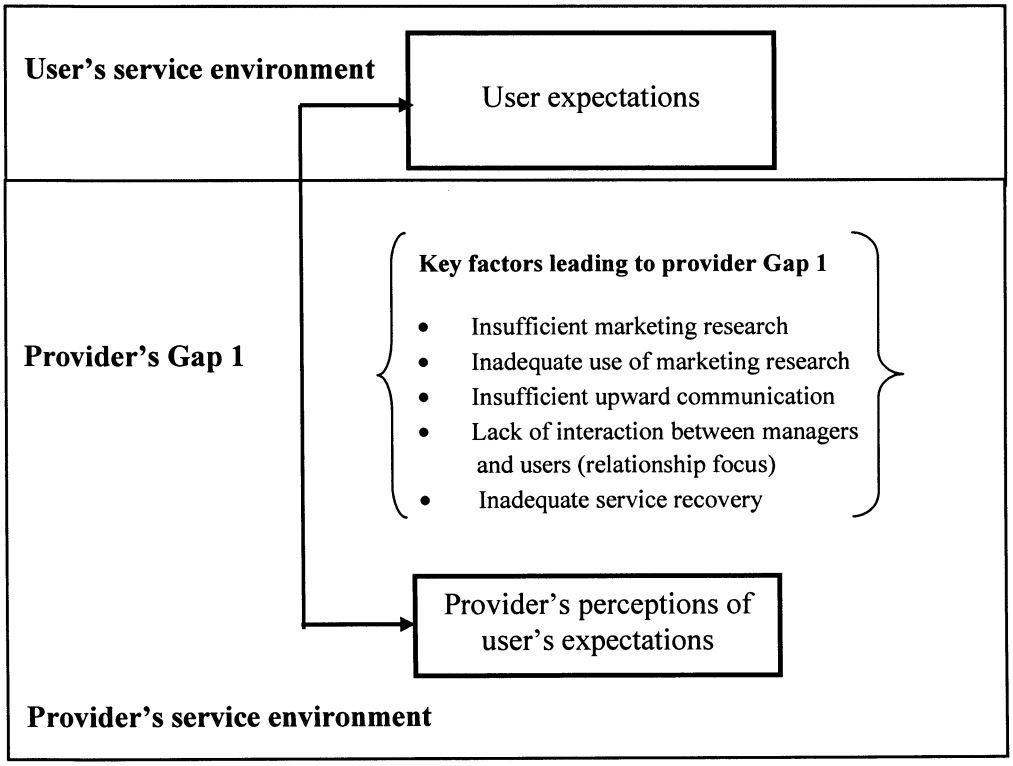
Having discussed secondary sources with regard to the user's perceptions of service quality, it is imperative to discuss the provider's perceptions of user's expectations of service quality as antecedents for the designed mobile telephone services in the branch of industry in Uganda.

3.4 PROVIDERS' DESIGNED SERVICE QUALITY

Despite a genuine interest in meeting users' expectations, service providers continue to miss the point by thinking 'inside out'. According to Zeithaml *et al.* (2006:35), providers with 'inside out' mindsets are usually not aware of users' expectations, a situation responsible for the presence of provider's Gap 1 as depicted in Figure 3.9. The view that providers with 'inside out' mindsets believe that they know what users should want and deliver it, rather than finding out what users actually want and incorporate it in the designed service is widely

reported in the services marketing literature (Brink & Berndt 2004:70; Parasuraman *et al.* 1985:44; Tsang & Qu 2000:318; Wal *et al.* 2002:235; Zeithaml *et al.* 1990:39, 52; Zeithaml & Bitner 1996:138).

FIGURE 3.9: Providers' Gap 1 (Not knowing what users expect)



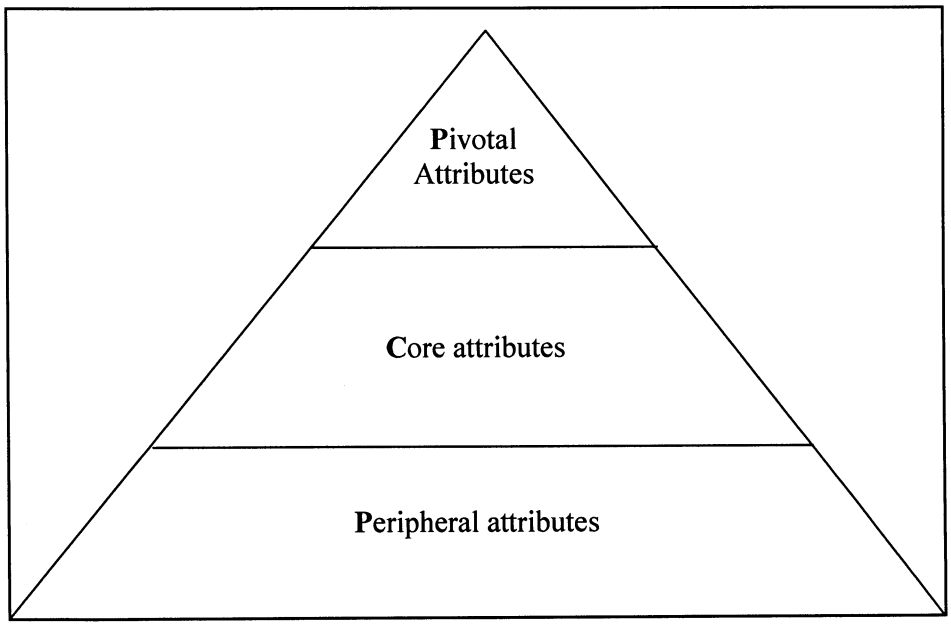
Source: Adapted from Zeithaml *et al.* (2006: 35 &, 139).

According to Candido (2005:9) service providers are however, beginning to change their mindsets and adopt continuous assessment of their service quality gaps with a view to closing them. In this respect, the pivotal-core-peripheral (P-C-P) model rather than the SERVQUAL model for the assessment of service quality has been reported as depicted in Figure 3.10 (Philip and Hazlett 1997:272; Seth *et al.* 2005:927).

According to Philip and Hazlett's P-C-P model i.e. pivotal attributes (P), core attributes (C), and peripheral attributes (P) impact the designed service as depicted in Figure 3.10, the pivotal attributes represent the providers' promised service design output (i.e. interactive communications) the users expect to

receive from the service encounter and perhaps take away from the service process. The core attributes on the other hand represent the people, processes and organisational structure (animate and inanimate resources) employed by service providers which the user must interact or negotiate with in order to receive the designed pivotal expected service. Similarly, the peripheral attributes represent the incidental frills or extras (competitive augmentations such as airtime 'cash-back') designed by the providers to add to a roundness of service encounter and make the whole experience a complete delight to the users.

FIGURE 3.10 The P-C-P model for measuring service quality



Source: Adapted from Philip and Hazlett (1997:274)

Because providers tend to adopt 'inside out mindsets, pivotal, core, and peripheral features important to users are often left out during the design process, an act that explains the presence of providers' gaps. The provider's failure to listen to user's concerns about important quality features to incorporate in the service design processes is well documented in services marketing literature (Philip & Hazlett 1997:264; Zeithaml *et al.* 2006:139; Zeithaml & Bitner 1996:137; Zeithaml *et al.* 1990:52). A host of other service quality models has been reported (Seth *et al.* 2005).

In order to understand user expectations of a quality service, several studies indicate that the service provider needs to adopt an 'outside in' mindset and carry out marketing research to understand user expectations to incorporate in the designed service (Zeithaml & Bitner 1996:137; Zeithaml *et al.* 2006:141). According to Zeithaml and Bitner (1996:138), six factors influence providers' adoption of an 'outside in' mindset about users' expected service namely:

- Use of marketing research to understand user expectations;
- Interpreting marketing research findings correctly;
- Using marketing research information in design processes;
- Enhancing interaction between management and users;
- Use of upward communication between managers and employees and;
- Taking action in response to a service failure.

Zeithaml *et al.* (2006:35), confirm similar causal factors for providers' failure to think 'outside in' to understand what users expect namely:

- Inadequate marketing research orientation;
- Lack of upward communication;
- Insufficient relationship focus; and
- Inadequate service recovery.

A review of the literature reveals several studies that support the pivotal role of marketing research in understanding and meeting users' expectations (Brink & Berndt 2004:52; Ojasalo 2001:203; Sang & Qu 2000:318; Sierras & McQuitty 2005:392; Ugboma, Ibe & Ogwude 2004:487; Zeithaml *et al.* 2006:141). It can only reflect a gamble for a service provider to base its designed service on imaginary user expectations. Such a basis is likely to meet no expectations thus resulting into service failure. Other studies show that to avoid service failure, providers require to devote time and financial resources to understand user-defined search, experience, and credence expectations for incorporation in the service designs (Bebbe 2000; Galetzeka *et al.* 2006:271; Parasuraman *et al.* 1985:48; Teare 1998:76).

3.4.1 Applying marketing research to understand user expectations

According to Zeithaml *et al.* (2006:141), using marketing research to ascertain what users expect is essential to providing service quality. As a result, a provider that does no marketing research at all is unlikely to understand the dynamic expectations of users for whom the service is intended. It must be emphasised that in order to understand user expectations and keep in tune with their dynamic nature, the provider should not just carry out marketing research, but also ensure that user expectations are the main focus. Focusing marketing research to understanding the dynamic nature of users' expectations has been widely reported in the literature (Blose & Tankersly 2004:75; Kellen 2002:4; Mude & Cottam 1996:287; Silvestro 2005:215; Zeithaml *et al.* 2006:139; Zeithaml & Bitner 1996:137). An attempt to explain provider's perceptions of users' expectations in terms of total service quality has also been made (Gupta, McDaniel & Herath 2005:389). Good services marketing research programs are reported to include multiple types of research studies such as complaint solicitation studies, critical incident studies and relationship surveys (Zeithaml *et al.* 2006:150). Marketing research needs to be conducted periodically to match providers' services to the dynamic users' expectations (Zeithaml *et al.* 2006:136).

3.4.2 Analysing and interpreting marketing research findings to understand user expectations

According to Zeithaml *et al.* (2006:161) and Teare (1998:76), one of the greatest challenges to marketing researchers is to translate a complex set of data on user expectations into a format that can be understood by executives, managers, and other frontline employees to enable them to make the right decisions. To achieve this objective, it is imperative that research findings are presented in ways that can be understood by all service providers. A suggestion that research findings be graphically communicated to those who are to use them in designing specific service features as defined by users has been reported (Zeithaml & Bitner 1996:159). Evidence exists that providers' failure to translate marketing research information into user-defined actions is responsible for the failure to understand

the degree to which tangibles may be incorporated in the expected service design (Chowdhary & Prakash 2007:493).

3.4.3 Applying marketing research to design the expected service

Further to the aforesaid, understanding user expectations requires that providers use marketing research information appropriately by reading and internalising it to enhance the design of services that meet users' expectations (Zeithaml *et al.* 2006:169). The widening of the providers' Gap 1 due to misuse or non-use of research data has been reported (Zeithaml & Bitner 1996:159). Service managers should therefore view marketing research information as a resource available to them for understanding and incorporating user expectations in their service designs. As a resource, the appropriate use of marketing research information is an important input in closing the providers' Gap1, i.e. ensuring that management accurately understands user expectations (Zeithaml *et al.* 2006:170).

3.4.4 Applying upward communication to understand user expectations

Literature sources indicate upward communication as a flow of information from users and frontline employees to the back office officers and managers for use as firsthand information for understanding user expectations (Van *et al.* 2002:325; Zeithaml *et al.* 2006:170; Zeithaml & Bitner 1996:161; Zeithaml *et al.* 1990:63). Evidence shows that upward communication is more effective for small scale providers than for large scale ones due to the constant contact between employees and management on the one hand and between frontline employees and users on the other hand. The difference arises from the availability of firsthand information from constant contact between users and frontline managers in small-scale service organisations while contact between users and managers is usually indirect in large scale organisations. It is important to note that hands-on information is essential in understanding users' expectations and closing providers' Gap 1. However, too many levels between contact personnel and top management in large organisations affect information flow thus widening Gap 1 (Zeithaml *et al.* 1990:64).

3.4.5 Understanding user expectations through relationship focus

According to Zeithaml *et al.* (2006:37), providers can better understand user expectations by strengthening relationships with them. This assertion is premised on the fact that when providers focus more on retaining users, they empathetically get obliged to understand users' changing needs and expectations in both faceless and animate encounters (Day 2000:24; Wong & Sohal 2002:424). It is important to note that a relationship focus is symbiotic in character as it benefits both the users and providers in terms of the trade-off in the encounter. A relationship focussed mindset as a reflection of good user (customer) relationship management (CRM) enhances understanding of users' expectations (Buchinx & Poel 2005:252; Lin & Ding 2005:57).

3.4.6 Understanding user expectations through service recovery

Providers can understand user expectations through service recovery. Service recovery refers to actions taken by a service provider in response to a service failure (Zeithaml *et al.* 2006:221-225). Service recovery is particularly important in understanding and anticipating users' expectations in subsequent encounters. Examples of service recovery expectations include providers' acceptance of and accountability for their mistakes, prompt service on subsequent encounters and compensation for the previous inconveniences. As service failures occur for various reasons, understanding users' expectations through service recovery programmes becomes imperative (Brink & Berndt 2004:75; Mude & Cottam 1999:171).

3.5 SUMMARY AND CONCLUSIONS

In this chapter, a discussion on the perspective of service quality as expected and experienced by users and service quality as designed by providers was offered. The nature of services as economic activities that are essentially non physical but valued and paid for by users has been explained. From the users' perspective, a difference between expected and actual experienced service as determinants of the users' Gap 5 has been made. Factors that influence users' expected and actual service quality were sufficiently elaborated on, and contextualised to the mobile telephone branch of industry in Uganda. A critical assessment of the dimensions of service quality used by users in evaluating their service experiences was made. The chapter also motivated that service quality

was an antecedent to satisfaction. The issues related to interactive service encounters where users and providers meet and exchange intangible resources were also discussed. From the providers' point of view, this chapter explained the designed service quality and how providers can enhance their understanding of users' expectations through marketing programmes. Factors leading to providers Gap 1 were sufficiently explained and contextualised to providers of mobile telephone services in the branch of industry in Uganda.

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CHAPTER FOUR

BUSINESS STRATEGY CONSIDERATIONS

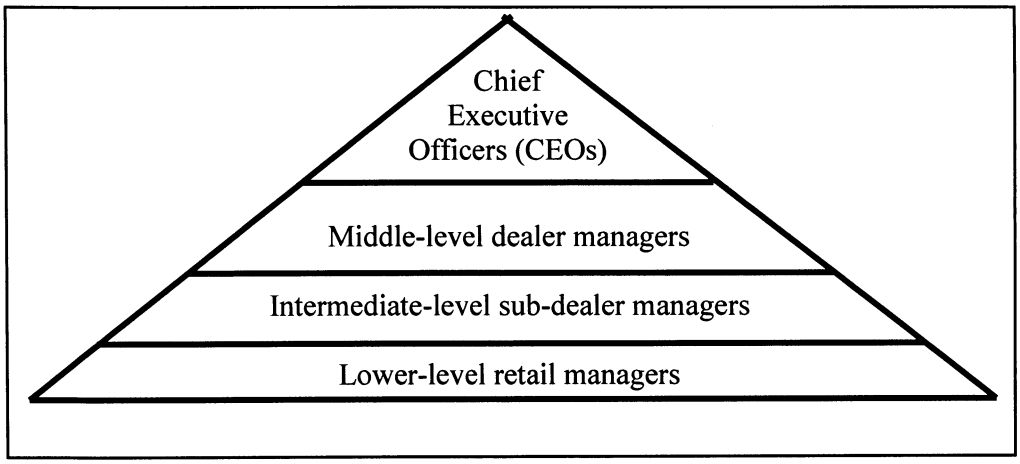
4.1 INTRODUCTION

This chapter addresses part two of the second secondary research objective as stated in section 1.6.2 of Chapter One, namely to analyse secondary sources to enhance awareness of the available business strategies service managers may adopt to meet their clients' expectations in the mobile telephone industry. The chapter explains and contextualised several business strategies and operations tools, and indicated what mobile telephone service managers should do to meet their clients' expectations and succeed in a rapidly changing service environment in the mobile telephone branch of industry in Uganda. In a similar manner, business strategies as a blend of proactive and reactive stances on the one hand and effectiveness and efficiency on the other hand were brought to the fore. This chapter explains business strategies as competitive tools and finally the chapter briefly explains how mobile telephone service managers could choose appropriate business strategies for their businesses in the mobile telephone branch of industry in Uganda.

Business strategy has been defined as the configuration of resources within a changing environment with the objective of fulfilling customer expectations over a long time (Johnson & Scholes 2002:10). Business strategy as a management's action plan for running the business and conducting its operations has also been reported (Louw & Venter 2006:18; Thompson, Strickland & Gamble 2007:3). In this research, business strategy is taken as a decision by a mobile telephone service manager in the branch of industry in Uganda to run the business in a specific direction that matches the available resource capabilities. It should be noted that there are many management levels in the mobile telephone branch of industry in Uganda and that each level may apply business strategies differently both as management and operations tools. The different levels of management reflect the different levels at which business strategies may be devised for use in the management and operations of the business. In terms of numbers, service managers in the mobile telephone service in Uganda

represent a pyramidal structure in the distribution channel as depicted in Figure 4.1.

FIGURE 4.1: The mobile telephony managers' pyramid



Source: Derived from UCC Market review Reports (March & December 2008)

The pyramid represents the current (December 2008) four networks' Chief Executive Officers (CEOs) for MTN, UTL, ZAIN and WARID) as well as CEOs for other independent dealers and sub-dealers in the distribution channel. The Mobile telephone service distribution channel in Uganda also has several hundred middle or intermediary managers, and thousands of lower-level retail service managers (Status of the Communications Market – December 2008). All these levels of managers devise business strategies to operate their mobile telephone service businesses in the branch of industry in Uganda.

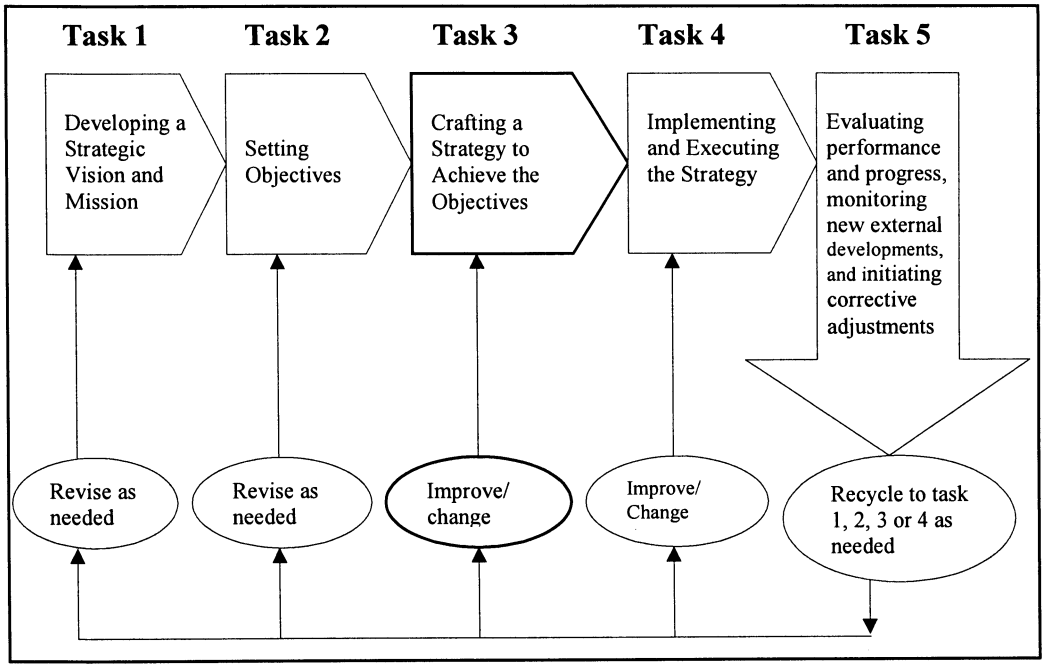
4.2 THE ROLE OF BUSINESS STRATEGIES

4.2.1 Business strategy as a management tool

Irrespective of the level or size of business, managers in the mobile telephone branch of industry in Uganda should devise and use business strategies in their daily business decisions. According to Thompson *et al.* (2007:19) devising and using business strategies are essential to managing a business. The managerial process of developing and implementing a business strategy that service managers can benchmark is provided by the strategy devising and strategy-execution process of Thompson *et al.* (2007:20), depicted in Figure 4.2.

Although the process can be benchmarked by service managers in the mobile telephone branch of industry, it should be noted that due to the prevalence of low levels of education among service managers in the branch of industry in Uganda, tasks 1 to 4 may be more prevalent than task 5.

FIGURE 4.2: Strategy crafting, strategy-execution process



Source: Adapted from Thompson *et al.* (2007:20).

In this respect, every service manager in the mobile telephone branch of industry in Uganda needs to develop a strategic vision of his/her business' direction and what its future mobile telephone service offerings should be and a mission to realise that future. The role of vision and mission in business strategies is widely reported in the literature (Bosch *et al.* 2006:145; Grant 1997:46; Louw & Venter 2006:47; Thompson *et al.* 2007:20). Secondly, every mobile telephone service manager in Uganda needs to set objectives and use them as yardsticks for measuring the business's performance and progress. Objectives represent a managerial commitment to achieve particular business results and outcomes. Strategic objectives reflect the operationalisation of business goals. Literature sources show that well-stated objectives should be quantifiable, measurable, and contain a deadline for achievement (Bosch *et al.* 2006:147; Louw & Venter 2006:26; Thompson *et al.* 2007:29).

Every service manager in the mobile telephone branch of industry in Uganda needs to develope business strategies to achieve the set objectives and move the business along the strategic course that management charted. A review of the literature shows that in large businesses, devising and executing strategy is a team effort in which every manager has a role for the area he or she heads (Bosch *et al.* 2006:329; Louw & Venter 2006:212; Thompson *et al.* 2007:35). In this respect, whereas network managers devise business strategies with a wider scope, small-scale sole proprietorships tend to develop business strategies with a narrow scope. Mobile telephone service managers in Uganda also need to implement and execute the chosen business strategy effectively and efficiently to remain competitive. The literature indicates that this task is the most demanding and time consuming part of a strategy management process (Bosch *et al.* 2006:332; Louw & Venter 2006:21; Thompson *et al.* 2007:42).

Lastly, although the low levels of education in Uganda may not permit it, every mobile telephone service manager needs to evaluate performance and initiate corrective adjustments in the business's long-term direction, objectives, and strategy in the wider dynamic business environment. Mobile telephone service managers in Uganda should know that a business's vision, objectives, strategy, and approach to strategy execution are never final as managing strategy is an ongoing process and not an event or incidental task. This assertion is based on the fact that the mobile telephone service environment in Uganda is dynamic and requires strategy modifications to fit the changing environment. The strategy devising and execution process is widely reported in the literature (Bosch *et al.* 2006:330; Louw & Venter 2006:21; Thompson *et al.* 2007:43).

4.2.2 Business strategy as an operations tool

Devising a business operations strategy entails a wide range of functional level decisions from functional service managers in the mobile telephone branch of industry in Uganda. Functional level strategic decisions are needed in order to stay competitive in this rapidly growing branch of industry. In this respect, every mobile telephone service manager in Uganda needs to make a choice in respect of the type of mobile telephone service to offer that will simultaneously generate

returns and meet the needs of the users. It should be noted that this choice is largely influenced by the financial resources available to each manager (Thompson *et al.* 2007:35). In this respect, mobile telephone service managers with sufficient financial resources can choose to sell handsets and other tangible elements of mobile telephone services as these offerings require substantial amounts of resources. On the other hand, Ugandan mobile telephone service managers with limited resources may choose to sell airtime cards and other low price complementary services that do not need expensive premises and other related high costs. It should be noted that although the core mobile telephone service is the interactive communication, the auxiliary tangibles and services from other service operators must be available in order for the core service to be accessed by the users.

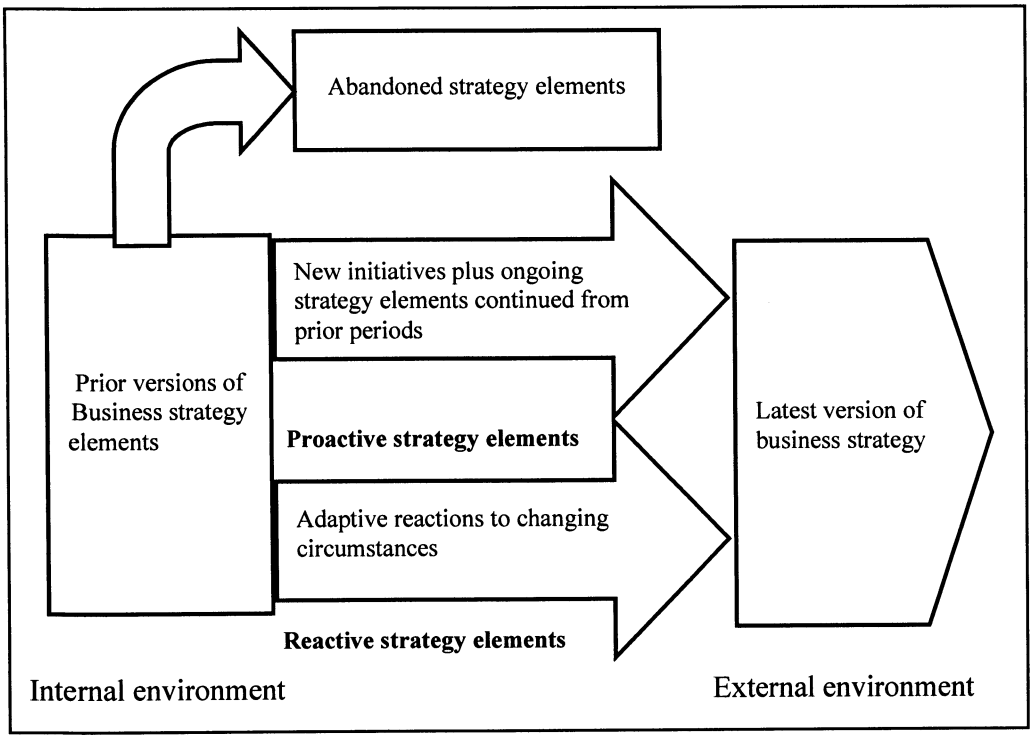
The need to think strategically when choosing which customer group(s) to target is another aspect that requires a strategic decision from mobile telephone service managers in Uganda. In this respect, because network providers focus both on business and individual customers, their business strategies focus on a wide range of customer needs. On the other hand, because retail mobile telephone service managers' focus is on individual customers, their strategies tend to focus on a relatively narrow range of customer needs such as the needs of low income customers. The need for managers to have a strategic focus has been reported (Thompson *et al.* 2007:35). Because of the intense competition in the mobile telephone service branch of industry in Uganda, network managers need to decide whether to base their competitive advantage on lowest cost, product superiority or unique capabilities of their business. On the other hand, service managers in small-scale mobile telephone businesses in Uganda need to differentiate their services in terms of opening hours, customer care, and other similar differentiations as operational tools to enhance their competitiveness.

4.2.3 Business strategies as a blend of proactive and reactive stances

The dynamic nature of the mobile telephone service environment in Uganda, dictates that service managers be willing and ready to modify their business strategies in response to the changes in the environment. The need for a blend of proactive initiatives (planned strategy) and partly reactive adjustments (adaptive

strategy) in business strategy development processes are widely reported (Louw & Venter 2006:230; Thompson *et al.* 2007:8-9; Wilson & Gilligan 1997:156). Proactive and reactive initiatives require mobile telephone service managers in Uganda to use some imagination in devising business strategies that are responsive to the ever changing customer needs and preferences in the rapidly growing branch of industry. It should be emphasised that proactive mobile telephone service managers in the mobile telephone branch of industry be able to innovatively rethink their business strategy elements to adapt them to the changing circumstances in the external business environment. Managers in the mobile telephone industry should be creative in responding to environmental changes and strategic manoeuvres from their rivals. It is also important to take cognisance of unexpected shifts in users' needs and expectations, changes in technology, new market opportunities, to list only a few examples. The blending of proactive and reactive elements in the business strategy process is depicted in Figure 4.3.

FIGURE 4.3: Business strategy as a blend of proactive and reactive stances



Source: Adapted from Thompson *et al.* (2007:10).

Evidence exists that whereas proactive strategies are synonymous with innovative initiatives to exploit the unfolding opportunities; reactive strategies are synonymous with adaptive adjustments to the changing opportunities in the external business environment (Grant 1997:300; Thompson *et al.* 2007:10). Because of venturing in unknown domains, proactive strategies are sometimes associated with high risk levels for which maximum care is required by mobile telephone service managers in Uganda. Reactive strategies on the other hand are deemed to be safe as they have been tested by other service managers. It is worthwhile noting that neither proactive nor reactive elements are the one inherently better than the other for a business strategy development process; rather the suitability of it which would depend on the specific competitive capabilities of the business (Louw & Venter 2006:23).

From the above, it is apparent that managers in mobile telephone service businesses with limited resources take on the less risky reactive strategies while those with abundant resources take on the relatively risky proactive strategies. Based on resource availability, it seems logical that market leaders with abundant resources like MTN Uganda adopt proactive strategies while followers like ZAIN, UTL, and WARID are likely to adopt reactive ones. Similarly, managers in small-scale mobile telephone service businesses would be safer with reactive strategies since they would have been tested elsewhere. It should be noted that in combining the proactive and reactive elements, mobile telephone service managers in Uganda may end up abandoning some strategy elements as they may have become obsolete or ineffective for their purpose.

4.2.4 Business strategy as a blend of effectiveness and efficiency stances

In addition to devising a blend of proactive and reactive stances in their business strategies, mobile telephone service managers in the branch of industry in Uganda need to blend effectiveness and efficiency in their strategies to deliver the desired returns for their businesses as well as meet users' expectations. Although the two concepts are sometimes used interchangeably, the concept 'effectiveness' refers to being result-oriented while the concept 'efficiency' refers to being cost conscious in business activities. Obstacles may arise in blending effectiveness and efficiency during the strategy development process,

evidence exists that effectiveness is a domain of top management while efficiency is the domain of operational managers (Wilson & Gilligan 1997:21; Wit & Meyers 1998:212). In large mobile telephone service businesses like MTN Uganda, effectiveness is emphasised by CEOs while efficiency is emphasised by operations managers such as the marketing manager. In small-scale mobile telephone service businesses in Uganda where CEOs are replaced by customer contact managers, the major emphasis is put on strategy efficiency. Business strategy as a blend of effectiveness and efficiency is shown in Figure 4.4.

FIGURE 4.4: Business strategy as a blend of effectiveness and efficiency stances

	Strategic management (corporate)		
		Effective processes	**Ineffective processes**
Tactical management (operations)	**Efficient processes**	(1) Thrive	(2) Die slowly
	Inefficient processes	(3) Survive	(4) Die quickly

Source: Adapted from Wilson and Gilligan (1997:21)

Wilson and Gilligan (1997) argue that an emphasis on efficiency rather than effectiveness is a reflection of lack of strategic direction. With regard to mobile telephone service managers in Uganda, the need for a clear strategic direction requires mobile telephone service managers to blend effectiveness and efficiency in their business strategies. In order to have thriving businesses, mobile telephone service managers need to optimally blend effectiveness with efficiency in their business strategies as a means of achieving the desired goals with an efficient output/input ratio as represented by quadrant one (1) in Figure 4.4. In contrast, mobile telephone services managers who use a blend of ineffectiveness with inefficiency in their business strategies are doomed and will see their businesses die quickly due to inefficiency and lack of strategic direction as represented by quadrant four (4) in Figure 4.4. Unlike the die quickly blend, mobile telephone service managers who blend ineffectiveness

with efficiency in their business strategies can see their businesses die slowly as they are efficient but lack a strategic direction as represented by quadrant two (2) in Figure 4.4.

For a blend of effectiveness with inefficiency in their business strategies, mobile telephone service managers in Uganda can only ensure the survival of their businesses as they are inefficient but with a strategic direction as represented by quadrant three (3). In assessing their blending processes, mobile telephone service managers should note that the blend in quadrant two (2) is worse than the blend in quadrant three (3) since in the latter, strategic direction is present to ensure effectiveness even if rather too much input is being used to generate low output i.e. quadrant three (3) thus reflects inefficient marketing tactics supported by a strong strategic sense of direction by top management.

In conclusion, although mobile telephone service managers in the branch of industry in Uganda may effectively survive under inefficient marketing tactics, efficient tactics alone are neither necessary nor sufficient for strategic survival. In effect, blending effectiveness and efficiency implies reconciling long-term with short-term objectives. The need for mobile telephone service managers to craft effectiveness and efficiency in their business strategies in order to realise the desired outcomes is commended for mobile telephone services businesses in the branch of industry in Uganda.

4.2.5 Business strategy as a competitive tool

It is normal practice for businesses in emerging industries to strive to establish a strong foothold in the industry by perfecting their technologies, operations and endeavouring to broaden their distribution channels to gain customer acceptance (Thompson *et al.* 2007:231). This is no exception to the emerging mobile telephone branch of industry in Uganda. However, service managers in this branch of industry in Uganda need to know that because business models and strategies in an emerging industry are essentially unproven, they may or may not become sufficiently attractive and profitable. Further, mobile telephone service managers in Uganda need to know that there are generally no established rules of the game in an emerging industry which gives industry participants

considerable freedom to experiment with a variety of different strategic approaches. A review of the literature shows that in such a situation, competitive strategies tailored either to low cost or differentiation are usually viable as they give them a wide latitude in experimenting with different strategic approaches (Louw & Venter 2006:251; Thompson *et al.* 2007:233).

To ensure that mobile telephone service businesses stay competitive, service managers need to ensure that their businesses grow faster than the industry average growth rate. To achieve this strategic objective, mobile telephone service managers need to adopt appropriate business strategies that can enable them to grow above the market average and in the process boost their market share and improve their competitive standing *vis-à-vis* rivals. This implies that mobile telephone service managers in the branch of industry in Uganda need to ensure that their business strategies are able to generate higher returns for their service businesses than the market average in order to stay ahead of the competition.

4.2.6 Selecting an appropriate business strategy option

According to Louw and Venter (2006:248) business strategies are as many as the variations in competitive advantages and capabilities to meet users' expectations. The situation is not different in the mobile telephone branch of industry in Uganda. For this reason, mobile telephone service managers in the branch of industry in Uganda are free to choose a strategic option that matches their resource capabilities. Evidence exists that resource strength as an attribute enhances durable competitive advantages in the marketplace and is reflected in several forms, namely, specialised expertise, valuable tangible and intangible assets, and valuable human resources, to list only a few examples (Thompson *et al.* 2007:97-100). Based on the form of competitive advantages possessed by each mobile telephone service business in the branch of industry in Uganda, different business strategies may be devised and implemented by telephony service managers.

For mobile telephone service businesses whose resources only allow for the delivery of a basic service, service managers may adopt a 'no frills' (no extras)

business strategy. Although a 'no frills' business strategy may appear unattractive, it can be particularly successful in price sensitive user segments of the Ugandan mobile telephone service market where low incomes are prevalent among the users. Retail mobile telephone service managers in Uganda with limited resources may also adopt a 'no frills' strategy as a viable alternative. The viability of a 'no frills' business strategy is widely reported in the literature (Louw & Venter 2006:248; Porter 1980:35; Thompson *et al.* 2007:147).

In situations where mobile telephone service managers' intentions are to charge a lower price than rivals while maintaining similar service quality as offered by rivals, devising a low price business strategy becomes a viable alternative. To ensure sustainability of a low price strategy, there is a need for the existence of an unattractive segment to rivals, to which segment low prices may be charged. Mobile telephone service managers in Uganda need to know that a low price strategy is easily copied by rivals yet further reductions in price may result into unacceptable returns. As a result, service managers need to take extra care in reducing their prices to outperform rivals. Literature sources indicate that the bottom line is that a low price business strategy cannot function well without a low cost base (Louw & Venter 2006:251; Thompson *et al.* 2007:143). For this reason, low price business strategies can be particularly successful for network providers in the mobile telephone branch of industry in Uganda who can afford to charge low prices for quality services while maintaining their quality of services offered to users.

Literature sources have also reported widely on broad differentiation business strategy (Louw & Venter 2006:253; West *et al.* 2006:111; Wit & Meyer 1998:532). A broad differentiation business strategy is devised with the objective of achieving higher market share than rivals by offering differentiated offerings at the same price or a slightly higher price to reflect the differentiation. A broad differentiation strategy as a basis for competitive advantage ensures that offerings have attributes that differ significantly from those of rivals or a set of capabilities for delivering user value superior to the rivals' capabilities (Thompson *et al.* 2007:147). Because broad differentiation requires substantial resources, mobile telephone services managers in the branch of industry in

Uganda need to think carefully before choosing the strategic option. Despite its cost implications, a broad differentiation business strategy is a viable option in the branch of industry as it enables mobile telephone service businesses to meet a wide range of users' needs and preferences that cannot be satisfied with standard offerings or capabilities. However, because of their limited financial resources, retail service managers in the mobile telephone branch of industry may use broad differentiation business strategies on a narrow scope.

In situations where a small sub-segment (niche) of the market needs a service that is unique, mobile telephone service managers in the branch of industry may use focused business strategies to meet such unique needs of users. In this respect, mobile telephone service managers in Uganda need to use a focused (niche) differentiation business strategy option to meet such unique tastes and preferences of the niche users. Focused (niche) differentiation business strategy options are widely reported in the literature (Louw & Venter 2006:256; Porter 1980:38; Thompson *et al.* 2007:151-5; West *et al.* 2006:111; Wit & Meyer 1998:353). For a focused differentiation business strategy to succeed, mobile telephone service managers need to ensure that the niche segment of the telephony market they want to serve is large enough to be profitable, offers good growth potential, and has a good pool of user goodwill, to give only a few examples.

It should be noted that the above business strategy options are by no means exhaustive. Therefore, mobile telephone service managers in Uganda may come up with different options. Whichever business strategy option is chosen, mobile telephone service managers need to ensure that the option must be consistent with the resource capabilities of their mobile telephone service businesses.

4.3 SUMMARY AND CONCLUSIONS

In this chapter, a definition of business strategy as a configuration of resources within a changing environment with the objective of fulfilling stakeholder expectations over a long time was discussed. The chapter explained and contextualised several business strategies indicating what mobile telephone service managers could do to stay competitive. The chapter explained several roles of business strategies and contextualised them to the mobile telephone

branch of industry in Uganda. Business strategy as a management tool and an operations tool was explained and contextualised to the mobile telephone branch of industry in Uganda. Further, business strategy as a blend of proactive and reactive stances on the one hand and effectiveness and efficiency on the other hand was explained and contextualised. Further, the chapter explained business strategies as competitive tools that mobile telephone service managers in Uganda may use in the rapidly growing branch of service industry. Finally, the chapter briefly explained how mobile telephone service managers can choose business strategy options cited in the literature depending on their resource capabilities and contextualised each to the mobile telephone branch of industry in Uganda.

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CHAPTER FIVE

PRIMARY DATA SOURCING

5.1 INTRODUCTION

Literature reviews show that primary data represents 'first-hand' (raw) data that have yet to receive any type of meaningful interpretation (Collis & Hussey 2009:23; Hair *et al.* 2003:42; Sekaran 2003:219). To give effect to the third and fourth secondary research objectives as stated in Section 1.6.2, this Chapter aims to develop survey methods for quantitative data collection on perceptions of users and providers of mobile telephone services in the branch of industry in Uganda. As already mentioned in Chapter One, because of the multi-language and multi-cultural nature of the mobile telephone service environment in Uganda, qualitative data was required to supplement the quantitative data. In this respect, focus group interviews of users and providers of mobile telephone services were conducted to generate the required qualitative data. Given that existing secondary data on service quality perceptions could not answer the research questions in this study, it was imperative that primary data be collected on the variables to meet the study objectives. Because both quantitative and qualitative data were required for this research, methodological triangulation was adopted in sourcing the primary data (Collis & Hussey 2009:85).

From the aforesaid, the first objective of this chapter was to develop appropriate research instruments to source quantitative primary data from users and providers in the mobile telephone services branch of industry in Uganda. The second objective was to develop appropriate questions for the focus group interviews to source qualitative data from the same users and providers in the mobile telephone services branch of industry in Uganda. These objectives implied that two appropriate research instruments were necessary for sourcing reliable quantitative data from the two sub-samples of users and providers of mobile telephone services in Uganda. It also implied that two sets of focus group interview questions were required to source qualitative primary data from the same users and providers of mobile telephone services in Uganda. Further, the objectives required correct

planning and execution phases of data sourcing according to prescribed guidelines in order to ensure reliability, credibility, and relevancy of the data.

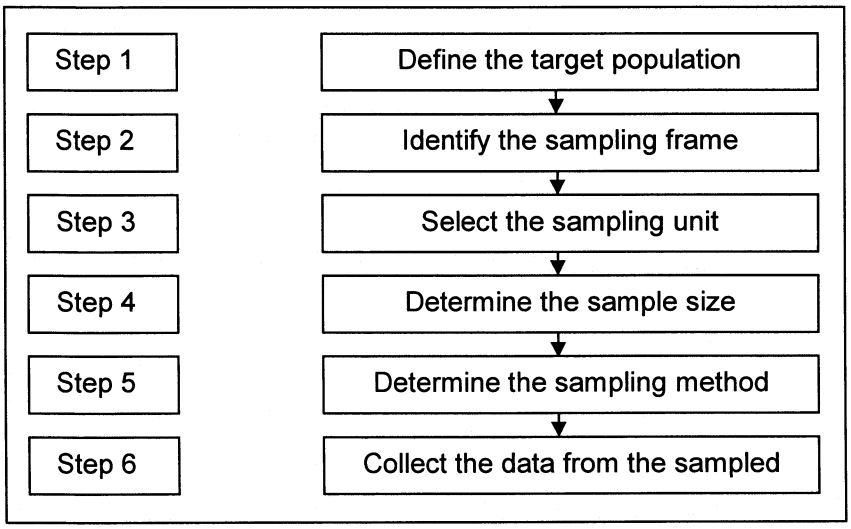
In this regard, this chapter comprises three phases of primary data sourcing. Firstly, the chapter identifies the population, sampling frames and sampling units for this study. In effect, this section gives information on the two target populations of users (N1) and providers (N2), their two sub-samples (n1 and n2) and the sampling units therein. It is important to note that two target populations and two independent samples have been used to investigate service quality perceptions of users and providers in the mobile telephone services branch of industry in Uganda. The use of two populations and two sub-samples are well reported in the literature (Dean 2004:64; Tsang & Qu 2000:316).

Secondly, the overall design and structure of the two research instruments and focus group interviews are explained in this chapter. This chapter discusses the motivation for adoption of the Likert five-point interval scale for sourcing quantitative data and using standardised open-ended focus group interview questions for sourcing qualitative data. Thirdly, the *modus operandi* followed in the pilot study and pre-tasking of the focus group participants is explained. The findings of the pilot study are also reported to assess the reliability of the research instruments.

5.2 PHASES IN SAMPLING DESIGN

To collect relevant primary data, it was important that issues pertaining to concepts such as population, target population, sampling frames, sampling units, and sample size were put into proper perspective. Further, probability and non-probability sampling methods used were also explained. For the purpose of sourcing the relevant primary data, it was important to have a common understanding with regard to the aforementioned concepts. Figure 5.1 illustrates the steps in selecting a random sample used in the quantitative part of the study.

FIGURE 5.1: Procedures for drawing a sample



Source: Churchill (1995:557)

5.2.1 Population and target population

A population is an identifiable total group or aggregation of elements such as people, products, organisations, physical entities, to list only examples (Hair *et al.* 2003:334). In this research, population refers to the current 31 million Ugandans (2008) directly and indirectly are affected by mobile telephone services (The New Vision 10 January 2007). A target population is any identifiable total set of elements about which the researcher wishes to make some inferences (Collis & Hussey 2009:62; Cooper *et al.* 2006:402).

The current (December 2008) target population (N1) of Ugandan users of mobile telephone services was approximately 8.5 million (Status of the Communications Market – December 2008). With the mobile telephone branch of industry growth at 68 percent, the current (2008) target population (N2) of Ugandan providers of mobile telephone services (network providers, dealers, sub-dealers and retail service providers) comprising those in direct and indirect employment are approximately 570 000 (A Review of The Communication Sector 2007:12-13; Market Review 2008:3; Market Information/Market statistics 2007; UCC Policy Review Report 2005:7). A precise definition of the target population is essential and is usually done in terms of sampling units and sampling frames depicted in Figures 5.2 and 5.3 depict.

It is important to note that whereas a sampling unit refers to a person or object from which data and information are sought, a sampling frame refers to the list of all eligible sampling units (Blumberg *et al.* 2005:209; Hair *et al.* 2003:335). The number of providers is expected to have increased with the newly licensed service provider (ORANGE) (2009) the number of which is not included in the sector review.

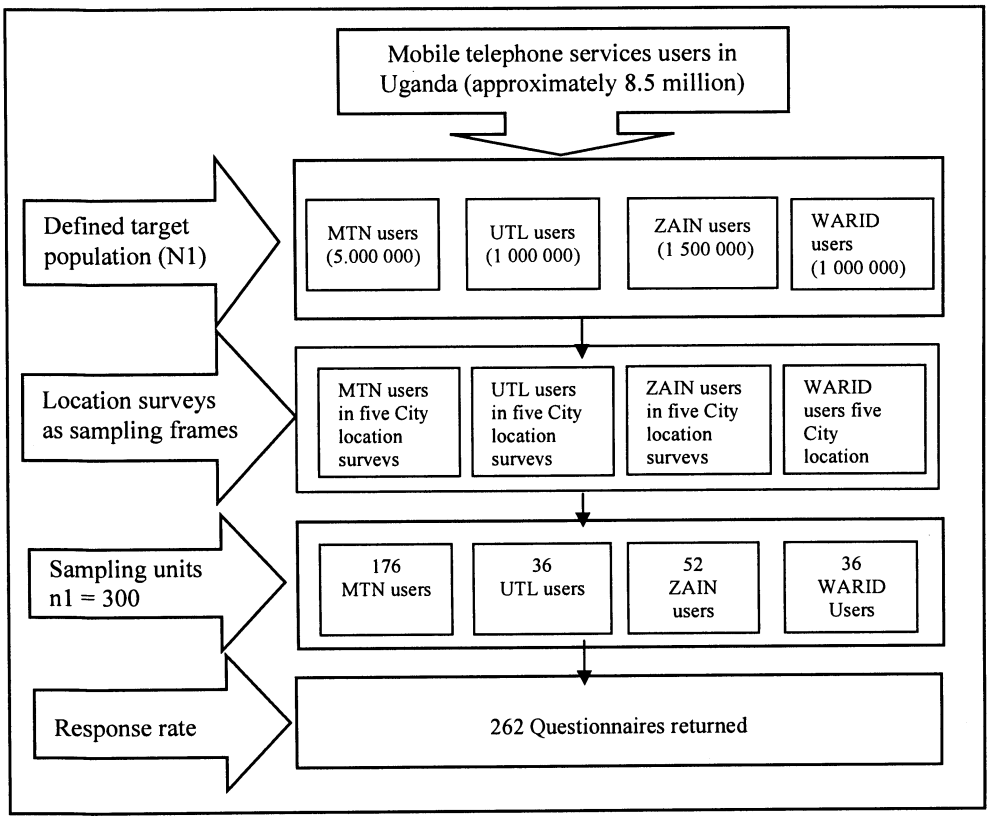
5.2.2 Sampling frames

A sampling frame is a list or record of all eligible sampling units closely related to the defined target population. The sampling frame is the actual list of population elements from which the sample is drawn (Collis & Hussey 2009:209). Regardless of the sources, it is usually very difficult and expensive for a researcher to gain access to a truly accurate or representative, current frame (Hair *et al.* 2003:336). For example, it is difficult to get a current accurate frame of mobile telephone users as new users join each network everyday and existing ones switch to another network or replace SIM cards for some reason. In such a situation, Hair *et al.* (2003.336) suggest that a researcher can employ an alternative method such as random-digit dialling (if conducting a telephone interview) or a location survey (e.g. a mall-intercept interview or user-intercept interview) in order to generate a sample of prospective respondents. In this research, due to privacy policy restrictions, users' frames were inaccessible. In this regard, location surveys were used as an alternative to sampling frames for generating the sample from each network. In this method, different locations in each of the five divisions of Kampala City were used to generate representative samples of users and providers in the mobile telephone branch of industry in Uganda.

Two screening procedures were used in selecting respondents for the users and providers sub-samples. For users of mobile telephone services, only individuals in actual possession of a mobile telephone handset were approached for face-to-face questionnaire administration (Hair *et al.* 2003:288-9). This method helped to bypass the inaccessible sampling frames of users in the mobile telephone branch of industry in Uganda. For providers of mobile telephone services, the sampling frames were tailored to users' location surveys to fit the available resources.

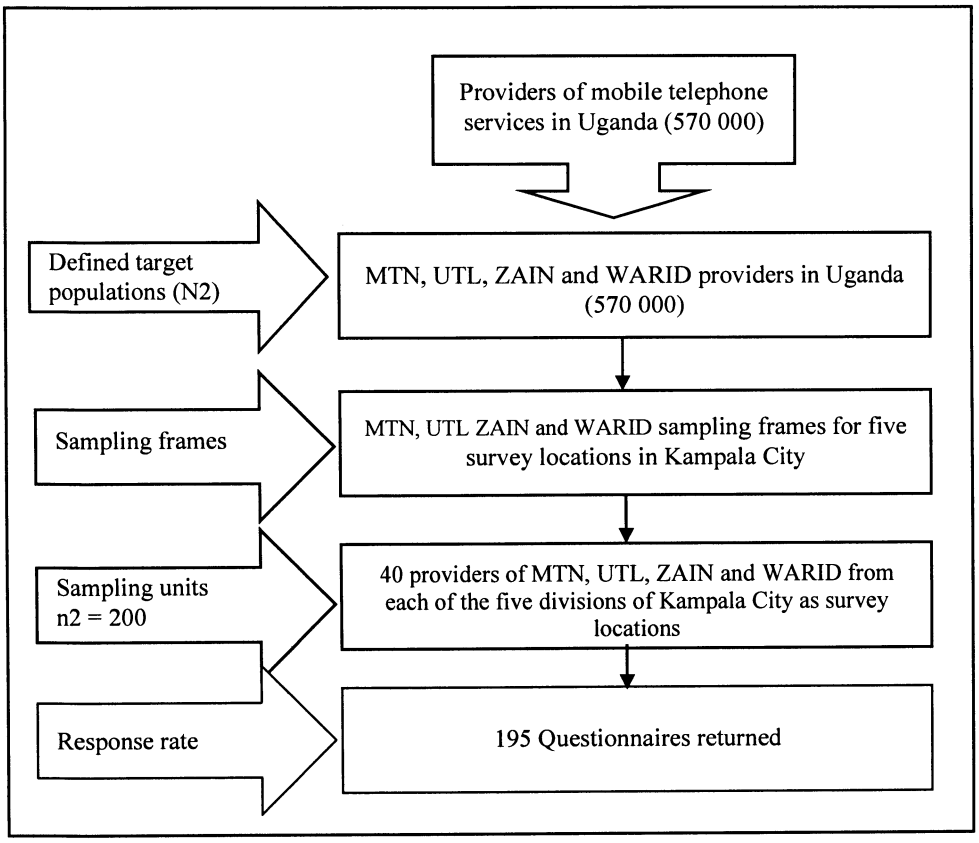
Only those in kiosks and premises with distinct labels and colours of mobile telephone networks in each location survey were screened for self-administered questionnaires (Cooper & Schindler 2006:412). In this research, location surveys were conducted in the five divisions of Kampala City to generate the sub-samples of users and providers in the mobile telephone branch of industry in Uganda. The sampling method was also considered appropriate given the cost limitations of this research. Figures 5.2 and 5.3 depict the use of location surveys as alternative sampling frames for generating sub-samples of users and providers in the mobile telephone branch of industry in Uganda.

FIGURE 5.2: Target population and sampling units of users of mobile telephone services in Uganda



Source: Adapted from UCC Market Review (December 2008)

FIGURE 5.3: Target population, sampling frames and sampling units of mobile telephone providers



Source: Adapted from UCC Market Review (2008)

In this research, whereas probability sampling methods were used in selecting sampling units to source quantitative data from, a non-probability judgemental sampling method was used to source qualitative data from sampling units of users and providers in the mobile telephone services branch of industry in Uganda. It is important to note that whereas the selection of sampling units was based on randomness in probability sampling, it was based on non-random techniques in non-probability sampling (Collis & Hussey 2009:213; Cooper & Schindler 2006:407-8).

5.2.3 Sampling units

The sampling unit represents a single element or group of elements from the target population available for selection during the sampling process (Hair *et al.* 2003:335; Kothari 2005:56; Sekaran 2003:132). A related concept is a unit of analysis. According to Collis and Hussey (2009:115), a unit of analysis is a case to which the variables or phenomena under study and the research problem refer, and about which data are collected and analysed. In this research, the sampling unit which represents a unit of analysis is an individual user or provider of mobile telephone services from the respective target populations in the branch of industry in Uganda from whom data and information were sought.

5.2.4 Determining an appropriate sample size

(a) Sample size for the quantitative part of the study

A sample is a subset of the target population in which the researcher has an interest (Collis & Hussey 2009:209). The purpose of sampling was to enable the researcher to estimate some unknown characteristics of the target population. Collis and Hussey (2009:210) argue that as the population increases, the sample size increases at a diminishing rate and remains relatively constant at 380 cases for populations over one million cases. Sekaran (2003:294) puts the constant number of cases at 384 for population sizes of over one million. In this research, the rule of thumb that the sample size is five times the number of statements on the questionnaire applied for the qualitative part of the study. In non-probability sampling, the sample does not have to be representative. Although non-probability samples of between two to four focus groups of users and providers were drawn for sourcing qualitative data. Representative probability samples of users and providers were used to source quantitative data.

Several rules of thumb for determining probability sample sizes have been reported (Collis & Hussey 2009:210, 2003:160; Sekaran 2003:295):

- Sample sizes larger than 30 and less that 500 are appropriate for most business research. In this research, the sub-sample sizes of 262 users and 195 providers fall within the range set by the rule of thumb.

- Where samples are to be broken into sub-samples, (users and providers for this study), a minimum sample size of 30 for each category is necessary. For the research in question, the minimum sub-sample sizes of 200 (40 statements times 5) users and 150 (30 statements times 5) providers fall within the range set by the rule of thumb.
- In multivariate research (including multiple regression analyses), the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study. In this research, the 262 users and the eight variables; and the 195 providers and the six variables (independent and dependent variables) fall within the range set by the rule of thumb. In this regard the 262 users were just over thirty three times as large as the number of variables (262/8=33 times) while the 195 providers were over thirty three times (195/6=33 times), which is several times the number of variables.

Veal (2005:162) provides a rule of thumb that the desired minimum sample size is a function of the number of statements in the research instrument times five (5), in order to perform the required statistical analysis. This translates to 40 statements times 5 (i.e. a minimum of 200 user respondents); and 30 statements times 5 (i.e. a minimum of 150 provider respondents). It is important to note that Veal's rule of thumb complies with Sekaran's rule of thumb that an appropriate sample size for statistical analysis should be between 30 and 500 respondents and both rules of thumb have been satisfied in this research. According to Sekaran (2003:294), it is possible to show how both sampling design and the sample size are important in establishing the representativeness of the sample for generalisability. It is important to note that inappropriate sampling design may lead to a large sample which in itself does not allow the findings to be generalised to the population. Likewise, a researcher's objectives cannot be met if the sample size is inadequate for the desired level of precision and confidence, however good the sampling design may be. For this reason, sampling decisions need to consider both the sampling design and sample size (Collis & Hussey 2009:210).

In fact, too large a sample size can be a problem as it can be prone to committing a type II error i.e. accepting the findings of the research when they should in fact be

rejected. Too small a sample can also lead to a type I error i.e. rejecting the research findings when they should be accepted. Further, even with the appropriate sample size, it is important to consider its statistical significance in terms of its practical significance (Sekaran 2003:295). For instance, a correlation of 0.25 may be statistically significant, but since it explains only about 6 per cent of the variance (0.25^2), its practical utility may not be meaningful.

Several decisions influenced the sample size for the quantitative part of this study namely: the margin of allowable error; the chances of making errors in estimating population parameters; the variability in the population on the characteristics being investigated; and the cost and time constraints on increasing the sample size (Sekaran 2003:289). In this research, financial limitations prohibited the increase of the sub-sample sizes to match the two target population sizes (i.e. 384 for 8.5 million users and 381 for 0.57 million providers). Issues of precision and confidence in determining sample sizes have been reported (Sekaran 2003:286). As financial limitations could not allow sample sizes to match the target population sizes, the margin of allowable error was put at 3 percent, given the variability in the two populations of users and providers in the mobile telephone branch of industry in Uganda. The confidence interval was put at 95 percent to imply a significance level of $p \leq 0.05$. The above decision implied that although the financial limitations could not permit sub-sample sizes to match the two target population sizes for required level of precision, at least 95 times out of 100, the estimates would reflect the true population characteristics.

For the quantitative part of this research, a blend of the rules of thumb by Veal (2005:162) and Sekaran (2003:296) were taken into account to obtain appropriate minimum sub-sample sizes of 200 user respondents and 150 provider respondents for the two sub-samples in the mobile telephone branch of industry in Uganda.

(b) Sample size for the qualitative part of the study

For the qualitative part of the study, three focus group interviews were used for each sub-sample of users and providers. The three user groups comprised of 6, 7 and 9 participants respectively while each of the providers' groups comprised of six participants each. The focus group interviews sourced qualitative primary data.

Standard open-ended questions were used and the group discussions were recorded in the form of notes (Collis & Hussey 2009:164; Krueger 2002; Hair *et al.* 2003:229). The qualitative data was analysed to supplement quantitative findings on users' and providers' perceptions of service quality in the mobile telephone branch of industry in Uganda.

5.2.5 Sampling methods employed

The literature review identified a variety of sampling methods (Collis & Hussey 2009;209-213; Blumberg *et al.* 2005:225; Cooper & Schindler 2006:406; Hair *et al.* 2003:350; Sekaran 2003:269). From the review, two sampling methods were considered appropriate for this study, namely, area sampling as the probability sampling method, and judgemental sampling as the non-probability sampling method.

(a) Probability sampling methods

Probability sampling in which area sampling falls is based on the concept of random sample selection (Cooper & Schindler 2006:408; Kothari 2005:60). A probability sampling method implies a situation where each element of the target population has a known non-zero chance of selection for the sample. Probability sampling is never haphazard.

Only probability samples provide estimates of precision. Further, only probability samples offer the opportunity to generalise the findings to the population of interest from the sample. For this research, the area sampling method was adopted for the quantitative part of the study. According to Sekaran (2003:280), it is possible to differentiate various probability sampling methods as summarised in Table 5.1.

In addition to the main features depicted in Table 5.1, simple random sampling implies a situation when the generalisability of the findings to the whole population is the main objective of the study (Cooper & Schindler 2006:414; Sekaran 2003:270). In systematic sampling, skip intervals are used to select every *n*th element in the population to include in the sample (Cooper & Schindler 2006:414). This sampling method was not used in this study.

TABLE 5.1: Probability sampling methods

Sampling method	Main features	Advantages	Disadvantages
Simple random sampling	• All elements in the population are eligible • Each element has an equal chance of being included in the sample	• High generalisability of the findings • Moderate usage	• Not as efficient as stratified sampling • High cost
Systematic sampling	• Every nth element in the population is chosen starting from a random point in the population frame	• Easy to use if population frame is available • Moderate cost • Moderate usage	• Systematic biases are possible
Stratified random sampling	• Population is first divided into meaningful segments • Thereafter subjects are drawn in proportion to their original numbers in the population • It may be proportionate or disproportionate	• Most efficient among all probability methods • All groups are adequately sampled • Comparisons among groups are possible	• Stratification must be meaningful • More cost and time consuming than simple random sampling or systematic sampling • Population frame for each stratum essential
Cluster sampling	• Groups that have heterogeneous members are first identified • then some are chosen at random • all the members in each of the randomly chosen groups are studied	• In geographic clusters, costs of data collection are low • High usage • Moderate cost	• The least reliable and efficient among all probability sampling methods since subjects of clusters are more homogeneous than heterogeneous
Area sampling	• **Used for sampling from populations within identifiable geographical areas (clusters) or localities like city divisions**	• **Cost-effective** • **Not dependent on population frames**	• **Takes time to collect data from an area**
Double sampling	• The same sample or a subset of the sample is studied twice • Moderate costs	• Offers more detailed information on the topic of study • Moderate usage	• Original biases, if any, will be carried over • Individuals may not be happy responding a second time

Source: Adapted from Sekaran (2003:280)

In stratified random sampling, the population is divided in strata and a specific number of respondents is selected from each stratum (Cooper & Schindler 2006:416; Sekaran 2003:271). The results may be weighted and combined. Since the results from the two sub-samples could not be combined, this sampling method was not used in this study. Further, cluster sampling is used to study homogeneous groups (Cooper & Schindler 2006:418). Since each sub-sample was not homogeneous, this sampling method was not used in this study.

As stated above, area sampling which is independent of sampling frames has been used in this study (Sekaran 2003:275; Hair *et al.* 2003:257). Lastly is double sampling which uses the same sample for further information on the study (Cooper & Schindler 2006:420; Sekaran 2003:275).

(b) Non-probability sampling methods

Non-probability sampling within which judgemental sampling falls, on the other hand, is arbitrary and subjective (Cooper & Schindler 2006:422; Hair *et al.* 2003:350; Kothari 2005:59). A non-probability sampling method implies a situation in which the probability of selection of each sampling unit for the sample is not known. In this research, the judgemental sampling method was adopted for the qualitative part of this study. Further, in non-probability sampling designs, four major sampling methods have been reported in the literature namely convenience, purposive, snowball, and natural sampling (Collis & Hussey 2009:213; Hair *et al.* 2003:359; Sekaran 2003:276). In convenience sampling, samples are drawn at the convenience of the researcher (Cooper & Schindler 2006:423). Although convenience samples are the cheapest and easiest to conduct, they are the least reliable designs but were not used in this research. In purposive sampling, samples can be drawn according their experiences (judgement sampling) or according to their pre-specified quotas regarding demographics, attitudes or behaviours (quota sampling) (Cooper & Schindler 2006:424). In this research, judgemental sampling was used to draw samples of users and providers with experiences of mobile telephone services offered in the branch of industry in Uganda. In snowball or networking sampling, a set of respondents is chosen and then used by the researcher to identify other respondents to be included in the study (Cooper & Schindler 2006:425). This sampling method was not used as users and providers in the mobile telephone branch of industry in Uganda could be visibly identified.

5.3 DESIGN AND STRUCTURE OF QUESTIONNAIRES AND FOCUS GROUP INTERVIEWS

5.3.1 Design of questionnaires

Questionnaires or research instruments to source primary (raw) data are associated with both positivistic and phenomenological methodologies. A questionnaire can

be described as a list of carefully structured questions or statements, chosen after considerable testing, with a view of eliciting reliable responses from a carefully selected sample (Collis and Hussey 2009:192, 2003:173; Blumberg *et al.* 2005:466-7; 173; Hair *et al.* 2003:680; Kothari 2005:103; Long & McMellon 2004:81; Sekaran 2003:236). For this research, the purpose of the two questionnaires was to source quantitative primary data in order to ascertain service quality perceptions of users and providers in the mobile telephone branch of industry in Uganda. The statements contained in the users' and providers' questionnaires were all sourced from secondary sources on service quality perceptions as explained in Chapter Three of this study.

5.3.2 Design of focus group interviews

Evidence exists that opinions are divided amongst researchers as to what number of participants constitute an appropriate focus group (Cooper & Schindler 2006:212; Hair *et al.* 2003:228; Krueger 2002; Sekaran 2003:220). The composition of focus groups has been variously described. Whereas Cooper and Schindler (2006) recommend 6 to 10 participants, Hair *et al.* (2003) recommend 6 to 12 participants. Further, Krueger (2002) has recommended 6 to 10 professional participants and 6 to 12 non-professional participants. On the other hand, Sekaran (2003) recommended 8 to 10 participants. In this research, the design and composition of focus group interviews adopted the Krueger (2007) professional groups of between 6 to 10 professional participants of users and providers.

To meet the guidelines by Krueger (2002) and Hair *et al.* (2003:229), three focus group interviews were conducted each lasting between 90 minutes and two hours. Eight standardised open-ended questions were used for providers' interviews while ten were used for users' interviews. Krueger (2002) set the number of questions between 5 and 10. The argument by Cooper and Schindler (2006:211) that focus groups should comprise homogeneous participants was upheld by recruiting University student users and customer contact retail providers for their respective sub-sample focus groups. To enhance participation within the available financial resources, each participant was promised air time equivalent to US$10 as an incentive to compensate their time for the interviews (Hair *et al.* 2003:229). Further, a convenient location for the interviews was hired and each participant

was served some snacks and drinks during the interview. To minimise variations in participants' responses, the researcher personally took notes for each session based on pre-determined questions. Each interview was preceded by a set of ground rules to guide group discussions.

The notes were later analysed using a Qualitative Data Analysis (QDA) software known as NVIVO to capture and analyse the qualitative data (Collis & Hussey 2009:168). Informal methods were thereafter used to quantify the qualitative data to allow verification of how qualitative data supplements the quantitative findings (Collis & Hussey 2009:164). Content analysis was not used as the qualitative data was already thematic. Chapter Seven elaborates on the empirical findings from the qualitative data analysis.

5.3.3 Structure of the instruments

The two research instruments were introduced in section 1.8.3 of Chapter One. The purpose of the users' instrument was to elicit users' opinions to gauge their expectations and actual experiences (perceptions) of quality of mobile telephone services they are currently receiving from service providers in the branch of industry in Uganda. Available evidence shows that it is practical to assess users' expectations at the time of purchase or interface and their actual experiences during or at some point after the purchase or interface (Liu 2008:149; Sigala 2006:405; Thwaites 1999:505). The purpose of the providers' instrument was to elicit their opinions on how they gauge their clients' expectations of quality of mobile telephone services they are currently rendering to their Ugandan clients in the branch of industry.

Both columns in Section A of the users' instrument contained interval-scaled measurement statements on the five dimensions of service quality evaluated by a

Likert five-point scale. The 40 statements on Ugandan users' perceptions of quality of the mobile telephone services branch of industry in Uganda can be subdivided in terms of the identified research variables. Table 5.2 provides the subdivisions and number of statements per research variable in the users' hypothetical model.

TABLE 5.2: Variables and number of statements per variable in the users' instrument

Statements on	Number of statements
Word-of-mouth communication from other mobile phone users *e.g.* Word-of-mouth from other users that mobile telephone service providers offer error-free services influences my service quality levels.	5
Comprehensive service environments *e.g.* The noise-free service environment of my mobile telephone service provider enables me to get error-free services.	5
Basic communication needs of mobile telephone users *e.g.* My mobile telephone service providers show sincere interest in attending to my communication needs.	5
Relationship marketing variables *e.g.* My relationship with my mobile telephone service providers is based on their ability to honour service promises made to me.	5
Providers' perceptions of mobile telephone users' expectations *e.g.* My mobile telephone service providers understand the need to meet my service expectations correctly the first time.	5
Knowledge-ability levels of mobile telephone users *e.g.* Statements from other users that my mobile telephone service provider honours promises enhance my knowledge levels about providers' services.	5
Past experience of mobile telephone service users *e.g.* My past experience is that when my mobile telephone service providers promise to do something by a certain time, they always do so.	5
Users' service quality levels received from providers e.g. The level to which my mobile telephone service providers honour their service promises satisfies my service quality requirements.	5
Total	**40**

Source: Own construction based on literature review

Similarly, for the providers' instrument, the column only contained statements on the providers' perceptions of their Ugandan clients' expectations of mobile telephone services. The providers' instrument contained 30 interval-scaled statements on the five dimensions of service quality evaluated by a Likert five-point scale as depicted in Table 5.3. Statements to measure the potential disparity between service quality as expected by users and service quality as designed by providers were meticulously included in each instrument. For both instruments, the respondents were requested to stress their opinion/views/ perceptions by interpreting the Likert five-point interval scale anchored by 1 = strongly disagree and 5 = strongly agree.

TABLE 5.3: Variables and number of statements per variable in the Providers' instrument

Statements on	Number of statements
User expectations from mobile telephone providers e.g. My clients' expectations of accurate billing systems shape my mobile telephone service plans for them.	5
Marketing research by mobile telephone providers e.g. The plans for my mobile telephone service clients are shaped by accurate marketing research information.	5
Providers' organisation structure e.g. The organisational arrangement of my mobile telephone service activities ensures my clients' purchases are error-free.	5
Relationship marketing (provider-user interaction) e.g. My relationship with clients requires that I plan mobile telephone services according to the promises made.	5
Providers' perceptions of users' needs e.g. The understanding of my clients' needs to have the service performed right the first time shapes my plans for services to them.	5
Providers' designed service quality to user expectations e.g. My mobile telephone service plans add value that satisfies promises made to my clients.	5
Total	**30**

Source: Own construction based on literature review

Whereas Section B in the users' instrument solicited other considerations for using mobile telephones, a similar Section in the providers' instrument solicited their biographic data. Biographic information can be useful for future research. Section C in the users' instrument contained statements eliciting users' biographic data. The qualitative data in Sections B and C were meant to strengthen the quantitative data in Section A on users' and providers' service quality perceptions in the mobile telephone branch of industry in Uganda. The complete providers' and users' research instruments are included as appendices A and B.

5.3.4 Structure of the focus group interviews

According to general guidelines for conducting interviews, four types of focus group interviews are identified namely informal conversational interviews; general interview guide approach; standardised open-ended interviews; and closed fixed-response interviews (McNamara 2008). In informal conversational interviews, there are no standard guidelines to follow. A general interview guide approach on the other hand is more focused than informal conversational approach but not as

standardised as open-ended interviews as the interviewer follows the pre-determined interview guidelines. In a closed fixed-response interview, the participant is required to choose from among the set of alternatives provided by the researcher. In standardised open-ended interviews the same open-ended questions are asked to each participant. In this research, standardised open-ended interviews in which the same open-ended questions were asked to all participants have been adopted for qualitative primary data collection from users and providers in the mobile telephone services branch of industry in Uganda.

The following interview structure was adopted to source the qualitative data for this part of the study:

- Recruitment of participants: Personal requests were made from each participant on a one-on-one basis, taking particulars of those that were willing, for later contact at the group interview time.
- Purpose of the interviews: Before the commencement of each group interview, the purpose of the interview was explained to the participants to obtain their (users and providers) opinions to verify quantitative findings on their perceptions of mobile telephone service quality.
- Introduction: The interviewer then made a self-introduction, introduced the topic of discussion to the participants, set the ground rules namely participants should minimise/eliminate side conversations; one participant to speak at a time; a participant is not to criticise what others have said; each participant should treat everyone's ideas with respect; each participant should turn-off their mobile phone or put it on silent mode; and that participants' confidentiality was assured.
- Opening questions: These were used for each group. Although these questions varied for users and providers interviews, they served the same purpose in each focus group i.e. identified characteristics that participants had in common. Opening questions which are normally factual are important in establishing the group's affinity and internal dynamics (Hair *et al.* 2003:231).
- Introductory questions: These questions are normally not critical to the final analysis but are important in introducing the general topic of discussion.
- Transition questions: These questions served as logical links between introductory and critical questions to help participants envision the topic in a broader context.

- Critical questions: From a content perspective, critical questions drive the overall study. They are used to get to the heart of the issues underlying the topic of interest. Critical questions followed the variables in the users' and providers' questionnaires.
- Probe questions: These tested each participant on a specific service quality dimension linked to each critical question.
- Concluding questions: These are asked to bring closure to the discussion. They allowed the participants to reflect on previous comments and feelings and encouraged them to summarise any final thoughts.
- Biographic data questions: These were asked to elicit biographic information about each participant.

The users' and providers' standardised open-ended interviews are attached in appendices C and D.

5.4 ADOPTION OF CONSTRUCTS IN FOCUS GROUP INTERVIEWS

It should be noted that the adoption of methodological triangulation permitted the collection of qualitative data. It is possible in a qualitative approach to present existing theory in the form of constructs rather than variables. Focus group interviews as a qualitative data collection method seeks to come to terms with the meaning and not the frequency of more or less naturally occurring phenomena in the social world. In situations where post-survey qualitative data is little, informal methods may be adopted to quantify them (Collis & Hussey 2009:164). In order to gain the meaning, qualitative methods emphasise the representation of reality from the respondent's perspective (Haider & Sue 1999:105). According to Trochim (2006), four important objectives for undertaking qualitative research have been identified namely:

- to generate new theories or hypotheses;
- to achieve a deep understanding of the issue;
- to trade details for generalisability; and
- to enhance the fundability of the research.

For this research, given the multi-cultural and multi-lingual service environment in which low levels of education are prevalent, and the adoption of methodological triangulation, qualitative data was collected with the objective of achieving a thorough understanding of the quantitative findings of the positivistic part of the study.

A review of the literature indicates that the epistemological assumption in phenomenological approaches is that what constitutes valid knowledge is when the researcher is involved in the process of the research (Collis & Hussey 2009:58). Further, the review shows that in qualitative terms, the researcher should not ontologically perceive a single unitary reality about the world (Collis & Hussey 2009:58; Trochim 2006). In order to realise the objective of attaining an in-depth understanding as stated above, questions on service quality concepts were constructed based on a standardised open-ended interview format. (McNamara 2008). To enhance the analysis and comparability of the research in question, the statements reflecting variables in the questionnaires were transformed into constructs representing critical questions for the standardised open-ended focus group interviews. This approach applied to both users and providers in the mobile telephone services in the branch of industry in Uganda. Qualitative findings from the analysis of users' and providers' responses from the focus group interviews are contained in Chapter Seven of this study.

5.5 PILOT TESTING OF THE QUESTIONNAIRES

According to Cooper and Schindler (2006:76), pilot testing the questionnaire is intended to detect weaknesses in the instrumentation design, and to provide proxy data for selection of the probability sample. Pilot testing draws subjects from the target population and simulates the procedures and protocols designated for data collection as is the case for the surveys used in this research. Other sources in the literature refer to pilot testing as small-scale 'trial runs' of the actual surveys (Collis & Hussey 2009:193; Kothari 2005:27). Given the two target populations and the two sub-samples, two research instruments, the users' instrument and the providers' instrument were used in the pilot test.

The crucial question was whether each research instrument really sourced the data that it was intended to source. Pilot testing of the research instrument reveals its weaknesses in terms of its reliability and validity. In the pilot test, of the 300 users' instruments administered, as many as 262 instruments were returned while of the 200 providers' instruments, 195 were returned. These pilot test results reflected 87 percent and 97 percent response rates respectively. The response rates were deemed appropriate to perform the required statistical analyses and test the hypotheses. In a positivistic study, a representative or good sample can be taken to be true for the whole population (Collis & Hussey 2009:209, 2003:155). The pilot test involved five well trained research assistants. Each assistant was assigned a division of Kampala City to collect data from both users and providers. For each respondent, the purpose of the research was first explained before administering the instrument. For each sub-sample, 40 respondents gave their opinions. Two survey methods were used. A face-to-face survey (user-intercept) was used for users' pilot test (Hair *et al.* 2003:258). A drop-off (self-administered) survey was used for providers (Collis & Hussey 2009:193; Hair *et al.* 2003:266). The sampling units were randomly selected from each division of Kampala City to comply with the requirements of area sampling design as a form of probability sampling design. The divisions were used as alternative sampling frames where each was treated as a location survey for generating the sub-samples of users and providers in the mobile telephone branch of industry in Uganda.

To verify the consistency of the inter-item reliability of the users' and providers' instruments, Cronbach alpha reliability coefficients were calculated. The closer Cronbach alpha reliability coefficient is to 1, the higher the internal consistency of the instrument. The generally agreed lower limit for Cronbach alpha reliability coefficients is 0.7 although it may decrease to 0.6 for exploratory research (Hair *et al.* 1998:118) while coefficients larger than 0.8 are regarded as good (Cooper & Schindler 2006:322; Sekaran 2003:307).

The SPSS 17.0 Statistical Programme was used for the calculation of the Cronbach's alpha reliability coefficients for the instruments of this research. An inspection of the Cronbach's alpha reliability coefficients for 'users' expectations' (Table 5.4, Panel A) showed very good results with all items scoring over 0.9 and

an overall score of 0.9286 which is regarded as good. The Cronbach's alpha reliability coefficient for users' 'actual experiences' (Panel B) was in excess of 0.8138 which is regarded as good. The low Cronbach's alpha reliability coefficient scores in the users' panel B were in respect to providers' responsiveness (C2) and assurance (C3) to users' communications needs; convenience of providers' delivery point (F3); providers' levels of service quality in terms of delivery (F1); and network coverage (H4). The overall Cronbach's alpha reliability coefficients were: Panel A: 0.929 and Panel B: 0.814 as depicted in Table 5.4.

TABLE 5.4: Users' pilot Cronbach's alpha reliability coefficients

Service quality variables	Mobile telephone service quality rendered to a Ugandan user	
	Expectations (Panel A)	Actual experiences (Panel B)
Word-of-mouth communication from other mobile telephone users	0.927	0.821
Comprehensive service environments	0.927	0.806
Basic communication needs of mobile telephone users	0.927	0.807
Relationship marketing variables such as customer relationship marketing and management and communication	0.926	0.813
Knowledge levels of mobile telephone users	0.927	0.816
Providers' perceptions of mobile telephone users' expectations	0.925	0.803
Past experience of mobile telephone service users	0.927	0.808
Service quality	0.926	0.804
Overall alpha reliability coefficients	**0.929**	**0.814**

Given that five (5) statements scored on Cronbach's alpha reliability coefficients above 0.7000 on both Panels A and B of the users' instrument reflected good internal consistency of the instrument. The possible reasons for the disparity of the Cronbach's alpha reliability coefficients for expectations (Panel A) and actual experiences (Panel B) will be given in the data analysis phase of Chapter Six.

As stated for the users' instrument, the SPSS 17.0 Statistical programme was used for the calculation of the Cronbach alpha reliability coefficients for the providers' instrument. An inspection of the Cronbach alpha reliability coefficients for the providers' 'perceptions of clients' expectations of the designed service quality' showed a medium score with an overall score of 0.7174 as depicted in Table 5.5. Three items on the providers' instrument showed negative correlations with Cronbach's alpha reliability coefficients less than 0.69 i.e. word-of-mouth on modern equipment (A5); delivering affordable services as a basic communication need (C4); and relationship based on visually appealing facilities (D5). When statements with the largest negative correlations (i.e. statements A5 and D5) were removed, Cronbach's alpha reliability coefficient improved to 0.7174, which was above the medium acceptable scoring level for further analysis. The overall Cronbach's alpha reliability coefficient for the providers' instrument was 0.6916.

TABLE 5.5: Providers' pilot Cronbach's alpha reliability coefficients

Designed service quality variables	**Mobile telephone service quality rendered by Ugandan providers to their clients**
	Perceptions of clients expectations of service quality
User expectations of mobile telephone providers	0.694
Marketing research findings by mobile telephone providers	0.703
Providers' organisation structure	0.688
Relationship marketing (interaction between mobile telephone providers and users)	0.692
Providers' perceptions of users' needs	0.676
Service quality as designed by mobile telephone providers	0.674
Overall alpha reliability coefficients	**0.692**

Comments from respondents in the two sub-samples generally considered the questionnaires difficult to understand, too long, and too academic. Given that the Cronbach's alpha reliability coefficients for the users' 'expectations' (Panel A) and 'actual experiences' (Panel B) were good, a decision was made to proceed

with its administration. Further, given that the providers' Cronbach's alpha reliability coefficients were above average, the pilot results indicated that the researcher could proceed with the full administration of the research instrument.

5.6 PRE-TASKING OF FOCUS GROUP PARTICIPANTS

The term 'pre-tasking' refers to a variety of creative and mental exercises to prepare participants for individual or group interviews. In this research, pre-tasking was intended to prepare focus group interview participants for the group interview. Pre-tasking was intended to provide an understanding of participants' own thought processes and bring their ideas, opinions, and attitudes to the surface (Collis & Hussey 2009:155; Cooper & Schindler 2006:200, 715). In this research, pre-tasking of users and providers of mobile telephone services in the branch of industry in Uganda involved a number of issues:

- an introduction of what the focus group interviews would be about;
- which day and time of the week was convenient for each participant;
- how long each interview would last;
- the format of the interview;
- how their time would be compensated, the confidentiality of their opinions and;
- a request for each participant's mobile telephone number.

The pre-tasking exercise enhanced each mobile telephone user or provider participant's readiness for the focus group interview.

5.7 CONDUCTING THE FOCUS GROUP INTERVIEWS

Before the commencement of any interview with any of the users' and/or providers' focus groups, an attempt was made to develop a rapport with the group as recommended by researchers (Collis & Hussey 2009:156; Lewis 1995).

To realise this objective, group members were encouraged to introduce themselves and tell the group a little about themselves. This exercise assisted to put the interviewees at ease.

Evidence shows that the recommended pattern for introducing the group discussion includes the welcoming, giving an overview of the topic for discussion, explaining the ground rules and reading out the first question (Krueger 1988:80).

In this research, Krueger's recommendations were adopted in conducting the focus group interviews. The motivation for sourcing qualitative primary data through focus group interviews was based on several factors namely: the fact that one of the research objectives was to verify quantitative findings; the study concerned issues of a hypothetical nature; and the study required homogeneous participants (Cooper & Schindler 2006:204).

The users' focus group interviews comprised eight (8) critical questions while the providers' focus group interviews comprised six (6) critical questions. All questions were open-ended and the same questions were posed to participants in each group (Cooper & Schindler 2006:212; Krueger 1988:62; Hair *et al.* 2003:231). Three standardised open-ended interviews were conducted for each sub-sample of users and providers in the mobile telephone service branch of industry in Uganda. Each focus group comprised 6 to 10 participants. Note taking was adopted for recording the responses of the participants in each of the interviews (McNamara 2006). The NVIVO computer programme was used for qualitative data analysis (QDA) during which the data were coded and remarks made in the respective memos for further analysis (Collis & Hussey 2009:168). Informal methods of quantifying qualitative data were also used (Collis & Hussey 2009:164). As the data was not too large to warrant content analysis, informal methods were used to count the frequencies of the occurrence of the phenomenon of interest as elaborated in Chapter Seven. Copies of the users' and providers' interviews appear in appendices C and D.

5.8 SUMMARY AND CONCLUSIONS

Given the third and the fourth secondary research objectives in Section 1.6.2 of Chapter One, the design of the research instruments and focus group interviews used in this research was based on secondary sources. The Likert-type five-point interval measuring scale was adopted for sourcing quantitative data, as it met the statistical data analysis requirements for this research. Secondly, standardised open-ended focus group interviews were adopted for sourcing qualitative primary from users and providers in the mobile telephone service branch of industry in Uganda. Thirdly, the pilot tests of the instruments yielded favourable results in terms of Cronbach's alpha reliability coefficients of over 0.69 for providers, 0.9

for users' Panel A and 0.80 for users' Panel B. Fourthly, these reliability findings provided a clear signal to proceed with the research. As methodological triangulation was adopted for this research, qualitative data was collected to supplement the quantitative findings hence the use of focus group interviews for this purpose.

Fifthly, the target populations and the sampling units were appropriately identified. Because of the privacy policy restrictions, only providers' sampling frames were accessible. To bypass this limitation, a location survey was used as alternative for generating the users' sub-sample. The inaccessibility of the users' sampling frames necessitated the use of area sampling for the quantitative part of the study since it does not depend on sampling frames. Due to financial limitations, providers were also sampled from the same location survey areas. The suitability of the sampling design was described in Chapter Two. For the quantitative part of the study, a minimum of 200 was required for users' and 150 for providers. The response rates were 262 users' questionnaires and 195 providers' questionnaires which were above the minimum required sample sizes for this research on service quality perceptions by users and providers in the mobile telephone branch of industry in Uganda. For the qualitative part of the study, three focus groups of users and three of providers each comprising 6 to 10 participants were used. Chapter Six reports the empirical results from analysis of quantitative primary data.

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CHAPTER SIX

DATA ANALYSIS AND EMPIRICAL RESULTS

6.1 INTRODUCTION

This Chapter reports the empirical results from the quantitative data analysis of this study. More specifically, effect is given to the fifth and sixth secondary research objectives as stated in Section 1.5.2 of Chapter One namely, to statistically analyse the primary data. Further, the objective was to test the four sets of hypotheses as depicted in Figures 1.2, 1.3, and 1.4 of Section 1.4 of Chapter One. This chapter presents research findings on the statistical analysis.

6.2 DATA INSPECTION AND PHASES OF DATA ANALYSIS

As reported in Chapter Five, 262 users' questionnaires and 195 providers' questionnaires, that were suitable for statistical analysis, were returned.

The statistical analysis of the quantitative data comprised five distinct phases. Firstly, the data was subjected to a confirmatory factor analysis (CFA) to verify the construct and nomological validity of the pre-specified (predicted) variables (Norušis 2006, 2007; Schumacker & Lomax 2004). Secondly, the reliability (internal consistency) of the research instrument was assessed by means of Cronbach alpha reliability coefficients (Leedy & Ormrod 2005:26-27; Cooper & Schindler 2003:227-228). This phase was followed by multiple linear regression analyses, goodness-of-fit tests and finally, a paired samples t-test. (Blumberg *et al.* 2005:664; Zikmund 2003:524).

6.3 STATISTICAL PROCEDURES

6.3.1 Factor analysis

Firstly, the question was posed on what is factor analysis and what are the key concepts of factor analysis. Thereafter followed a clear motivation on why confirmatory factor analysis (CFA) procedures were adopted for this research.

Factor analysis was used for the general purpose of reducing a set of variables to a more manageable, yet informative, set. It had the general goal of identifying a set of underlying dimensions in a data set that captures most information and yet retains interpretability and ease of use (Hair *et al.* 1998:90).

By means of a factor analysis it is possible to uncover the latent structure (dimensions) of a set of variables, for example for the research in question, all the variables of the hypothetical model. A factor analysis reduces attribute space from a larger number of variables to a smaller number of factors and as such is a "non-dependent" procedure (that is, it does not assume that a dependent variable is specified). Factor analyses could *inter alia* be used for any of the following purposes (Norušis 2006, 2007; Schumacker & Lomax 2004):

- to reduce a large number of variables to a smaller number of factors for modeling purposes, where the large number of variables precludes modeling of all the measures individually;
- to select a subset of variables from a large set based on which original variables have the highest correlations with the principle component factors;
- to select the factors to be treated as uncorrelated variables as one approach to handling multi-co-linearity in such procedures as multiple regression; and
- to validate a scale or index by demonstrating that its constituent items load on the same factor, and to drop proposed scale items which cross-load on more than one factor.

The purpose of validating a scale as listed in the last bullet above is of great importance for the research in question, because literature clearly prescribes the variables pertaining to the expected and actual service quality.

There are several different types of factor analysis, with the most common being exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

- *Exploratory factor analysis* (EFA) seeks to uncover the underlying structure of a relatively large set of variables. The researcher's *à priori* assumption is that any indicator may be associated with any factor. This is the most common form of factor analysis. In this case there is no prior theory and researchers use factor loadings to discern the factor structure of the data (Cooper & Schindler 2003:486; Hair *et al.* 1998:580).

- *Confirmatory factor analysis* (CFA) is intrinsically linked to structural equation modeling (SEM). SEM is based on two distinct phases, namely validation of the measurement instrument and secondly, fitting the structural model (Norušis 2006, 2007; Schumacker & Lomax 2004). Validation of the model is accomplished through confirmatory factor analysis (Kline 2005). Confirmatory factor analysis seeks to determine if the number of factors and the loadings of measured variables conform to what is expected on the basis of pre-established theory (Cooper & Schindler 2003:487,627; Hair *et al.* 1998:578-579). Contextualised to the research in question, the objective is to ascertain if the variables sourced from prior theory and research literature conform to the empirical data. Research variables pertaining to service quality in the Ugandan mobile telephone industry, were identified on the basis of prior theory (literature searches and prior empirical findings) and confirmatory factor analysis is used to establish if the identified variables load as predicted on the pre-specified number of factors.

  The researcher's *a priori* assumption is that each factor and the number of labels (names for the factors) which are specified beforehand are associated with a specified subset of independent variables. A minimum requirement of confirmatory factor analysis is that researchers hypothesise beforehand the number of factors in the hypothetical model, but usually also a researcher will posit expectations about which variables will load on which factors (Kim & Muller 1978b:55). Contextualised to the research in question, the researcher seeks to determine, for instance, if measures created to present a latent variable (such as Ugandan mobile telephone users' expectations and service quality as designed by mobile telephone providers) really belong together in the same hypothetical construct.

  Confirmatory factor analysis will be done by using the computer programme SPSS 17.0. For confirmatory factor analysis (CFA) in structural equation modeling, researchers are advised to use principle factor analysis rather than principle components analysis for the type of factoring (Cooper & Schindler 2003:635; Hair *et al.* 1998:590; Norušis 2006, 2007; Schumacker & Lomax 2004:212). Principal factor analysis is a form of factor analysis which seeks the least number of factors which can account for the variance explained of a set of variables. This method allows the researcher to

examine factor loadings of research variables to determine if they load on factors as predicted (pre-specified) by the researcher's hypothetical models.

The traditional method of confirmatory factor analysis was adopted for this research. The approach as described above reflects the first phase of data analysis. Previous empirical research (Kouthouris & Alexandris 2005:101-111; Lee & Chen 2006:301-306; Tsang & Qu 2000:316-326; Saleh & Ryan 1991:324-343; Green & Boshoff 2002:2-16) supplemented with an extensive analysis of secondary sources, provides ample support for the structure of the hypothetical models which will be subjected to confirmatory factor analysis procedures. In confirmatory factor analysis, the researcher's prior knowledge is clear about what the measures imply, and the objective is to test propositions, such as whether the factor structure of a measure, for example, word of mouth and past experience, are the same as they were contextualised in literature.

Confirmatory factor analysis (CFA) was used within the structural equation modeling (SEM) framework to validate (confirm) the hypothetical model.

6.3.2 Validity of research instrument

As previously mentioned, structural equation modeling (SEM) is a statistical technique that can be used for testing and estimating relationships in a hypothetical model. Since SEM is a confirmatory approach, the validation of the measuring instrument is of prime importance (Bollen 2002:605-634; Kline 2005).

The first phase of the data analysis entailed an assessment of the validity of the research instrument. The validity of a research instrument refers to the extent to which a measure or set of measures correctly represents the concept of study. Validity is therefore concerned with how well the concept is defined by the measure(s) (Hair *et al.* 1998:90).

As stated previously, two main types of validity have been identified to be relevant to this research when using a confirmatory factor analysis, namely construct and nomological validity. As proposed by Norušis (2006, 2007), Schumacker and Lomax (2004) and Hair *et al.* (1998), construct validity splits into two subcomponents, namely

convergent and discriminant validity. For the sake of ease of reading, the core definition of each type of validity will be repeated.

- *Construct validity* has to do with the logic of items which comprise measures of concepts like Ugandan users of mobile phones perceived service quality and satisfaction.
- *Convergent validity*, a subtype of construct validity, occurs when several variables deemed to measure the same construct correlate with each other (like those which impact on Ugandan mobile telephone users' perceived service quality and satisfaction).
- *Discriminant validity*, the second subtype of construct validity, refers to the requirement that two conceptually similar concepts are distinct.
- *Nomological validity* is achieved when the summated scale reflects accurate predictions of other concepts in a theoretically based model.

The technique of principle factor analysis is preferred for the purpose of CFA in SEM (Norušis 2006, 2007; Schumacker & Lomax 2004).

An unanswered question is how a confirmatory factor analysis is related to validity. Pattern coefficients, also referred to as factor loadings, factor pattern coefficients, or validity coefficients of the confirmatory factor analysis, need to be interpreted (Schumacker & Lomax 2004:212). In a confirmatory factor analysis, a finding that items have high factor loading on the predicted (pre-specified) factors indicates proof of convergent validity. By convention the pattern coefficients should have loadings of 0.7 or higher to demonstrate acceptable validity (Schumacker & Lomax 2004:212). In an oblique rotation, discriminate validity is demonstrated if the correlation (ρ) between factors is lower than 0.85, should $\rho \geq 0.85$ it may lead to the conclusion that the two factors overlap conceptually (Norušis 2006, 2007; Schumacker & Lomax 2004:212).

6.3.3 Reliability of research instrument

As explained earlier, reliability is concerned with the credibility of the research findings. In this research, Cronbach alpha reliability coefficients were used to assess the internal consistency of the entire scale. This phase of the data analysis focused on the assessment of the reliability (internal consistency) of the research instrument. For each

pre-specified factor the Cronbach alpha reliability coefficients of the research instrument were computed.

As previously mentioned in Chapter Two, the generally agreed lower limit for Cronbach's alpha reliability coefficients is 0.70, even though the requirement may be lowered to 0.60 in the case of exploratory research (Hair *et al.* 1998:118). Generally speaking, reliability coefficients lower than 0.60 are deemed to be questionable; those close to 0.70 as acceptable; and coefficients larger than 0.80 as good (Bernardi 1994:767; Sekaran 1992:174, 284, 287).

6.3.4 Methods of model specification and estimation

For a well specified model, each of the independent variables needs to have a minimum of three statements (scale items) with factor loadings (pattern coefficients) of ≥ 0.70 to be considered for further analysis. Given that each independent variable in this research had five scale items, the factors should collectively have at least three of the five scale items to reflect good model estimation. Failure to meet this minimum condition implies poor specification and estimation of the parameters in the observed data and such a scale item will not be used to determine a variable to include in the empirical model.

6.3.5 The model's goodness-of-fit

The goodness-of-fit tests determine if the model being tested should be accepted or rejected. However, these overall tests do not establish that particular paths within the model are significant. It is important to note that only when the model is accepted can the researcher proceed to interpret the path coefficients in the model because 'significant' paths coefficients in poor fit models are not meaningful. Goodness-of-fit tests were performed for the users' and providers' hypothetical models in Figures 1.2 and 1.3 of Chapter One.

6.3.6 Multiple linear regression analysis

Multiple regressions enable a researcher to establish if a set of independent variables do explain a proportion of the variance in a dependent variable at a significant level (through a significance test of R^2) (Norušis 2006, 2007; Schumacker & Lomax 2004).

Multiple linear regression analysis is an extension of bivariate regression analysis, which allows for the simultaneous investigation of the effect of two or more independent variables on a single interval-scaled or ratio-scaled dependent variable (Norušis 2006, 2007; Schumacker & Lomax 2004; Blumberg *et al.* 2005:743; Zikmund 2003:576).

In this research, multiple linear regression analysis were performed to firstly, assess whether the identified seven independent variables impacted on service quality rendered to users of mobile phones in Uganda. Secondly, was to assess whether the identified five independent variables impacted on service quality, as designed by the providers of mobile telephone services in Uganda.

- **First set of hypotheses (users): Impact of the independent variables on the dependent variable (service quality).**

- $H_{1.1}$: *"Word-of-mouth" from other mobile telephone users influences "service quality" of mobile telephone users.*
- $H_{1.2}$: *"Comprehensive business environments" influences "service quality "of mobile telephone users.*
- $H_{1.3}$: *"Basic communication needs" of mobile telephone users influence "service quality" of mobile telephone users.*
- $H_{1.4}$: *"Relationship marketing" influences "service quality" of mobile telephone users.*
- $H_{1.5}$: *"Knowledge levels" of mobile telephone users influences "service quality" of mobile telephone users.*
- $H_{1.6}$: *"Providers" perceptions of user expectations" influences "service quality" of mobile telephone users.*
- $H_{1.7}$: *"Past experience" with mobile telephone service influences "service quality" of mobile telephone users.*

- **Second set of hypotheses (providers): Impact of the independent variables on the providers' designed service quality.**

- $H_{2.1}$: *"User expectations" awareness influences "service quality as designed" by mobile telephone providers.*

- $H_{2.2}$: *"Marketing research" influences "service quality as designed" by mobile telephone providers.*
- $H_{2.3}$: *"Provider organisational structure" influences on "service quality as designed" by mobile telephone providers.*
- $H_{2.4}$: *"Relationship marketing (interaction between providers and users)" influences "service quality as designed" by mobile telephone providers.*
- $H_{2.5}$: *"Providers" perceptions of users" needs" influences "service quality as designed" by mobile telephone service providers.*

6.3.7 T-tests

Two t-tests were performed namely a paired samples t-tests to establish whether a disparity existed between mobile telephone users' expected and actual service quality, and an independent samples t-test to establish whether a disparity existed between users' expectations and providers' perceptions of users' expectations of the designed service in the mobile telephone branch of industry in Uganda.

- **Third set of hypotheses (users): Potential disparity between expectations and perceptions of actual service quality of mobile telephone services in Uganda**

  - $H_{3.0}$: *There are no disparities between "expected" and "actual" mobile telephone service to users.*
  - $H_{3.A}$: *There are disparities between "expected" and "actual" mobile telephone service quality to users.*

- **Fourth set of hypotheses (providers): Potential disparity between expected service quality and service quality as designed by providers of mobile telephone services in Uganda.**

  - $H_{4.0}$: *There is no disparity between users' "expected service quality" and service quality as designed" by providers in the mobile telephone services branch of industry in Uganda.*

  - $H_{4.A}$: *There are disparities amongst users' "expected service quality" and "service quality as designed" by providers in the mobile telephone services branch of industry in Uganda.*

6.3.8 Paired samples t-tests and independent samples t-tests

A pair-wise t-test was performed for users" Gap 5 and an independent t-test for the providers' Gap 1. The threshold value of ≥ 0.5 was adopted for both users' and providers' Gap 5 and Gap 1 respectively. Empirical results for CFA, multiple regression, goodness-of-fit tests, the paired samples t-test and an independent samples t-test follow next.

6.4 EMPIRICAL FINDINGS

6.4.1 Findings on confirmatory factor analysis (CFA) of users' expected service quality

The confirmatory factor matrix for users' expected service quality based on the minimum pattern coefficient (factor loading) threshold value of 0.7 appears in Table 6.1. The pattern coefficients (factor loadings) represent the correlation coefficients between the variables (rows) and factors (columns). See Annexure I for the statements (items).

The challenge is to interpret the pattern coefficients (factor loadings) worth considering. Hair *et al.* (2003) provide a rule of thumb as an approach for making a preliminary assessment of the factor matrix. Factor loadings larger than 0.30 are considered to meet just the minimum level; loadings of approximately 0.40 are considered more important; and loadings of 0.50 or greater are considered as practically significant. For assessing the validity of the measuring instrument when doing a confirmatory factor analysis, it was stated that the pattern coefficients must be 0.70 or higher (Schumacker & Lomax 2004:212). Therefore the larger the absolute size of the pattern coefficients, the more important the loading when interpreting the confirmatory factor matrix.

Table 6.1 shows that the factor "past experience" had only one item which loaded on it, while the factor "basic communication needs" had none. By convention a factor needs to have one or more loadings for inclusion in the regression analysis.

TABLE 6.1: Confirmatory factor analysis – users' expected service quality

ITEMS	Word of mouth	Service Environment	Relationship marketing	Knowledge Levels	Providers' perceptions of users' needs	Past experience
A1	0.714					
A2	0.739					
A3	0.814					
A4	0.828					
B2		0.789				
B3		0.824				
B4		0.748				
B5		0.770				
D1			0.759			
D2			0.785			
D3			0.793			
D4			0.813			
E1				0.729		
E2				0.801		
E3				0.770		
E4				0.751		
G3					0.723	
G4					0.778	
G5					0.863	
H5						0.762

Loadings ≥ than 0.7 were considered significant

TABLE 6.2: Variance explained, Eigen values and Cronbach's alpha

	Word-of-mouth	Service environment	Relationship marketing	Knowledge levels	Providers' perceptions: of users' needs	Past experience
Variance explained	57.57	58.15	59.43	55.11	57.55	36.43
Eigen values	2.87	2.9	2.98	2.76	2.88	1.82
Cronbach's alphas	0.927	0.927	0.926	0.927	0.925	0.927

The values of the Cronbach's alpha reliability coefficients in Table 6.2 indicate that they are all greater than 0.9 which reflects good internal consistency of the scale items in the users' research instrument that assessed their expectations of mobile telephone service quality. The construct validity of the scales may be regarded as good. Table 6.2 also shows that Eigen values were ≥ 1, indicating the variance the independent variables

exerted on the dependent variable. Table 6.2 also indicates that except for the variables "past experience" with a variance explained of 36.43 per cent and "basic communication needs" which were not significant, the variance explained in the dependent variable by the other five independent variables ranges between 55 to 59 per cent. By convention, independent variables require to explain 50 per cent variance or more of the dependent variable to be included in the specified model. Except for the variable "past experience" that explained only 36.4 per cent of the variance in the dependent variable, which is below the threshold value of 50 per cent, the balance of the independent variables explained more than 50 per cent of the variance in the dependent variable. The results show that the variance in the dependent variable was adequately explained by the six independent variables.

Table 6.2 further shows the magnitude of the variance in the dependent variable each item of the independent variable explained.

Some scale items were below the threshold value for inclusion in the pattern coefficients. The fact that half the scale items did not obtain significant factor loadings, indicate a model specification problem with regard to users' expectations of service quality. The independent variable 'basic communication needs' did not show any item-loading, while 'past experience' obtained only one item-loading. Notwithstanding the five independent variables with three or more item-loadings, the results disconfirm the researchers' hypothetical model (see Figure 1.2 in Chapter One) on expectation scores. This implies that the hypothetical model (Figure 1.2) in Chapter One could not be confirmed by means of confirmatory factor analysis.

6.4.2 Findings on confirmatory factor analysis (CFA) of users' actual service quality

For the confirmatory factor analysis pertaining to users' actual service quality, the same procedure was followed. Table 6.3 shows the CFA matrix for users' actual service with the pattern coefficients (factor loadings) that represent the correlation coefficients between the variables (rows) and factors (columns). As was the case for users' expectations scores, some independent variables had only two items which loaded. The same factor loading threshold value of ≥ 0.7 was applied in the CFA for users' actual service quality.

TABLE 6.3: Confirmatory factor analysis – users' actual service quality

ITEMS	Word-of-mouth	Service Environment	Basic Communication	Relationship marketing	Knowledge Levels	Providers' perceptions	Past experience
A2	0.908						
A3	0.752						
A4	0.805						
A5	1.295						
B1		0.734					
B2		1.001					
B3		0.722					
B4		0.790					
C1			0.776				
C2			0.864				
C3			0.734				
D1				1.055			
D2				0.723			
D3				0.784			
E2					1.098		
E3					0.715		
E4					0.798		
F1						0.838	
G1							0.968
G2							0.810
G3							0.916

Loadings ≥ 0.7 were considered significant

From Table 6.3 it is clear that except for the variable "providers' perceptions of users' expectations" where only one item loaded, the other six independent variables obtained three or more item-loadings, thus meeting the minimum requirements to be included in the regression analysis. However, except for the variables 'basic communication needs' and 'providers' perceptions of users' that had one item-loading, the other five variables each obtained two item-loadings. It should be noted that given the good Cronbach's alphas, the variance explained in the dependent variable by each factor was low ranging between 38 and 61 per cent.

TABLE 6.4: Variance explained, Eigen values and Cronbach's alpha

	Word-of-mouth	Service Environment	Basic Communication	Relationship marketing	Knowledge Levels	Providers' perceptions	Past experience
Variance explained	61.11	60.51	38.30	60.37	57.41	39.05	59.35
Eigen values	3.93	3.01	2.31	3.14	2.97	2.01	3.23
Cronbach's alpha	0.821	0.806	0.807	0.813	0.816	0.803	0.808

The highest variance explained was obtained by the variable 'word-of-mouth communication' (61 %) and the lowest variance explained by "basic communication needs" (38 %). According to secondary sources, variance explained in the dependent should be ≥ 5o per cent. The Eigen values ≥1 that accounted for the proportion of the explained variance have been indicated in Table 6.4. The Cronbach's alpha scores of ≥ 0.8 showed good internal consistency of the scale items.

As reflected in the CFA for actual service quality, certain service quality dimensions were not understood by the users in evaluating mobile telephone services.

In conclusion, despite the good Cronbach's alpha reliability coefficients for users' "expected" and "actual" service quality, the scale items that scored loadings ≥ 0.7 explained low variances in the dependent variable. The results both on expectations and actual service scores indicate a poor model specification. As stated, this implies that the users' hypothetical model in Figure 1.2 in Chapter One is disconfirmed.

6.4.3 Findings on confirmatory factor analysis (CFA) of providers' designed service quality

Table 6.5 contains findings on a confirmatory factor analysis (CFA) for the providers' designed service quality. As motivated for users' "expected" and "actual" service quality, CFA for the providers' designed service quality was based on factor loadings of ≥ 0.7. The CFA factor matrix for providers' designed service quality in Table 6.5 shows the pattern coefficients (factor loadings) representing the correlation coefficients between the variables (rows) and factors (columns).

TABLE 6.5: Confirmatory factor analysis – providers' designed service

ITEM	Clients' Expectations	Marketing Research	Organisation structure	Relationship marketing	Perceptions of clients' needs
A1	0.822				
A2	0.762				
A3	0.799				
A4	0.850				
B1		0.760			
B2		0.786			
B3		0.737			
B4		0.763			
C1			0.789		
C2			0.915		
D1				0.728	
D2				0.703	
D3				0.858	
E5					0.716

Loadings ≥ than 0.7 were considered significant

As was motivated for the users' model hypothetical model, the providers' model specification requires that a variable must obtain three or more item-loadings of ≥ 0.7 in order to be included in the empirical model. Table 6.5 shows that three of the five independent variables met the minimum requirement of three or more item-loadings to be considered for further analysis namely 'clients' expectations', 'marketing research', and 'relationship marketing'. The variables organisation structure' and 'perceptions of clients' needs' did not meet the minimum requirement of three item-loadings of ≥ 0.7. The findings imply that the providers' hypothetical model in Figure 1.3 in Chapter One is not well specified.

The findings on Cronbach's alpha reliability coefficients in Table 6.6 indicate that except for the variable "marketing research findings" with an alpha value of 0.703, all the other variables scored alpha values of less than 0.70. The alpha values reflect weak internal consistency of the scale items in the providers' research instrument which also reflects poor construct reliability. Table 6.6 also shows Eigen values ≥ 1 which indicate the proportion of the variance explained in the dependent variable. Further, Table 6.6 indicates the explained variance between 44 and 60 per cent for each independent variable.

TABLE 6.6 Variance explained, Eigen values and Cronbach's alpha

	Clients' Expectations	Marketing Research	Organisation structure	Relationship marketing	Perceptions of clients' needs
Variance explained	60.91	54.94	57.91	54.81	44.01
Eigen values	3.04	2.75	2.9	2.75	2.20
Cronbach's alpha	0.694	0.703	0.688	0.692	0.676

6.4.4 Findings on multiple regression

Empirical evidence is available to motivate why "actual experience" scales are the most applicable to assess service quality (Cronin & Taylor 1992:64; Babakus & Boller 1992: 253-268; Boulding, Kalra, Staelin & Zeithaml 1993:24). On the basis of the aforementioned, only the "actual experiences" scales were used in the multiple regression analysis.

TABLE 6.7: Regression weights for the users' estimated model

Parameters	Estimate	Standard error of estimates	t-value	P
Word-of-mouth	-0.500	0.169	-2.960	0.003***
Business environment	0.756	0.169	4.476	0.000***
Basic communication skills	0.430	0.169	2.547	0.011**
Relationship marketing	0.292	0.169	1.728	0.084**
Knowledge levels	0.292	0.169	1.732	0.083**
Providers' perceptions	0.173	0.169	1.024	0.306
Past experience	0.841	0.169	4.983	0.000***

*** = $p < 0.01$ ** = $p < 0.1$

With reference to Table 6.7, the hypotheses will be tested.

- **Testing of hypotheses (users)**

- $H_{1.1}$: *"Word-of-mouth" from other mobile telephone users influences "service quality" of mobile telephone users.*

A statistically significant negative relationship between "word of mouth" and "service quality" of mobile users ($p < 0.01$) was found. $H_{1.1}$ is not rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 99 per cent level of significance to support the alternative (directional) hypothesis.

- $H_{1.2}$: *"Comprehensive business environments" influences "service quality "of mobile telephone users.*

A statistically significant positive relationship between "comprehensive business environments" and "service quality" of mobile users ($p < 0.01$)is reported. $H_{1.2}$ is not rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 99 per cent level of significance to support the alternative (directional) hypothesis.

- $H_{1.3}$: *"Basic communication needs" of mobile telephone users influence "service quality" of mobile telephone users.*

A statistically significant positive relationship between "basic communication needs" and "service quality" of mobile users ($p < 0.1$) was found. $H_{1.3}$ is not rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 90 per cent level of significance to support the alternative (directional) hypothesis.

- $H_{1.4}$: *"Relationship marketing" influences "service quality" of mobile telephone users.*

A statistically significant positive relationship between "relationship marketing" and "service quality" of mobile users ($p < 0.1$) was found. $H_{1.4}$ is not rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 90 per cent level of significance to support the alternative (directional) hypothesis.

- $H_{1.5}$: *"Knowledge levels" of mobile telephone users influences "service quality" of mobile telephone users.*

A statistically significant positive relationship between "knowledge levels" and "service quality" of mobile users ($p < 0.1$) was reported. $H_{1.5}$ is not rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 90 per cent level of significance to support the alternative (directional) hypothesis.

- $H_{1.6}$: *"Providers" perceptions of user expectations' influences "service quality" of mobile telephone users.*

No statistically significant relationship was found between "providers" perceptions of user expectations' and "service quality" of mobile users ($p < 0.1$). $H_{1.6}$ is rejected. Therefore, the null hypothesis is not rejected. There is thus insufficient evidence to support the alternative (directional) hypothesis.

- $H_{1.7}$: *"Past experience" with mobile telephone service influences "service quality" of mobile telephone users.*

A statistically significant positive relationship between "past experience" and "service quality" of mobile users ($p < 0.01$) was reported. $H_{1.7}$ is not rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 99 per cent level of significance to support the alternative (directional) hypothesis.

- **Testing of hypotheses (providers)**

Table 6.8 shows the regression values for the providers' model. Interpreting the values of Table 6.8, the relevant hypotheses can now be tested.

- $H_{2.1}$: *"User expectations" awareness influences "service quality as designed" by mobile telephone providers.*

Table 6.8 reveals that there is no statistically significant relationship between "user expectations" and "service quality as designed" by mobile telephone providers. $H_{2.1}$ is

rejected. Therefore, the null hypothesis is not rejected. There is thus insufficient evidence to support the alternative (directional) hypothesis.

TABLE 6.8: Regression weights for the estimated providers' model

Parameters	Estimate	Standard error of estimates	t-value	P
User expectations	0.180	0.141	1.276	0.202
Marketing research findings	0.107	0.141	0.758	0.449
Providers' organisation structure	0.755	0.141	5.356	0.000***
Relationship marketing	0.486	0.141	3.443	0.000***
Providers' perceptions of users' needs	0.594	0.141	4.206	0.000***

*** = $p < 0.01$

- $H_{2.2}$: *"Marketing research" influences "service quality as designed" by mobile telephone providers.*

A statistically significant relationship between "marketing research" and "service quality as designed" by mobile telephone providers could be found. $H_{2.2}$ is rejected. Therefore, the null hypothesis is not rejected. There is thus insufficient evidence to support the alternative (directional) hypothesis.

- $H_{2.3}$: *"Provider organisational structure" influences on "service quality as designed" by mobile telephone providers.*

Table 6.8 reports a statistically significant positive relationship between "provider organisational structure" and "service quality as designed" by mobile providers ($p < 0.01$). $H_{2.3}$ is not rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 99 per cent level of significance to support the alternative (directional) hypothesis.

- $H_{2.4}$: *"Relationship marketing (interaction between providers and users)" influences "service quality as designed" by mobile telephone providers.*

Table 6.8 indicates a statistically significant positive relationship between "relationship marketing" and "service quality as designed" by mobile providers ($p < 0.01$). $H_{2.4}$ is not rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 99 per cent level of significance to support the alternative (directional) hypothesis.

- $H_{2.5:}$ *"Providers" perceptions of users' needs' influences "service quality as designed" by mobile telephone service providers.*

A statistically significant positive relationship between "providers" perceptions of users' needs' and "service quality as designed" by mobile providers ($p < 0.01$) was found. $H_{2.5}$ is not rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 99 per cent level of significance to support the alternative (directional) hypothesis.

- **Third set of hypotheses (users): Potential disparity between expectations and perceptions of actual service quality of mobile telephone services in Uganda**

- $H_{3.0:}$ *There are no disparities between "expected" and "actual" mobile telephone service to users.*

Table 6.9 reveals that there is no significant relationship between "expected" and "actual" mobile telephone service to users ($p < 0.05$). $H_{3.0}$ is not rejected. Therefore, the alternative (directional) hypothesis is rejected. There is thus sufficient evidence at the 95 per cent level of significance to support the null hypothesis.

To establish whether a disparity existed between expected and actual service quality of users of mobile telephone services in the branch of industry in Uganda, a paired samples T-test was performed.

6.4.5 Paired samples T-test

Equal variances were assumed for this t-test due to pooled estimates of variance of scores from the same respondents for the two service quality perceptions. The paired samples statistics indicate that the means are 18.75 (expected service) and 18.82 (actual service) with a mean difference of -0.0725 and significance of 0.74. Given that the

threshold value for significance is ≤ 0.05, the t-test results in Table 6.9 indicate that disparity between users' expected and actual service quality (users' Gap 5) in the mobile telephone branch of industry in Uganda is not significant as illustrated in Figure 6.1.

TABLE 6.9: Paired samples t-test between users' expected and actual service

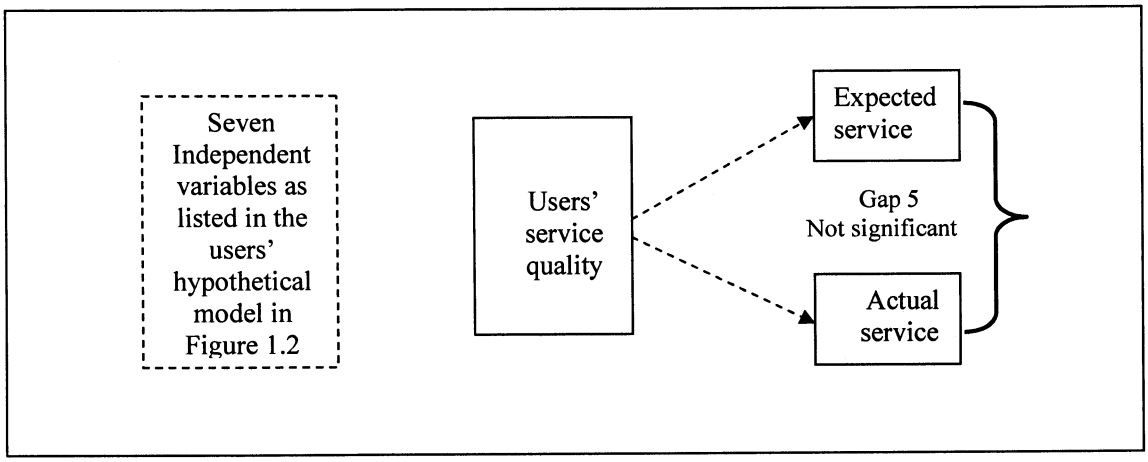
	Paired differences					T	df	Sig. (2-tailed)
	Mean	Standard Deviation	Std. Error mean	95% Confidence interval of the difference				
				Lower	Upper			
EXPECTED ACTUAL	-0.0725	3.63	0.224	-0.514	0.369	-0.32	261	0.747

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error mean
EXPECTED ACTUAL	HA_SERV	18.7519	262	3.4100	0.2107
	HB_SERV	18.8244	262	3.4552	0.2135

Significance level ≤ 0.05

FIGURE 6.1: Paired samples t-test results on users' Gap 5



This result implies that mobile telephone users in Uganda do not perceive a difference between the services they expected and the actual service rendered by their service providers.

- **Fourth set of hypotheses (providers): Potential disparity between expected service quality and service quality as designed by providers of mobile telephone services in Uganda.**

- $H_{4.0}$: *There is no disparity between users' "expected service quality" and "service quality as designed" by providers in the mobile telephone services branch of industry in Uganda.*

Table 6.10 reports a significant disparity between users' "expected service quality" and "service quality as designed" by mobile providers ($p < 0.05$). $H_{4.0}$ is rejected. Therefore, the null hypothesis is rejected. There is thus sufficient evidence at the 95 per cent level of significance to support the alternative (directional) hypothesis.

6.4.6 Independent samples t-test

To establish whether a disparity existed between users' expectations of the designed service and providers' perceptions of the users' expectations of the designed (providers' Gap 1), an independent samples t-test was performed. The test was based on unequal variance assumption since the data came from two different samples. The group statistics indicated that the mean for the users' expectations sample of 262 respondents was 18.7519 and the providers' perceptions of users' expectation sample of 195 respondents 21.0462. The mean difference for users' equal variances assumed sample was -2.2942 with a t-value of -8.038; and for the providers' equal variance not assumed sample was -2.2942 with a t-value of -8.452. The significance column indicated that both means were significant at the 99 per cent level. This result implies that a disparity exists between users' expectations and providers' perceptions of the users' expectations i.e. the providers' Gap 1 exists between users' expectations and providers' perceptions of the users' expectations in the mobile telephone service branch of industry in Uganda.

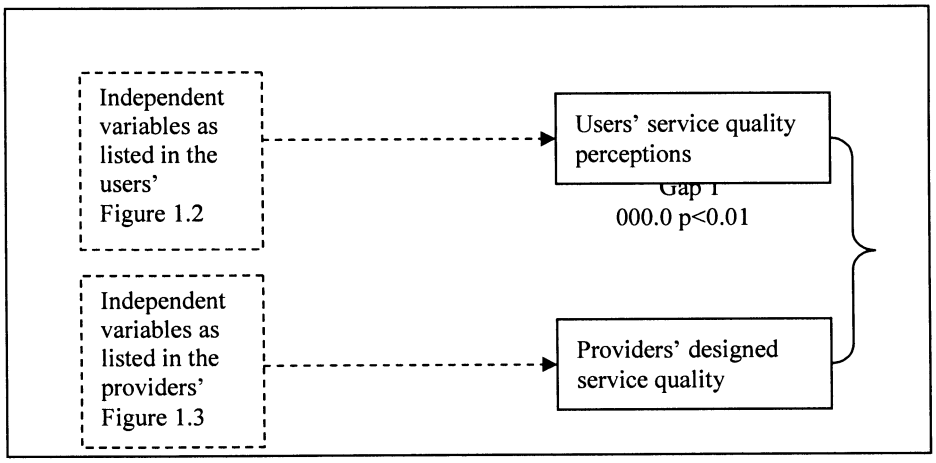
TABLE 6.10: Independent samples t-test results

	T-test for Equality of Means						
	t	Df	Sig.(2-Tailed)	Mean Difference	Std. Error Difference	95% Confidence interval of the difference	
						Lower	Upper
HA-SERV							
Equal variances assumed	-8.038	455	0.000	-2.2942	0.2854	-2.8551	-1.733
Equal variances not assumed	-8.452	453	0.000	-2.2942	0.2715	-2.8277	-1.760

Group Statistics					
		N	Mean	Std. Deviation	Std. Error Mean
Providers	User	262	18.7519	3.4100	0.2107
	Provider	195	21.0462	2.3905	0.1712

Significance level ≤0.05

FIGURE 6.2: Independent samples T-test results on providers' Gap 1



The difference in the means implies that users expect less from the providers while providers think they are offering more than users expect to receive. The t-values for both samples' variances are greater than the threshold value of ≥ 2 further confirming the existence of Gap 1. Further, the difference reflects providers' failure to understand their clients' expectations as depicted in Figure 6.2.

6.4.7 Goodness-of-fit of the users' model

A Root Mean Square Error of Approximation (RMSEA) test gave results as indicated in Table 6.11. By convention, good models have an RMSEA of ≤ 0.05. Models whose RMSEA is ≥0.10 have a poor fit. However, RMSEA can be misleading for small degrees of freedom and small samples. This disadvantage does not apply in this research since the users' sub-sample of 262 respondents was not small. From the results

in Table 6.11, it is clear that RMSEA for the users' estimated (default) model is 0.254 which implies that the hypothetical model (Figure 1.2 in Chapter One) could not be confirmed.

TABLE 6.11: Root Mean Square Error of Approximation (RMSEA) test

Model	**RMSEA**	LO 90	HI 90	PCLOSE
Default model	**0.254**	0.237	0.272	0.000
Independence model	**0.247**	0.232	0.262	0.000

6.4.8 Goodness-of-fit of the providers' model

A Root Mean Square Error of Approximation (RMSEA) test gave results as indicated in Table 6.12. As stated earlier, good models have an RMSEA of ≤ 0.05. Models whose RMSEA is ≥ 0.10 have a poor fit. However, RMSEA can be misleading for small degrees of freedom and small samples. This disadvantage does not apply in this research since the providers' sub-sample of 195 respondents was not small. From the results in Table 6.12, it is clear that RMSEA for the providers' estimated (default) model is 0.133 which implies that the model (Figure 1.3 in Chapter One) could not be confirmed.

TABLE 6.12: Root Mean Square Error of Approximation (RMSEA) test

Model	**RMSEA**	LO 90	HI 90	PCLOSE
Default model	**0.133**	0.109	0.157	0.000
Independence model	**0.133**	0.114	0.152	0.000

6.5 FINDINGS ON BIOGRAPHIC DATA

6.4.9 Findings on users' biographic data

(a) Providers' Network connected to

Table 6.13 indicates how the respondents were connected to the four mobile telephone networks (2008). In terms of loyal customers, the table shows that 117 users or 44.7 per cent were connected to MTN alone, 42 users or 16 per cent to UTL alone, 36 users or 13.7 per cent to ZAIN alone, and 24 users or 9.2 per cent to WARID alone.

TABLE 6.13: Networks in Uganda

	Frequency	Per cent
MTN	117	44.7
UTL	42	16.0
ZAIN	36	13.7
WARID	24	9.2
All	18	6.9
MTN and ZAIN	16	6.1
MTN and WARID	1	0.4
MTN,UTL and ZAIN	2	0.8
UTL and ZAIN	4	0.8
MTN and UTL	4	1.5
Total	**262**	**100.0**

The results indicate that MTN has the largest customer base and is therefore the market leader in the mobile telephone branch of industry in Uganda.

(b) Brand name of current mobile telephone handset

The frequencies in Table 6.14 indicate that of 262 respondents, 160 (61.3 per cent) of the respondents use the Nokia brand; 49 (18.8 per cent) use Motorola; 23 (8.8 per cent) Erickson; and 29 (11.1 per cent) other brands while one respondent did not indicate the brand used. The frequencies indicate that the Nokia brand is used by most users in the branch of industry in Uganda.

TABLE 6.14: Brand name of handset

	Frequency	Per cent
Nokia	160	61.1
Motorola	49	18.7
Erickson	23	8.8
Any other brand	29	11.1
Total	261	99.6
Not indicated	1	0.4
Total	**262**	**100.0**

(c) Gender

Table 6.15 shows that of the 262 respondents, 146 (55.7 per cent) were males while 116 (44.3 per cent) were females which reflects sufficient representation in the sample.

TABLE 6.15: Gender of users

	Frequency	Percent
Male	146	55.7
Female	116	44.3
Total	**262**	**100.0**

(d) Respondents' division of residence in Kampala

The frequencies in Table 6.16 indicate that respondents came from all the locations of Kampala City.

TABLE 6.16: Division of Residence in Kampala City

	Frequency	**Per cent**
Central	53	20.2
Kawempe	45	17.2
Makindye	53	20.2
Nakawa	50	19.1
Rubaga	61	23.3
Total	**262**	**100.0**

6.4.10 Findings on providers' biographic data

(a) Network associated with

From Table 6.17, it is clear that of 195 respondents, 61 providers (31.3 per cent) are associated with MTN only; 43 providers (22.1 per cent) with UTL only; 41 providers (21.0 per cent) with ZEIN only; and 30 providers (15.4 per cent) with WARID only. The table also shows that 7 providers (3.6 percent) are associated with the MTN and WARID networks and 9 providers (4.6 per cent) jointly associated with all four networks. As shown in Table 6.17 some providers are associated with more than one network.

TABLE 6.17: Network associated with

	Frequency	Per cent
MTN	61	31.3
UTL	43	22.1
ZAIN	41	21.0
WARID	30	15.4
MTN and WARID	7	3.6
All	9	4.6
MTN, UTL, ZAIN	3	1.5
MTN, UTL, WARID	1	0.5
Total	**195**	**100.0**

(b) Business location

Table 6.18 shows that five locations of Kampala City were included in the survey comprising 195 respondents.

TABLE 6.18: Business location in Kampala

	Frequency	Per cent
Central	61	31.3
Kawempe	19	9.7
Makindye	37	19.0
Nakawa	28	14.4
Rubaga	50	25.6
Total	195	100.0

(c) Job description service supplier

From Table 6.19, it is clear that job descriptions of the 195 providers ranged from Network Managing directors/chief operations officers to Network Retailers and/or sales agents. The table shows that one Managing Director/Chief Operations Officer was involved in the survey accounting for 0.5 percent of the responses.

TABLE 6.19: Job description of service supplier

	Frequency	Per cent
Network Managing Director/ Chief Operations Officer	1	0.5
Network Manager	10	5.1
Network Back office officer	15	7.7
Network Front office officer	41	21.0
Network Dealer	35	17.9
Network Sub-Dealer	34	17.4
Network Retailer	53	27.2
Any other, please specify	1	0.5
Sales agent	1	97.9
Total	**191**	**2.1**
Missing	4	
Total	**195**	**100.00**

6.6 SUMMARY AND CONCLUSIONS

The results of the quantitative part of this research were discussed in this chapter. The confirmatory factor analyses indicated that the researcher's hypothetical models in Figures 1.2 and 1.3 in Chapter One had poor specifications and were both disconfirmed. Structural equation modeling (SEM) was used in the quantitative analysis. The results of the paired samples T-test indicated that the users' Gap 5 was not significant implying that there was no difference between users' expected and actual services in the mobile telephone branch of industry in Uganda. However, the results of the independent T-test indicated that Gap 1 existed between users' expectations and providers' perceptions of users' expectations. The disparity was negative which implied that users were receiving less than they expected from their providers.

The quantitative results will be supplemented by qualitative findings in Chapter Seven.

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CHAPTER SEVEN

EMPIRICAL FINDINGS ON QUALITATIVE DATA

7.1 INTRODUCTION

This chapter reports the empirical findings from the qualitative data analysis on perceptions of users and providers of mobile telephone services in the branch of industry in Uganda. More specifically, effect is given to the secondary research objective number seven as stated in Section 1.6.2 of Chapter One.

7.2 EMPIRICAL FINDINGS

The responses were extracted from the focus group interviews for both users and providers in the mobile telephone branch of industry in Uganda. For both Gaps 1 and 5, responses were traced to their respective focus groups, interview questions and respondents as depicted in Annexures V and VI.

7.2.1 Findings on disparities between users' expected and actual service (Gap 5)

The frequencies of occurrences of disparity responses were grouped according to the disparity reflected by the respondents. Two broad groupings emerged namely 'no disparity group' and the 'disparity group'. Further scrutiny revealed that the 'no disparity group' had two levels namely 'desired service level' and 'adequate service level'. Similarly, the 'disparity group' had two levels namely 'service delight level' and 'frustrating service level'. It should be noted that each response was traced to its focus group interview, interview question and participant's number. For example, "FG1.1.4 (1)" referred to focus group 1, interview question 1, participant 4, and response (1). The four levels as depicted in Appendix V reflect comparisons between users' expected and actual service quality (Gap 5) in the mobile telephone industry in Uganda. See also Figure 7.1.

FIGURE 7.1 Levels of disparity

Disparity	No Disparity
• Service delight level	• Desired service level
• Frustrating service level	• Frustrating service level

Firstly, Annexure V shows that in 11 out of the 91 responses (12.1% , user participants' responses indicated that their high expectations were the same as their actual service experiences. Since the actual service met users' high expectations, the 'no disparity' mindset reflected that Gap 5 was non-existent and that a desired service quality had been received by the user. The results row one of Annexure V show that the desired service phenomenon occurs 12.1 times per 100 occurrences and is ranked third in comparisons between users' expected and actual service quality in the mobile telephone branch of industry in Uganda. It is important to note that despite the zero difference, the users received the desired service quality. This qualitative finding supports the quantitative paired samples t-test result which indicated that the users' Gap 5 was not significant.

Secondly, Annexure V shows that in 6 of the 91 responses (6.6%) users indicated that they were not sure as to whether they had received the expected service. Since they did not reflect a complaint, the responses indicated that such users received the service they expected. However, although the responses reflect 'no disparity', the service received was of a lower quality level than the desired service level. As the actual service met the users' low expectations, the 'no disparity' mindset reflected that Gap 5 was non-existent and that an adequate service had been received by the user.

Thirdly, Annexure V shows that 31 of the 91 responses (34.1%), participants indicated that they had received a better service than they had expected. Although a difference existed between their expected and actual service, it was a positive

difference. The difference was positive because actual service was better than the expected service. Further, the results indicated that the users' Gap 5 existed. Since the actual service was better than the expected service, the resulting disparity was service delight that left the user surprised.

It should be noted that the results indicate that a disparity exists. However, the disparity is positive hence the service delight experienced by the users. From a users' viewpoint, this reflects a high level of service quality. Contrary to the desired and adequate service qualitative findings, the service delight finding is not supported by the quantitative paired samples t-test results which indicated that the users' Gap 5 was not significant.

Lastly, Annexure V shows that in 43 out of the 91 responses (47.2%), users in the three focus group interviews indicated that they received poorer services than they expected and were hence frustrated. Since the actual service received was inferior to the service expected, the disparity was referred to as negative. The difference reflected the presence of the users' Gap 5. However, because the user received a poorer service than was expected, the experience was referred to as a frustrating service. The findings indicate that frustrating service levels occur 47.2 times per 100 occurrences and are ranked the highest in comparisons between users' expected and actual service in this research.

In conclusion, out of the 91 users' responses identified for the qualitative data, 47.2 percent of them indicated that the participants were receiving frustrating services; 34.1 percent were delighted by the services; 6.6 percent received adequate services; and 12.1 percent received the desired service.

7.2.2 Findings on disparities between providers' and users' mindsets (Gap 1)

The frequencies of responses reflecting the providers' Gap 1 are depicted in Annexure VI.

In 82 out of the 102 responses (80.4 %), providers' perceptions of users' expectations synchronised with users' expectations. Because of the synchronisation, providers' Gap 1 was non-existent. It also meant that providers understood their clients' expectations of the designed service quality. It should be noted that no difference exists between providers' perceptions of the designed service quality and the users' expectations of the designed service quality.

7.3 CHAPTER SUMMARY AND CONCLUSIONS

This chapter analysed the results of the qualitative research. Two conceptual maps were used to select responses to include in the analysis namely the users' Gap 5 conceptual map and the providers' Gap 1 conceptual map. The users' conceptual map implied a disparity between their expected and actual service received. Four disparity mindsets emerged from the comparison, namely, desired and adequate 'no disparity' mindsets and positive and negative 'disparity' mindsets. The finding indicated that despite the absence of Gap 5 from the quantitative analysis, the qualitative analysis indicated that Gap 5 actually existed among some of the participants in the users' focus group interviews.

The providers' conceptual map synchronised responses from providers' and users' sub-samples to find out if Gap 1 existed between providers and users in the mobile telephone branch of industry in Uganda.

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CHAPTER EIGHT

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

8.1 INTRODUCTION

This chapter presents the summary, conclusions, recommendations and areas for future research. When presenting the conclusions and recommendations, effect will be given to research objectives six and seven as stated in Section 1.6 of Chapter One. The research recommendations will be followed by a discussion of the contributions of the study, limitations of the research and recommendations for future research.

8.2 BRIEF SUMMARY AND CONCLUSIONS

The primary objective of this research was to empirically test the three hypothetical models pertaining to service quality perceptions of users and providers in the mobile telephone branch of industry in Uganda. Uganda is a multi-cultural and multi-lingual country where low levels of education are prevalent. To realise the primary research objective in the context of the above environment, positivistic and phenomenological approaches were adopted and methodological triangulation was adopted for data collection and analysis.

A comprehensive literature review was carried out. Relevant secondary sources were used to generate statements for the users' and providers' research instruments and to design the users' and providers' hypothetical models. The analysis of secondary sources on users' service quality perceptions revealed the variables for the research and the hypothesised relationships between the variables. Seven independent variables were identified to impact on the dependent variable (service quality to users) in the mobile telephone branch of industry in Uganda.

A number of studies in the services marketing literature have reported that when users' expected and actual service quality are identical, it implies that the consumption of the service did not change the users' perceptual position i.e.

the users' perceptions of the providers' service offering remain neutral. When the users' expected and actual service quality differs, a positive or negative disconfirmation has occurred depending on which one is superior. A positive disconfirmation (i.e. satisfaction) occurs when actual service is better than expected service while a negative disconfirmation (i.e. dissatisfaction) occurs when actual service is inferior to expected service. The disconfirmations are also known as disparities.

The analysis of secondary sources on providers' designed service quality showed the variables for the research and the hypothesised relationships between them. Five independent variables were identified to impact on the dependent variable (service quality as designed by providers) in the mobile telephone branch of industry in Uganda. In the services marketing literature, designed service quality by providers is said to be a reflection of the providers' understanding of users' expected service quality.

A number of studies in the services marketing literature have reported that when users' expected service quality and the providers' designed service quality are identical, the expected service is the same as the promised service i.e. Gap 1 does not exist. When the users' expected service quality differs from the providers' designed service quality, Gap 1 exists. In this research, Gap 1 referred to the difference between users' expected service quality and the providers' designed service quality in the mobile telephone branch of industry in Uganda.

Qualitative findings indicated that the users' Gap 5 existed between users' expected and actual service thus verifying the presence of Gap 5 contrary to quantitative results which indicated the absence of the same Gap.

Both quantitative and qualitative findings indicated that the providers' Gap 1 existed between providers' perceptions of users' expectations and users' expectations.

8.3 RECOMMENDATIONS ON MOBILE TELEPHONE SERVICE STRATEGIES

Several business level strategies can be pursued to close providers' Gap 1 and the users' Gap 5 in the mobile telephone branch of industry in Uganda. These strategies are presented below.

- Given the low incomes of most users of mobile telephone services in Uganda, a "no frills" business strategy will be able to meet the expectations of the majority of the users in this type of economic environment. This option will enable providers to offer just the basic communication services i.e. offer no extras.

- As most Ugandan mobile telephone service users belong to the low income segment, some providers may also choose to charge lower prices than rivals for good quality service offerings. This option may be adopted to deliver the desired service quality at low prices. For this strategy to succeed there must be a low cost base. With the intensity of rivalry increasing each year in Uganda (four providers in January 2009 and five in March 2009), price competition is inevitable among rivals in the branch of industry, thus justifying the viability of a low price business strategy for quality services.

- Providers may use a broad differentiation strategy by being unique to a wide range of users' needs and preferences that cannot be satisfied by a standard offering. Although there are diverse ways of broad differentiation, providers of mobile telephone services in the branch of industry in Uganda may use marketing-based promotional approaches such as power of the brand to demonstrate how their services meet users' needs better than rivals' brands. Providers may also build innovative capabilities to offer unique offerings through increased investments in Research and Development and expertise in designing quality services.

- Providers may choose to niche in a special smaller sub-segment where they have a competitive advantage by meeting unique expectations of mobile telephone users in Uganda. Although several conditions are necessary for the success of this strategic option, the target niche segment should be large

enough to be profitable and offer good growth potential for the nicher. This strategy may be used to deliver the desired service quality.

- Mobile telephone service providers may also use one of the service growth strategies by meeting expectations of more users in the current market segment (market penetration); meeting new expectations of users in the current market segment (service development/market extension); meeting expectations of new users with current services (market development); and meeting new expectations of use users (diversification). However, the growth strategies attract different levels of risk as one moves from market penetration to diversification strategy and mobile telephone service providers in Uganda should take note of such a fact.

8.4 LIMITATIONS OF THE RESEARCH

Despite the necessary precautions being taken to ensure that the requirements of a good research project were met, such as reliability, validity and generalisability, this study experienced some limitations, which are listed below.

- **Multi-language service environment**

  Given that 32 local languages are spoken in Uganda, there is a possibility that service quality concepts may have many interpretations which were used in identifying opinions on the users' and providers' research instruments in the quantitative research. The many interpretations may justify the low validity of the quantitative results despite good Cronbach's alpha reliability coefficients.

- **Privacy policy restrictions**

  The Uganda Communication Commission (UCC) privacy policy restrictions prevented accessibility to the users' sampling frame. Area sampling permitted the use of location surveys as sampling frames for generating the users' sub-sample.

- **Literacy levels**

  The literacy levels in Uganda are still low and some of the respondents may not have been literate enough to provide their opinions with regard to the statements on the two research instruments. This could have jeopardised the validity of the findings.

8.5 CONTRIBUTIONS OF THE RESEARCH

This research contributed to the body of knowledge on service quality perceptions in the branch of industry in Uganda in the following ways:

- Given that the multi-cultural, multi-lingual service environment with a prevalence of low education levels could lead to many interpretations of service quality concepts, pre-emptive measures were taken in which positivistic and phenomenological approaches were adopted to complement each other. Methodological triangulation was adopted for collecting both quantitative and qualitative data. In this respect, post-survey focus group interviews were used to collect qualitative data to verify survey data to enhance the validity of the study.

- To establish whether the researcher's hypothetical models were well specified and fitted data from the users' and providers' sub-samples, structural equation modelling (SEM) was used based on SPSS 17.0 and AMOS 16.0 (Analysis Of Moment Structures) computer software.

- The goodness-of-fit results rejected both the users' and the providers' hypothetical models because of poor fit to the two sub-sample data. For an observed variable's path to be considered a significant parameter estimate, it needed to obtain a critical ratio greater than 1.96 and p-value of 0.05 or less as indicators of a good model fit. Informal methods were used to quantify post-survey small numbers of qualitative data to verify quantitative results on Gaps 1 and 5 in the mobile telephone branch of industry in Uganda. a modification of scale items to suit the unique service environment in Uganda may be required. Quantitive research is not feasible in countries in Africa because of the low level of literacy in some African countries and the phenomenon of multi-lingualism.

- The research design and methodology used ensured that quantitative results were validated by qualitative findings.

8.6 FUTURE RESEARCH

No comparable research findings are available in underdeveloped countries and it is therefore recommended that this research be replicated in a country that mirrors the cultural profile of Uganda.

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ANNEXURES

ANNEXURE I

MAKERERE UNIVERSITY BUSINESS SCHOOL

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MOBILE TELEPHONE USERS' SURVEY

A collaborative research project of ***The Department of Marketing and International Business of*** *Makerere University Business School, Kampala-Uganda, and the* ***Unit for Applied Business Management*** *of the Nelson Mandela Metropolitan University, Port Elizabeth, South Africa.*

August 2008.

Dear Ugandan mobile telephone users,

As a Ugandan user of mobile telephone services, your views on service quality are of utmost importance for the future development of the mobile telephone branch of industry in Uganda. Will you kindly share your opinions on expectations and actual experience, of the quality of service you receive from your mobile telephone service providers? Users' Expectations are the beliefs or attitudes you have about the service before you receive it from your provider. Actual experience refers to your perceptions of the service actually received from the service providers.

PURPOSE OF THE SURVEY

The purpose of the survey is to gauge the expectations and actual experiences of Ugandan mobile telephone service users in order to determine the quality of mobile telephone services you receive. Your willingness to participate in the survey may be beneficial to you, as your views can enable the providers to design strategies that can improve on the quality of services you are currently receiving from them.

Please complete the attached questionnaire, which has been compiled to gauge your **expectations** and **actual experiences** with respect to mobile telephone service quality. All information given will be used for research purposes only. The confidentiality of your opinions will be respected. You are not required to identify yourself in the questionnaire. Further, there are no right or wrong answers – as the numbers under **expected** and **actual** service columns reflect you opinions on service quality from your mobile telephone service providers.

STRUCTURE OF THE QUESTIONNAIRE IS AS FOLLOWS:

The questionnaire comprises three sections namely sections.

Section A consists of a number of statements that require you to indicate under the first column your **expectations** of mobile telephone service quality prior to the actual service encounter and, under the second column, your **actual experiences** during and after service encounter.

Section B requires you to state other information on mobile telephone services in Uganda.

Section C of the questionnaire canvasses basic biographic data.

NOTE: Any reference to service providers refers to MTN, UTL, ZAIN or WARID or any of their intermediaries (dealers, sub-dealers and retailers) with whom you signed the contract.

THANK YOU FOR GIVING YOUR TIME TO COMPLETE THIS QUESTIONNAIRE

SECTION A: YOUR OPINIONS ON SERVICE QUALITY FROM PROVIDERS

Instructions

This section requires your rating (assessment) of service quality provided by Ugandan mobile telephone service providers. Before using mobile telephone services, you may have had certain **expectations** in your mindset about the services (Panel A). Collectively, expectations and **actual experiences** determine the level of service quality (Panel B). Kindly read that statements carefully and state the extent to which you agree or disagree with each of the statements under **Sections A – H** (Panel A and Panel B) in terms of your **expected** and **actual** service quality levels from your mobile telephone service providers. The interpretation of the numbers for each statement is as follows:

1 = Strongly disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly agree

		Panel A					Panel B				
	STATEMENTS ON MOBILE TELEPHONE SERVICE QUALITY TO A UGANDAN USER	**Expected service quality levels**					**Actual service quality levels**				
		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
A	**Kindly give your opinion on how word-of-mouth communications from other users influence your perceptions of service quality from your mobile telephone service providers.**										
A1	Word-of-mouth communication from other users indicates that mobile telephone service providers offer error-free services.	1	2	3	4	5	1	2	3	4	5
A2	Word-of-mouth communication from other users indicates that employees of other mobile telephone service providers are always willing to assist whenever service related problems are experienced.	1	2	3	4	5	1	2	3	4	5

		Panel A					Panel B				
STATEMENTS ON MOBILE TELEPHONE SERVICE QUALITY TO A UGANDAN USER		**Expected service quality levels**					**Actual service quality levels**				
		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
A3	Word-of-mouth communication from other users indicates employees of mobile telephone service providers are courteous.	1	2	3	4	5	1	2	3	4	5
A4	Word-of-mouth communication from other users indicates that mobile telephone service providers' office hours are convenient.	1	2	3	4	5	1	2	3	4	5
A5	Word-of-mouth communication from other users indicates that mobile telephone service providers have modern equipment.	1	2	3	4	5	1	2	3	4	5
B	**Kindly give your opinion on how the service environments (surroundings) of your mobile telephone service provider influence your service quality perceptions.**										
B1	The noice-free service environment of my mobile service provider enable the delivery of error-free services.	1	2	3	4	5	1	2	3	4	5
B2	The service environment of my mobile service provider enables employees to deliver prompt services.	1	2	3	4	5	1	2	3	4	5
B3	The service delivery location of my mobile service provider is convenient.	1	2	3	4	5	1	2	3	4	5

Panel A **Panel B**

	STATEMENTS ON MOBILE TELEPHONE SERVICE QUALITY TO A UGANDAN USER	Expected service quality levels					Actual service quality levels				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
B4	The signage of my mobile service provider is clear to read.	1	2	3	4	5	1	2	3	4	5
B5	The location of my mobile telephone provider enables me to multiple shopping experiences.	1	2	3	4	5	1	2	3	4	5
C	**Kindly give your opinion on how your basic communication needs impact on your perceptions of the service quality of your providers.**										
C1	My mobile telephone service provider shows sincere interest in attending to my communication needs.	1	2	3	4	5	1	2	3	4	5
C2	My mobile telephone service provider always attends to my communication needs.	1	2	3	4	5	1	2	3	4	5
C3	My mobile telephone service provider respects the confidentiality of my personal information.	1	2	3	4	5	1	2	3	4	5
C4	My mobile telephone service provider delivers affordable services to me.	1	2	3	4	5	1	2	3	4	5
C5	The ability of my mobile telephone service provider to offer uninterrupted services meets my communication needs.	1	2	3	4	5	1	2	3	4	5

STATEMENTS ON MOBILE TELEPHONE SERVICE QUALITY TO A UGANDAN USER		Panel A: Expected service quality levels					Panel B: Actual service quality levels				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
D	**Kindly give your opinion on how the relationship (association) with your mobile telephone service provider influences your perceptions on service quality.**										
D1	My relationship with my mobile telephone service providers is based on their ability to service their promises.	1	2	3	4	5	1	2	3	4	5
D2	My relationship with my mobile telephone service provider is based on prompt service delivery.	1	2	3	4	5	1	2	3	4	5
D3	The knowledgeability of the service providers' employees influences my relationship with them.	1	2	3	4	5	1	2	3	4	5
D4	My relationship with my mobile service provider is based on their ability to act in my best interest.	1	2	3	4	5	1	2	3	4	5
D5	My relationship with my mobile service provider is shaped by their visually appealing facilities.	1	2	3	4	5	1	2	3	4	5
E	**Kindly give your opinion on variables that influence your knowledge levels of mobile telephone services.**										
E1	Communication with other mobile telephone users enhance my knowledge levels about the services of mobile telephone providers.	1	2	3	4	5	1	2	3	4	5

		Panel A					Panel B				
STATEMENTS ON MOBILE TELEPHONE SERVICE QUALITY TO A UGANDAN USER		**Expected service quality levels**					**Actual service quality levels**				
		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
E2	My past experience with mobile telephone providers enhances my knowledge levels about their services.	1	2	3	4	5	1	2	3	4	5
E3	The involvement of my mobile telephone service provider's interpersonal skills enhances my knowledge levels about their services.	1	2	3	4	5	1	2	3	4	5
E4	My personal relationship with my mobile telephone service provider enhances my knowledge levels about their services.	1	2	3	4	5	1	2	3	4	5
E5	Feedback in the media of mobile telephone users enhance my knowledge levels about services of providers.	1	2	3	4	5	1	2	3	4	5
F	**Kindly give your opinion on how your mobile service provider's perceptions (understanding) of your needs influence their service quality levels.**										
F1	My mobile service provider meets my service needs timeously.	1	2	3	4	5	1	2	3	4	5
F2	My mobile service provider understands my needs of being regularly informed about when new services will be rendered.	1	2	3	4	5	1	2	3	4	5
F3	My mobile service provider understands my needs of ongoing courtesy when providing services.	1	2	3	4	5	1	2	3	4	5

STATEMENTS ON MOBILE TELEPHONE SERVICE QUALITY TO A UGANDAN USER		Panel A: Expected service quality levels					Panel B: Actual service quality levels				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
F4	My mobile service provider uses visually apealing communication materials.	1	2	3	4	5	1	2	3	4	5
F5	My mobile telephone service provider acts ethically in their service delivery processes.	1	2	3	4	5	1	2	3	4	5
G	**Kindly give your opinions on how your past experience with your mobile telephone service provider influences your perceptions of service quality.**										
G1	My mobile telephone service provider performs its services at the promised time.	1	2	3	4	5	1	2	3	4	5
G2	My mobile telephone service provider renders prompt services.	1	2	3	4	5	1	2	3	4	5
G3	The credibility of employees of my mobile telephone service provider encourages me to continue using their services.	1	2	3	4	5	1	2	3	4	5
G4	My mobile telephone service provider gives me individualised attention whenever I have a service complaint.	1	2	3	4	5	1	2	3	4	5
G5	The employees of my mobile telephone service provider appear neat.	1	2	3	4	5	1	2	3	4	5

Panel A **Panel B**

STATEMENTS ON MOBILE TELEPHONE SERVICE QUALITY TO A UGANDAN USER		Expected service quality levels					Actual service quality levels				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
H	**Kindly give your opinion on service quality levels rendered by your mobile telephone service provider.**										
H1	My mobile telephone service provider delivers quality services.	1	2	3	4	5	1	2	3	4	5
H2	Prompt services by my mobile telephone service provider contribute to the quality of their service delivery.	1	2	3	4	5	1	2	3	4	5
H3	Payments to mobile telephone provider reflect the levels of service quality.	1	2	3	4	5	1	2	3	4	5
H4	The network coverage by my mobile telephone service providers reflect the levels of service quality.	1	2	3	4	5	1	2	3	4	5
H5	My mobile telephone service provider is dedicated in rendering quality services	1	2	3	4	5	1	2	3	4	5

SECTION B: OTHER CONSIDERATIONS OF USING MOBILE PHONES

1 Please indicate the network(s) you are currently connected to.

MTN	UTL	ZAIN	WARID

2 Please indicate the extent to which you agree with the following tatements.

		Panel A					Panel B				
	Statements	Expected service quality levels					Actual service quality levels				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	My network has a wide reception in Uganda.	1	2	3	4	5	1	2	3	4	5
2	My service charges are relatively low compared to competitors' charges.	1	2	3	4	5	1	2	3	4	5
3	My network is reliable.	1	2	3	4	5	1	2	3	4	5
4	My network's after sales service is good.	1	2	3	4	5	1	2	3	4	5
5	My networks' retail outlets are conveniently located.	1	2	3	4	5	1	2	3	4	5
6	My network's service personnel seem honest.	1	2	3	4	5	1	2	3	4	5
7	My network's service personnel communicate clearly with me.	1	2	3	4	5	1	2	3	4	5
8	My network has a good reputation.	1	2	3	4	5	1	2	3	4	5
9	My network safeguards my information confidentiality.	1	2	3	4	5	1	2	3	4	5
10	My network has useful international linkages.	1	2	3	4	5	1	2	3	4	5
11	My network has visually attractive facilities	1	2	3	4	5	1	2	3	4	5

3 Kindly indicate the brand name of your current mobile telephone handset.

Nokia	Motorola	Erickson	Any other brand (name it)

SECTION C: BIOGRAPHICAL INFORMATION

The following questions are related to your biographic information. Please indicate your response by marking a **tick (√)** in the appropriate box.

1 Please indicate your gender.

Male
Female

2 Please indicate a division of Kampala City you reside in.

Central	Kawempe	Makindye	Nakawa	Rubaga

THANK YOU FOR YOUR COOPERATION

ANNEXURE II

MAKERERE UNIVERSITY BUSINESS SCHOOL

Plot M118 Old Portbell Road, P. O. Box 1337, Kampala-Uganda
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MOBILE TELEPHONE PROVIDERS' SURVEY

A collaborative research project of ***The Department of Marketing and International Business*** *of Makerere University Business School, Kampala-Uganda, and the* ***Unit for Applied Business Management*** *of the Nelson Mandela Metropolitan University, Port Elizabeth, South Africa.*

August 2008

Dear Uganda mobile service providers,

As a Ugandan provider of mobile telephone services, will you kindly share with us your views on mobile telephone **clients' expectations** of the quality of service they receive from you? By sharing your views with us, it is possible to enhance mobile telephone service quality levels which could ultimately be of benefit to all service providers in Uganda. Client's **Expectations** can be interpreted as the belief or attitudes clients have about the service that could serve as benchmarks against which your performance is appraised.

PURPOSE OF THE SURVEY

The purpose of the survey is to gauge your opinions on the **clients' expectations** of the quality of mobile telephone services received from Uganda

mobile telephone service providers. Your willingness to participate in the survey may be beneficial to you as a service provider and will enable you to **design service strategies** that can enhance the quality of services you are currently rendering to them.

Please complete the attached questionnaire regarding the service quality rendered by you to your clients in Uganda. Their **expectations** of the service you offer will be used as the **benchmark** to appraise your **service performance**. All information will be treated as confidential and you are not required to identify yourself. There are no right or wrong answers – as only your opinion on the service quality rendered to your clients is of importance.

STRUCTURE OF THE QUESTIONNAIRE

The questionnaire comprises two sections. **Section A** consists of statements that require you to indicate your **expectations** of quality of mobile telephone services you are currently rendering to your clients.

Section B of the questionnaire canvasses basic biographic data.

NOTE: In Uganda, mobile telephone services are provided by MTN, UTL, ZAIN or WARID or any of their intermediaries (dealers, sub-dealers and retailers) from whom users source the services.

SECTION A

PROVIDERS' PERCEPTIONS ON SERVICE QUALTIY RENDERED TO CLIENTS

State the extent to which you agree or disagree with each of the statements (items) under **A – F** in terms of **expected** service quality levels of mobile telephone services to your clients. The figures against each statement (item) may be interpreted as shown below.

1 = My clients would strongly disagree
2 = My clients would disagree
3 = My clients would have no opinion
4 = My clients would agree
5 = My clients would strongly agree

STATEMENTS (ITEMS) ON PERCEPTIONS OF MOBILE TELEPHONE SERVICE QUALITY RENDERED BY UGANDAN PROVIDERS TO THEIR CLIENTS		Perceptions of my clients' expectations of service quality				
		My clients would strongly disagree	My clients would disagree	My clients would be neutral	My clients would agree	My clients would strongly agree
A	**Kindly give your opinions on how your clients' expectations would shape the design for your mobile telephone services.**					
A1	Accurate billing systems shape my mobile telephone service delivery design.	1	2	3	4	5
A2	Prompt services shape my mobile telephone service delivery design.	1	2	3	4	5
A3	Assurances I give to my clients shape my service delivery design.	1	2	3	4	5
A4	Convenient operating hours shape my mobile telephone service delivery design.	1	2	3	4	5
A5	Modern-looking equipment shape my mobile telephone service delivery	1	2	3	4	5
B	**Kindly give your opinions on how marketing research findings would shape your service delivery design.**					
B1	The service delivery design for my clients is shaped by accurate marketing research information.	1	2	3	4	5
B2	I use knowledgeable marketing researchers when I design my service delivery.	1	2	3	4	5
B3	When I conduct marketing research, I have my clients' best interests at heart.	1	2	3	4	5
		Perceptions of my clients' expectations of service quality				

STATEMENTS (ITEMS) ON PERCEPTIONS OF MOBILE TELEPHONE SERVICE QUALITY RENDERED BY UGANDAN PROVIDERS TO THEIR CLIENTS		My clients would strongly disagree	My clients would disagree	My clients would be neutral	My clients would agree	My clients would strongly agree
B4	I always provide my clients with prompt marketing research results.	1	2	3	4	5
B5	I use clear and understandable statements in the marketing research which I conduct.	1	2	3	4	5
C	**Kindly give your opinions on how your mobile telephone service organisation structure (arrangement of service activities) shapes your service design (planning) processes**					
C1	The benefits offered by me to the clients are in line with the cost thereof.	1	2	3	4	5
C2	My services to clients are competitively priced.	1	2	3	4	5
C3	There are no unexpected additional service charges that will be levied on clients.	1	2	3	4	5
C4	The inflation on the cost of service delivery was made available to the clients.	1	2	3	4	5
C5	The fees as advertised correspond with the contract agreement.	1	2	3	4	5
D	**Kindly give your opinions on how the relationship marketing (association) with your clients shapes your service design.**					
D1	My relationship with my clients requires that I plan mobile telephone services according to the promises made.	1	2	3	4	5
D2	My relationship with clients requires that I keep them informed of when new mobile telephone services will be offered to them.	1	2	3	4	5
D3	My relationship with clients requires that consistent courtesy is incorporated in mobile telephone service design.	1	2	3	4	5
D4	My relationship with clients requires that my mobile telephone service design offer them individualised attention.	1	2	3	4	5
		Perceptions of my clients' expectations of service quality				

	STATEMENTS (ITEMS) ON PERCEPTIONS OF MOBILE TELEPHONE SERVICE QUALITY RENDERED BY UGANDAN PROVIDERS TO THEIR CLIENTS	My clients would strongly disagree	My clients would disagree	My clients would neutral	My clients would agree	My clients would strongly agree
E	**Kindly give your opinions on how your understanding (perceptions) of clients' needs shape the design of your mobile telephone services.**					
D5	My relationship with clients requires that I use visually appealing materials associated with my mobile telephone services.	1	2	3	4	5
E1	The processes that I use, e.g. – data mining are error-free.	1	2	3	4	5
E2	Mobile telephone service providers can be counted on to attend to their clients needs.	1	2	3	4	5
E3	Mobile telephone service providers are never too busy to respond to clients' needs.	1	2	3	4	5
E4	Mobile telephone service providers show understanding toward clients' needs.	1	2	3	4	5
E5	As a mobile telephone service provider I am sufficiently aware of which and how the mobile service should be rendered.	1	2	3	4	5
F	**Kindly give your opinions on how your designed service quality meets users' service requirements.**					
F1	I always ensure that the designed mobile telephone services are rendered right the first time to my clients.	1	2	3	4	5
F2	I always ensure that the designed mobile telephone services are available on demand.	1	2	3	4	5
F3	I always ensure that the designed mobile telephone services foster a dimension of security with the clients.	1	2	3	4	5
F4	I always ensure that the location of service delivery is convenient for my clients.	1	2	3	4	5
F5	I always ensure that the designed mobile telephone service facilities are visually appealing to my clients.	1	2	3	4	5

SECTION B: BIOGRAPHIC INFORMATION

Please mark the appropriate box.

1 Which network(s) do you associate with?

MTN	UTL	ZAIN	WARID

2 Please indicate the suburb of Kampala where you are located.

Central	Kawempe	Makindye	Nakawa	Rubaga

3 Please indicate your job description as supplier.

Network Managing Director/ Chief Operations Officer	
Network Manager	
Network Back office officer	
Network Front office officer	
Network Dealer	
Network Sub-Dealer	
Network Retailer	
Any other, please specify	

4 Please provide your physical address if you want us to share the research results with you.....
.....

THANK YOU FOR YOUR COOPERATION

ANNEXURE III

USERS' FOCUS GROUPS INTERVIEW QUESTIONS

1.0 Opening question: Tell me, what comparison do you make between the quality of mobile telephone services you expect and those you actually receive from providers?

2.0 Critical question 1: How does what you hear from other users affect the services you expect and actually receive from your mobile telephone providers?

2.1 Probe question 1 (Reliability): How reliable has been the information you receive from other users in your purchase decisions?

3.0 Critical question 2: How has your past experience with mobile telephone services affected your expectations and actual experiences with the services?

3.1 Probe question 2 (Responsiveness): What effect does past experience with mobile telephone service providers have on your subsequent service expectations?

4.0 Critical question 3: How do you tell that your mobile telephone service provider meets your basic expected and actual communication needs?

4.1 Probe question 3 (Assurance): What is your expected and actual confidentiality of services you get from your mobile telephone service provider?

5.0 Critical question 4: How does the relationship with your mobile telephone providers affect the service you expect and actually receive from them?

5.1 Probe question 4 (Empathy): How does good customer care from your providers affect your expected and actual mobile telephone services received from them?

6.0 Critical question 5: How does providers' understanding of your service requirements affect your expected and actual services from them?

6.1 Probe question 5 (Tangibles): How does a providers' physical facilities affect the mobile telephone service you expect and actually receive from them?

7.0 Critical question 6: How does the service environment of your mobile telephone providers affect the services you expect and actually receive from them?

7.1 Probe question 6 (Tangibles): How do the tangibles used by the mobile telephone providers affect the service you expect and actually receive from them?

8.0 Critical question 7: How does your knowledge about mobile telephone services affect the services you expect and actually receive from your providers?

8.1 Probe question 7 (All dimensions): What types of knowledge about mobile telephone services mostly affect the service you expect and actually receive from your providers?

9.0 Critical question 8: What comparison can you make between the services you expect and the services you actually receive from your mobile telephone providers?

9.1 Probe question 8 (All dimensions): How do you tell your mobile telephone service provider has delivered the service you expected?

10.0 Biographic questions:

10.1 What network are you currently connected to?

10.2 What brand of handset phone do you own?

10.3 What gender are you?

10.4 Where do you reside?

10.5 Is there anything you think we have missed out that needs to be discussed in relation to differences between expected and actual services received from mobile telephone providers?

10.6 Thank you for your time.

ANNEXURE IV

PROVIDERS' FOCUS GROUPS INTERVIEW QUESTIONS

1.0 **Opening question:** What do you think makes your mobile telephone customers happy with your services?

2.0 **Critical question 1:** What kinds of services do you think customers expect to get from you?

2.1 **Probe question 1 (Tangibles):** What kind of service delivery environment (surroundings) do you think customers expect to find at your service point?

3.0 **Critical question 2:** What kinds of marketing research information do you normally get from your customers to serve the well?

3.1 **Probe question 2 (Reliability):** How reliable has been the information you get from your mobile telephone customers?

4.0 **Critical question 3:** How do you spend time on the various business activities on a normal day?

4.1 **Probe question 3 (Responsiveness):** How do you respond to customer requests for credit calls and airtime?

5.0 **Critical question 4:** What do you normally do to establish a good business relationship with your customers?

5.1 **Probe question 4 (Assurance):** How trustworthy have been the business relationships with your customers?

6.0 **Critical question 5:** What do you think your mobile telephone service customers need from you?

6.1 **Probe question 5 (Empathy):** How do you normally deal with customers who need to much of your attention?

7.0 **Critical question 6:** What difference do you think exists between the services you offer and the services your customers expect from you?

7.1 **Probe question 6 (Empathy):** How do you compare your customer care activities with what your customers expected?

8.0 **Biographic information:**

8.1 Which mobile telephone network do you associate with?

8.2 Where is your business located?

8.3 What is your job description?

8.4 Is there anything you think has been missed out that needs to be discussed in relation to mobile telephone service delivery to your clients

8.5 Thank you for your time.

ANNEXURE V

RESPONSES REFLECTING USERS' GAP 5

RESPONSES OF FOCUS GROUP 1

ACTUAL SERVICE

(FG1.Q1)

P1: The services I receive are not better than the services I expected from providers. I expected UTL as the owner of the satellite to have better services but their services are not as good. I expected prices to reduce after the fourth provider entered the market but the reduction is very insignificant.

P2: I expect a flat rate but my providers charge me different rates.

P3: Mobile telephone services are difficult to understand.

P4: I find that expected and actual mobile telephone services are the same across networks.

P5: I expected service charge (fee) to stay but luckily enough it was removed.

P6: I expected to get network signals everywhere but I sometimes lose the signal in some parts of the country.

(FG1.Q2)

P1: Sometimes what other customers say is wrong.

P2: Sometimes somebody may be taking something to be good when it is not good to me. In addition, what other users say does not help me at all.

P3: Sometimes I find what other customers say is misleading. Word-of-mouth makes me expect

P4: Sometimes what other users say is good and the information is free too.

P5: Sometimes word-of-mouth is correct and at other times it is wrong.

P6: What other users say has helped me to make savings by calling at the right time when the MTN zone discount is at its maximum.

2.1 Probe question 1 (Reliability):

P3: Sometimes the information is misleading like I used it to buy a handset which was not compatible with the Ugandan market.

P4: Someone advised to buy a Motorola handset but I later found it was as good as I had been told.

P5: Sometimes I find out that what others users say about promotional handsets' durability is not correct.

P6: Sometimes what other users say is reliable, other times it is not.

(FG1:Q3)

P1: I find services these days more expensive than they used to be which has forced to me to resort to the use of SMS messages.

P2: I find current services cheaper than before and I expect them to reduce further.

P6: I find services cheaper now than before.

3.1 Probe question 2 (Responsiveness):

P5: Sometimes what other users say is sufficient in meeting my service requirements.

P6: I am always annoyed by the speed with which customer service desk responds whenever I call to put forward a service complaint.

4.1 Probe question 3 (Assurance):

P1: I do not have confidence in my network provider.

P2: My network provider gives out information about my calls without telling me.
P3: My provider leaks out my social secrets.
P4: My provider allows phone tapping for political use.
P5: I do not trust my provider with sensitive information.
P6: I usually avoid communicating sensitive information on phone.

FG1:Q5

P1: Currently I enjoy better customer care than before in most of the services from my MTN providers.
P2: Currently I enjoy less than I expect in terms of customer care from ZEIN.
P3: MTN customer care is worse at night.
P4: I usually expect more from MTN but I receive less especially at night.
P5: I experience better MTN services I expected.
P6: My experiences are usually a surprise as I usually get more than I expected from my MTN providers.

5.1 Probe question 4 (Empathy):

P1: Currently I enjoy better customer care than before in most of the services from my MTN providers.
P2: Currently I enjoy less than I expect in terms of customer care from ZEIN.
P3: MTN customer care is worse at night.
P4: I usually expect more from MTN but I receive less especially at night.
P5: I experience better MTN services I expected.
P6: My experiences are usually a surprise as I usually get more than I expected from my MTN providers.

(FG1:Q6)

P1: Mobile telephone service providers neither understand my expectations nor my actual experiences with the services they offer to me.
P2: My mobile phone provider does not understand that I need a suggestion box to put my complaints forward.
P3: I always switch to a competitor whenever I feel my provider has failed to provide what I expected from it.
P4: My provider does not understand what I want.
P5: My mobile telephone provider has left me to depend on hearsay from other users.
P6: My provider does not bother to know my needs.

6.1 Probe question 5 (Tangible):

P1: I prefer to buy airtime from a provider with good physical facilities.
P2: I have sometimes encountered good physical facilities which do not reflect good service. In addition, good physical facilities have helped me to identify a provider with better services.
P3: Sometimes neat looking workers do not know their work.
P4: I sometimes feel like not buying because neat looking providers do not care about me.
P5: The MTN yellow colour pleases me.
P6: I like the way competition has forced my providers to improve on their physical facilities.

(FG1:Q7)

P2: I do not see any difference between expected and actual services since airtime cards are the same in all service environments.
P5: I always expect a poor service from dirty service environments.

(FG1:Q8)

P1: I have always found it difficult to tell whether I can differentiate my expectations from my actual experiences.
P4: I do not know why my provider charges me for switching from one service option to another. I do not understand the prices of my mobile telephone provider.
P5: I do not understand why sometimes it is difficult to send an SMS message.
P6: I do not understand why I am charged for an SMS that was never delivered.

(FG1:Q9)

P1: My actual experiences with the services are better than my expectations.
P2: My actual experiences are better than the expectations as I can now receive news updates unlike before.
P3: The actual prices of WARID are higher than I expected.
P4: My actual services are better than I expected because currently, I enjoy more cheap services.
P5: The actual services are better than expected because I can send wedding SMS thus cutting on my wedding expenses.
P6: When I compare previous and current services, I find that the current ones are better.

RESPONSES OF FOCUS GROUP TWO

(FG2:Q1)

P1 I find current services better than before.
P2 I also find current services better than the services before.
P3 I find MTN services better than other network providers.
P4 I find current ZEIN services worse than before.
P5 To add on, I find MTN zoning services poorer than they promote them.
P6 The current level of competition has improved the current services.
P7 I find the current MTN congested.
P8 I also find MTN too congested.
P9 I find that MTN zoning cheats customers because it is most of the times at zero percent. I have found that WARID also is costly although they say they are cheap.

(FG2:Q7.1)

P5 I consider Kabiliti handset to be more effective than some other handsets due to its durability.

(FG2:Q9)

P1 Actual service is greater than expected service.
P2 Actual service is greater than expected service.
P3 Actual service is greater than expected service.
P4 Actual service is less than expected service.
P5 Actual service is greater than expected service.
P6 Actual service is greater than expected service.
P7 Actual service is greater than expected service.
P8 Actual service is greater than expected service.
P9 Actual service is greater than expected service.

RESPONSES OF FOCUS GROUP THREE

(FG3:Q1)

P1 Before, they were not better because competition was low. Quality has now improved.

P2 Current services are not better than before.

P3 The tariffs were better before because the zones from MTN are deceptive. When the percent is high, there is no service and when it is low, the service is available. But services are cheaper these days because I can buy airtime of Sh500 only.

P4 Technology is complicated and is sometimes a problem. Services are sometimes difficult to differentiate especially in the villages.

P5 Services are now expensive in terms of airtime.

P6 Services are not as expected due to duplicated handsets. Charges are high especially interest charges.

P7 Network is now too congested.

(FG3:Q3)

P5 Under CELTEL, customer care was good, under ZEIN, it is poor.

P6 My past experience was good; my current expectations are low because the system for example 'me to you' services are currently complicated. I fail to get what I expected.

P7 At first the services were favourable but now they have created confusion among users.

(FG3:Q9)

P1 Actual service is less than expected service.

P2 Actual service is less than expected service.

P3 Actual service is less than expected service.

P4 Actual service is the same as the expected service.

P5 Actual service is the same as the expected service.

P6 Actual service is the same as the expected service.

P7 Actual service is greater than the expected service.

Expected service

RESPONSES OF FOCUS GROUP ONE

(i) Desired service (no disparity)

FG1

P4: I find that expected and actual mobile telephone services are the same across networks.

FG2

P4: Sometimes what other users say is good and the information is free too.

P5: Sometimes word-of-mouth is correct and at other times it is wrong.

P6: What other users say has helped me to make savings by calling at the right time when the MTN zone discount is at its maximum.

FG2.1

P4: Someone advised to buy a Motorola handset but I later found it was as good as I had been told.

3.1 Probe question 2 (Responsiveness):

P5: Sometimes what other users say is sufficient in meeting my service requirements.

(FG1:Q7)
P2: I do not see any difference between expected and actual services since airtime cards are the same in all service outlets.
(FG1:Q8)
P1: I have always found it difficult to tell whether I can differentiate my expectations from my actual experiences.

RESPONSES OF FOCUS GROUP THREE

(FG3:Q9)
P4 Actual service is the same as the expected service.
P5 Actual service is the same as the expected service.
P6 Actual service is the same as the expected service.

(ii) Adequate service (no disparity)

(FG1:Q6)
P3: I always switch to a competitor whenever I feel my provider has failed to provide what I expected from it.

6.1 Probe question 5 (Tangible):
P1: I prefer to buy airtime from a provider with good physical facilities.
P2: I have sometimes encountered good physical facilities which do not reflect good service. In addition, good physical facilities have helped me to identify a provider with better services.

RESPONSES OF FOCUS GROUP ONE

(FG3:Q1)
P1 Before, they were not better because competition was low. Quality has now improved.
P3 The tariffs were better before because the zones from MTN are deceptive. When the percent is high, there is no service and when it is low, the service is available. But services are cheaper these days because I can buy airtime of Sh500 only.
P4 Technology is complicated and is sometimes a problem. Services are sometimes difficult to differentiate especially in the villages.

(iii) Surprise/delight service (Disparity)

RESPONSES OF FOCUS GROUP ONE

FG1/1
P5: I expected service charge (fee) to stay but luckily enough it was removed.
FG1/3
P2: I find current services cheaper than before and I expect them to reduce further.
P6: I find services cheaper now than before.

FG1.4

P1: Currently I enjoy better customer care than before in most of the services from my MTN providers.
P5: I experience better MTN services I expected.
P6: My experiences are usually a surprise as I usually get more than I expected from my MTN providers.

FG1:Q5

P4: I usually expect more from MTN but I receive less especially at night.
P5: I expected service charge (fee) to stay but luckily enough it was removed.
P6: My experiences are usually a surprise as I usually get more than I expected from my MTN providers.

5.1 Probe question 4 (Empathy):

P1: Currently I enjoy better customer care than before in most of the services from my MTN providers.
P5: I experience better MTN services I expected.
P6: My experiences are usually a surprise as I usually get more than I expected from my MTN providers.

(FG1:Q9)

P1: My actual experiences with the services are better than my expectations.
P2: My actual experiences are better than the expectations as I can now receive news updates unlike before.
P4: My actual services are better than I expected because currently, I enjoy more cheap services.
P5: The actual services are better than expected because I can send wedding SMS thus cutting on my wedding expenses.
P6: When I compare previous and current services, I find that the current ones are better.

RESPONSES OF FOCUS GROUP TWO

FG2/1

P1 I find current services better than before.
P2 I also find current services better than the services before.
P3 I find MTN services better than other network providers.
P6 The current level of competition has improved the current services.

(FG2:Q7.1)

P5 I consider Kabiliti handset to be more effective than some other handsets due to its durability.

(FG2:Q9)

P1 Actual service is greater than expected service.
P2 Actual service is greater than expected service.
P3 Actual service is greater than expected service.
P5 Actual service is greater than expected service.
P6 Actual service is greater than expected service.
P7 Actual service is greater than expected service.
P8 Actual service is greater than expected service.
P9 Actual service is greater than expected service.

FG3/9

P7 Actual service is greater than the expected service.

(iv) Frustrating service (Disparity)

RESPONSES OF FOCUS GROUP ONE

FG1/1

P1: The services I receive are not better than the services I expected from providers. I expected UTL as the owner of the satellite to have better services but their services are not as good. I expected prices to reduce after the fourth provider entered the market but the reduction is very insignificant.

P2: I expect a flat rate but my providers charge me different rate

P3: Mobile telephone services are difficult to understand

P6: I expected to get network signals everywhere but I sometimes lose the signal in some parts of the country.

FG1/2

P2: Sometimes somebody may be taking something to be good when it is not good to me. In addition, what other users say does not help me at all.

P3: Sometimes I find what other customers say is misleading. Word-of-mouth makes me expect

FG1.1 Probe question 1 (Reliability):

P3: Sometimes the information is misleading like I used it to buy a handset which was not compatible with the Ugandan market.

P5: Sometimes I find out that what others users say about promotional handsets' durability is not correct..

FG1/3

P1: I find services these days more expensive than they used to be which has forced to me to resort to the use of SMS messages.

3.1 Probe question 2 (Responsiveness):

P6: I am always annoyed by the speed with which customer service desk responds whenever I call to put forward a service complaint.

4.1 Probe question 3 (Assurance):

P1: I do not have confidence in my network provider.

P2: My network provider gives out information about my calls without telling me.

P3: My provider leaks out my social secrets.

P4: My provider allows phone tapping for political use.

P5: I do not trust my provider with sensitive information.

P6: I usually avoid communicating sensitive information on phone.

FG1/5

P2: Currently I enjoy less than I expect in terms of customer care from ZEIN.

P3: MTN customer care is worse at night.

P4: I usually expect more from MTN but I receive less especially at night.

5.1 Probe question 4 (Empathy):

P2: Currently I enjoy less than I expect in terms of customer care from ZEIN.

P3: MTN customer care is worse at night.

P4: I usually expect more from MTN but I receive less especially at night.

(FG1:Q6).

P2: My mobile phone provider does not understand that I need a suggestion box to put my complaints forward.

P3: I always switch to a competitor whenever I feel my provider has failed to provide what I expected from it.

P4: My provider does not understand what I want.
P5: My mobile telephone provider has left me to depend on hearsay from other users.
P6: My provider does not bother to know my needs.

6.1 Probe question 5 (Tangible):

P3: Sometimes neat looking workers do not know their work.
P4: I sometimes feel like not buying because neat looking providers do not care about me.

FG1:8

P4: I do not know why my provider charges me for switching from one service option to another. I do not understand the prices of my mobile telephone provider.
P6: I do not understand why I am charged for an SMS that was never delivered.

(FG1:Q9)

P3: The actual prices of WARID are higher than I expected.
P4 I find current ZEIN services worse than before.
P5 To add on, I find MTN zoning services poorer than they promote them.
P7 I find the current MTN congested.
P9 I find that MTN zoning cheats customers because it is most of the times at zero percent. I have found that WARID also is costly although they say they are cheap.

RESPONSES OF FOCUS GROUP TWO

FG2/9

P4 Actual service is less than expected service.

(FG3:Q1)

P4 Technology is complicated and is sometimes a problem. Services are sometimes difficult to differentiate especially in the villages.
P5 Services are now expensive in terms of airtime.
P6 Services are not as expected due to duplicated handsets. Charges are high especially interest charges.

RESPONSES OF FOCUS GROUP THREE

FG3/3

P5 Under CELTEL, customer care was good, under ZEIN, it is poor.
P6 My past experience was good; my current expectations are low because the system for example 'me to you' services are currently complicated. I fail to get what I expected.
P7 At first the services were favourable but now they have created confusion among users.

(FG3:Q9)

P1 Actual service is less than expected service.
P2 Actual service is less than expected service.
P3 Actual service is less than expected service.

TABLE 7.1: Frequency of responses reflecting users' Gap 5 (Appendix E)

Expected/Actual service comparisons	Sources of responses for comparison	Frequency	Percent	Cumulative percent
Desired service (No Disparity)	FG1.1.4(1); FG2.4-6(3); FG2.1.4 (1); FG3.1.5(1);FG1.7.2(1); FG1.8.1(1); FG3.9.4-6 (3)	11	12.1	12.1
Adequate service (No Disparity)	FG1.6.3 (1); FG1.6.1.1-2 (2); FG3.1.1,3,4 (3)	6	6.6	18.7
Service Delight (Disparity)	FG1.1.5 (1); FG1.3.2 & 6(2); FG1.4.1,5,6 (3); FG1.5.4-6 (3); FG1.5.1.1,5,6 (3); FG1.9.1,2,4-6 (5); FG2.1.1-3,6 (4); FG2.7.1.5 (5); FG2.9.1-3,5-9 (8); FG3.9.7 (1)	31	34.1	52.8
Frustrating service (Disparity)	FG1.1.1-3,6 (4); FG1.2.2-3 (2); FG1.1.3,5 (2); FG1.3.1(1); FG1.3.1.6 (1); FG1.4.1.1-6); FG1.5.2-4 (3); GF1.6.2-6 (5); FG1.6.1.3-4 (2); FG1.8.4,6 (2); FG1.9.3-7,9 (5); FG2.9.4 (1); FG3.1.4-6 (3); FG3.3.5-7 (3); FG3.9.1-3 (3)	47	47.2	100.0
Total		91	100.0	

Key: FG1.1.4(1) refers to Focus Group 1, interview question 1, participant 4, response 1.

Source: Derived from responses in users' focus group interviews.

ANNEXURE VI

RESPONSES REFLECTING PROVIDERS' GAP 1

RESPONSES OF FOCUS GROUP ONE

(FG1:Q1)

P1: I make sure I am constantly present. I also make sure I do not smile to those who are not interested in my smile.
P2: I make sure I have sufficient stocks of different types of airtime. I also help them to make calls.
P3: I talk nicely to them.
P4: I am very fast in attending to them. I also serve them with a smile.
P5: I make sure I have airtime cards in all amounts.
P6: I help them to call their friends.

(FG1:Q2)

P1: My customers expect me to report to my business very early daily.
P2: My customers expect me to extend credit calls to them.
P3: My customers expect me to devote all my time to their service.
P4: My customers expect me to stock all network airtime.
P5: My customers expect credit calls which are unfair as sometimes they lead me into losses.
P6: My customers expect good customer care.

(FG1:Q2.1)

P1: I think they would like to see a good sign post informing them of the mobile telephone services I can offer.
P2: I think they want to see a good message on the wall.
P3: My customers expect enough lighting especially at night.
P4: I use a labelled umbrella because I know my customers expect to be protected from rain and hot sun during such weather conditions.
P5: I think my customers expect to find my selling point very neat.
P6: I think my customers would like to see a clean trading centre.

(FG1:Q6)

P1: I think my customers need good reception from me. I also think my customers need me to understand them well.
P2: I think my customers need to find me with what they want. I also think my customers want to make calls on credit because I receive such requests sometimes.
P3: I think my clients need all types of airtime from me. They also want me to assist them to beep their friends when they do not have enough credit on their phones.
P4: In my case, all my customers want to make a call or buy airtime.
P5: I stock airtime card from all networks because I have customers from all the networks.
P6: I think my customers want me to stock SIM packs from all networks but the contract with my supplier does not allow me to do so.

(FG1:Q7)

P1: I think the services I offer are the same as the services customers expect from me.
P2: There is no difference between the services I offer and those my customers expect from me because I receive no complaints.

P3: I am sure my services are the same as what my customers expect.
P4: Apart from network signals which are beyond me, my services are same as what my customers expect from me.
P5: I try to make sure that my customers get what they expect although I continue to receive most complaints on MTN network signal breakdown.
P6: I think my customers get services they expect from me.

RESPONSES OF FOCUS GROUP TWO

(FG2:Q1)
P1: I think good customer care makes customers happy. Not showing them that you are tired I think makes customers happy too. The way you talk to them is also important.
P2: I think stocking all types of airtime makes customers happy. I think good response makes customers happy too. I think also that customer want good caring.
P3: I think stocking airtime in all amounts makes customers happy. Customers also want availability of all products they want.
P4: I think providing guidance to customers makes them happy. Customers also want the shop to be open all the time.
P5: I think good services make customers happy. I also think nicely talking to customers makes them happy.
P6: I think opening at the right time makes customers happy. I also think the way you express yourself to them matters.

(FG2:Q2)
P1 I think customers expect to get good customer care from me. My customers also expect good treatment.
P2 I think customers expect me to advise them on how to use some different services. My customers also expect good services to them.
P3 I think customers expect me to attend to them differently.
P4 I think customers expect me to stock all types of handsets.
P5 I think customers expect good customer care short of which they their business to competitors.
P6 I think my customers expect airtime cards in all amounts from smallest to the largest. My customers also expect me to be easy to them.

(FG2:Q2.1)
P1 My customers expect to find everything on market well arranged.
P2 My customers expect me to be present all the time.
P3 My customers expect to find complementary products especially those on promotion.
P4 My customers expect my service delivery point to be open all the time.
P5 My customers expect to find all types of airtime cards.
P6 My customers expect to find a clean service delivery point.

(FG2:Q6)
P1 I think they need me to update them about network providers' new services. I also think they need me to advise them on the best service options to use.
P2 I think my customers need to pay lower rates. I also think they need different products according to their needs.
P3 I think my customers need good services. I think they also need recognition from providers.

P4 I think my customers need me to stock all airtime cards. Some customers also need me to deliver airtime cards to them in their offices.
P5 I think my customers need good customer care. They also need to find me with changed money otherwise they go and buy elsewhere. I think they also need availability of all mobile telephone products in one place.
P6 I think my customers need good services. I think they also need availability of all airtime cards. They also need to always find the shop open.

(FG2:Q7)
P1 There is no difference between the services I offer and those my customers expect from me.
P2 There is no difference between the services I offer and those my customers expect from me because I ensure I give them what they desire.
P3 There is no difference between services I deliver and those customers expect.
P4 I try to deliver to my customers' expectations.
P5 There is no difference between my services and what customers expect.
P6 I also think there is no difference because I try to give them what they expect.

(FG2:Q7.1)
P1 I make sure I extend customer care as expected by my customers.
P2 I ensure extended customer care is the same as customers expect.
P3 I make sure I give my customers the good customer care they expect.
P4 I make sure my customers care is as customers expect.
P5 Expected customer care is the same as the care I extend to them.
P6 I extend the customer care my customers expect.

RESPONSES OF FOCUS GROUP THREE

(FG3:Q1)
P1: I think good customer care makes customers happy.
P2: I think stocking all types of airtime and good responses make customers happy.
P3: I think stocking airtime in all amounts makes customers happy. Customers also want availability of all products they want.
P4: I think providing guidance to customers makes them happy. Customers want the shop to be open all the time.
P5: I think good services make customers happy. I think nicely talking to customers makes them happy.
P6: I think opening at the right time makes customers happy.

(FG3:Q2)
P1 I think customers expect to get good customer care and good treatment.
P2 I think customers expect me to advise them on how to use services.
P3 I think customers expect me to attend to them differently.
P4 I think customers expect me to stock all types of handsets.
P5 I think customers expect good customer care short of which they their take business to competitors.
P6 I think my customers expect airtime cards in all amounts from smallest to the largest.

(FG3:Q2.1)
P1 My customers expect to find everything in my shop.
P2 My customers expect me to be present all the time.
P3 My customers expect to find complementary products especially those on promotion.
P4 My customers expect my service delivery point to be open all the time.

P5 My customers expect to find all types of airtime cards.
P6 My customers expect to find a clean service delivery point.

(FG3:Q6)

P1 I think they need good services. I think they need me to update them about network providers' new services. I also think they need me to advise them on the best service options to use.
P2 I think my customers need different products according to their needs.
P3 I think my customers need good services from providers.
P4 I think my customers need me to stock all airtime cards.
P5 I think my customers need good customer care by having changed money and also having all mobile telephone products in one place.
P6 I think my customers need good services. They also need to always find the shop open.

(FG3:Q7)

P1 There is no difference between the services I offer and those my customers expect.
P2 There is no difference between the services I offer and those my customers expect.
P3 There is no difference between services I deliver and those customers expect.
P4 I try to deliver to my customers' expectations.
P5 There is no difference between my services and what customers expect.
P6 There is no difference because I try to give them what they expect.

(FG3:Q7.1)

P1 I make sure I extend customer care as expected
P2 I ensure extended customer care is as customers expect.
P3 I make sure I give my customers the good customer care they expect.
P4 I make sure my customers care is as expected.
P5 Expected customer care is the same as I extend to them.
P6 I extend the customer care my customers expect.

(i) Synchronised expectations (No Gap 1)

RESPONSES OF FOCUS GROUP ONE

FG1/1

P2: I make sure I have sufficient stocks of different types of airtime. I also help them to make calls.
P3: I talk nicely to them.
P4: I am very fast in attending to them. I also serve them with a smile.
P5: I make sure I have airtime cards in all amounts.
P6: I help them to call their friends.

(FG1:Q2)

P1: My customers expect me to report to my business very early daily.
P3: My customers expect me to devote all my time to their service.
P4: My customers expect me to stock all network airtime.
P6: My customers expect good customer care.

(FG1:Q2.1)

P1: I think they would like to see a good sign post informing them of the mobile telephone services I can offer.

P2: I think they want to see a good message on the wall.
P3: My customers expect enough lighting especially at night.
P4: I use a labelled umbrella because I know my customers expect to be protected from rain and hot sun during such weather conditions.
P5: I think my customers expect to find my selling point very neat.
P6: I think my customers would like to see a clean trading centre.

(FG1:Q6)

P1: I think my customers need good reception from me. I also think my customers need me to understand them well.
P4: In my case, all my customers want to make a call or buy airtime.
P5: I stock airtime card from all networks because I have customers from all the networks.

(FG1:Q7)

P1: I think the services I offer are the same as the services customers expect from me.
P2: There is no difference between the services I offer and those my customers expect from me because I receive no complaints.
P3: I am sure my services are the same as what my customers expect.
P4: Apart from network signals which are beyond me, my services are same as what my customers expect from me.
P5: I try to make sure that my customers get what they expect although I continue to receive most complaints on MTN network signal breakdown.
P6: I think my customers get services they expect from me.

RESPONSES OF FOCUS GROUP TWO

(FG2:Q1)

P1: I think good customer care makes customers happy. Not showing them that you are tired I think makes customers happy too. The way you talk to them is also important.
P2: I think stocking all types of airtime makes customers happy. I think good response makes customers happy too. I think also that customer want good caring.
P3: I think stocking airtime in all amounts makes customers happy. Customers also want availability of all products they want.
P4: I think providing guidance to customers makes them happy. Customers also want the shop to be open all the time.
P5: I think good services make customers happy. I also think nicely talking to customers makes them happy.
P6: I think opening at the right time makes customers happy. I also think the way you express yourself to them matters.

(FG2:Q2.1)

P1 My customers expect to find everything on market well arranged.
P2 My customers expect me to be present all the time.
P3 My customers expect to find complementary products especially those on promotion.
P4 My customers expect my service delivery point to be open all the time.
P5 My customers expect to find all types of airtime cards.
P6 My customers expect to find a clean service delivery point.

(FG2:Q6)

P1 I think they need me to update them about network providers' new services. I also think they need me to advise them on the best service options to use.

P3 I think my customers need good services. I think they also need recognition from providers.

P4 I think my customers need me to stock all airtime cards. Some customers also need me to deliver airtime cards to them in their offices.

P5 I think my customers need good customer care. They also need to find me with changed money otherwise they go and buy elsewhere. I think they also need availability of all mobile telephone products in one place.

P6 I think my customers need good services. I think they also need availability of all airtime cards. They also need to always find the shop open.

(FG2:Q7)

P1 There is no difference between the services I offer and those my customers expect from me.

P2 There is no difference between the services I offer and those my customers expect from me because I ensure I give them what they desire.

P3 There is no difference between services I deliver and those customers expect.

P4 I try to deliver to my customers' expectations.

P5 There is no difference between my services and what customers expect.

P6 I also think there is no difference because I try to give them what they expect.

(FG2:Q7.1)

P1 I make sure I extend customer care as expected by my customers.

P2 I ensure extended customer care is the same as customers expect.

P3 I make sure I give my customers the good customer care they expect.

P4 I make sure my customers care is as customers expect.

P5 Expected customer care is the same as the care I extend to them.

P6 I extend the customer care my customers expect.

RESPONSES OF FOCUS GROUP THREE

(FG3:Q1)

P1: I think good customer care makes customers happy.

P2: I think stocking all types of airtime and good responses make customers happy.

P4: I think providing guidance to customers makes them happy. Customers want the shop to be open all the time.

P5: I think good services make customers happy. I think nicely talking to customers makes them happy.

P6: I think opening at the right time makes customers happy.

(FG3:Q2)

P1 I think customers expect to get good customer care and good treatment.

P2 I think customers expect me to advise them on how to use services.

P3 I think customers expect me to attend to them differently.

P4 I think customers expect me to stock all types of handsets.

P5 I think customers expect good customer care short of which they take their business to competitors.

(FG3:Q2.1)

P2 My customers expect me to be present all the time.

P4 My customers expect my service delivery point to be open all the time.

P6 My customers expect to find a clean service delivery point.

(FG3:Q6)

P2 I think my customers need different products according to their needs.

P3 I think my customers need good services from providers.
P4 I think my customers need me to stock all airtime cards.
P6 I think my customers need good services. They also need to always find the shop open.

(FG3:Q7)

P1 There is no difference between the services I offer and those my customers expect.
P2 There is no difference between the services I offer and those my customers expect.
P3 There is no difference between services I deliver and those customers expect.
P4 I try to deliver to my customers' expectations.
P5 There is no difference between my services and what customers expect.
P6 There is no difference because I try to give them what they expect.

(FG3:Q7.1)

P1 I make sure I extend customer care as expected
P2 I ensure extended customer care is as customers expect.
P3 I make sure I give my customers the good customer care they expect.
P4 I make sure my customers care is as expected.
P5 Expected customer care is the same as I extend to them.
P6 I extend the customer care my customers expect.

(ii) Positively not synchronised expectations (providers' more than users' - Gap 1a)

RESPONSES OF FOCUS GROUP ONE

FG1/6

P2: I think my customers need to find me with what they want. I also think my customers want to make calls on credit because I receive such requests sometimes.
P3: I think my clients need all types of airtime from me. They also want me to assist them to beep their friends when they do not have enough credit on their phones.

FG3/6

P1 I think they need good services. I think they need me to update them about network providers' new services. I also think they need me to advise them on the best service options to use.
P5 I think my customers need good customer care by having changed money and also having all mobile telephone products in one place.

(FG1:Q1)

P1: I make sure I am constantly present. I also make sure I do not smile to those who are not interested in my smile.
P2: I make sure I have sufficient stocks of different types of airtime. I also help them to make calls.
P3: I talk nicely to them.
P4: I am very fast in attending to them. I also serve them with a smile.
P5: I make sure I have airtime cards in all amounts.
P6: I help them to call their friends.

(ii) Negatively not synchronised expectations (providers' less than users'- Gap 1b)

RESPONSES OF FOCUS GROUP ONE

(FG1:Q1)

P1: I make sure I am constantly present. I also make sure I do not smile to those who are not interested in my smile.

FG1/2

P2: My customers expect me to extend credit calls to them.

P5: My customers expect credit calls which are unfair as sometimes they lead me into losses.

FG1/6

P6: I think my customers want me to stock SIM packs from all networks but the contract with my supplier does not allow me to do so.

RESPONSES OF FOCUS GROUP TWO

FG2/6

P2 I think my customers need to pay lower rates. I also think they need different products according to their needs.

RESPONSES OF FOCUS GROUP THREE

FG3/1

P3: I think stocking airtime in all amounts makes customers happy. Customers also want availability of all products they want..

FG3/2

P6 I think my customers expect airtime cards in all amounts from smallest to the largest.

FG3/2.1

P1 My customers expect to find everything in my shop.

P3 My customers expect to find complementary products especially those on promotion.

P5 My customers expect to find all types of airtime cards.

TABLE 7.2: Frequency of responses reflecting providers' Gap 1 (Appendix F)

Users' expectations/ Providers' perceptions of users' expectations synchronisation	Sources of responses for synchronisation	Frequency	Percent	Cumulative percent
Synchronised levels	FG1.1.2-6 (5); FG1.2.1,3,4,6 (4); FG1.2.1.1-6 (6); FG1.6.1,4-5 (3); FG1.7.1-6 (6); FG2.1.1-6 (6); FG2.2.1.1-6 (6); FG2.6.1-6 (6); FG2.7.1-6 (6); FG2.7.1.1-6 (6); FG3.1.1-2,4,5-6 (5); FG3.2.1-5 (5); FG3.2.1.2,4,6 (3); FG3.6.2-3,4,6 (4); FG3.7.1-6 (6); FG3.7.1.1-6 (6)	82	80.4	80.4
Provider-dominated unsynchronised mindsets	FG1.6.2-3 (2); FG3.6.1,5 (2); FG1.1.1-6 (6)	10	9.8	90.2
User-dominated unsynchronised mindsets	FG1.1.1 (1); FG1.2.2,5 (2); FG1.6.6 (1); FG2.6.2.(1); FG3.1.3 (1); FG3.2.6 (1); FG3.2.1.1,3,5 (3)	10	9.8	100.0
Total		102	100.0	

Key: FG1.1.4(1) refers to Focus Group 1, interview question 1, participant 4, response 1.

Source: Derived from providers' focus group interview responses (Appendix F).

ANNEXURE VII

Model	NPAR	CMIN	DF	**P**	CMIN/DF
Researcher's model	19	644.390	36	**.000**	17.900
Saturated model	55	.000	0		
Independence model	10	760.853	45	**.000**	16.908

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	**CFI**
Researcher's model	.153	-.059	.161	-.062	**.150**
Saturated model	1.000		1.000		**1.000**
Independence model	.000	.000	.000	.000	**.000**

RMSEA

Model	**RMSEA**	LO 90	HI 90	PCLOSE
Researcher's model	**.254**	.237	.272	.000
Independence model	**.247**	.232	.262	.000

ANNEXURE VIII

(a) Users' and providers' biographic information

TABLE 1: t-test results on service quality dimensions

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviatio	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair1	My network has a wide reception in Uganda	-0.002	0.8	0.005	-0.12	0.007	-0.4	261	0.66
Pair2	My service charges are relatively low compared to competitors' charges.	0.007	1.0	0.006	-0.005	0.19	1.1	261	0.26
Pair3	My network is reliable.	-0.002	1.0	0.006	-0.151	0.009	-0.4	261	0.67
Pair4	My network's after sales service is good.	-0.002	0.9	0.005	-0.13	0.009	-0.3	261	0.69
Pair5	My networks' retail outlets are conveniently located.	-0.002	0.9	0.005	-0.13	0.009	-0.3	261	0.69
Pair6	My network's service personnel seem honest.	-0.001	0.9	0.005	-0.12	0.009	-0.2	161	0.79
Pair7	My network's service personnel communicate clearly with me.	-0.006	0.9	0.005	-0.17	0.004	-0.1	261	0.26
Pair8	My network has a good reputation.	0.129	1.0	0.006	0.007	0.251	2.0	261	0.03
Pair9	My network safeguards my information confidentiality.	0.156	1.1	0.006	0.002	0.292	2.2	261	0.02
Pair10	My network has useful international linkages.	-0.006	1.0	0.006	-0.183	0.006	-0.9	261	0.32
Pair11	My network has visually attractive facilities	-0.002	0.9	0.005	-0.143	0.009	-0.4	261	0.65

Significance level: $P \leq 0.05$

TABLE 6.2: Networks connected to

	Frequency	Percent	Cumulative percent
MTN	117	44.7	44.7
UTL	42	16	60.7
ZAIN	36	13.7	74.4
WARID	24	9.2	83.6
All	18	6.9	90.5
MTN and ZAIN	16	6.1	96.6
MTN and WARID	1	0.4	96.9
MTN,UTL and ZAIN	2	0.8	97.7
UTL and ZAIN	4	0.8	98.5
MTN and UTL	4	1.5	100.0
Total	262	100.0	

TABLE 6.3: Brand name of handset

	Frequency	Percent	Cumulative Percent
Nokia	160	61.1	61.3
Motorola	49	18.7	80.1
Erickson	23	8.8	88.9
Any other brand	29	11.1	100.0
Total	261	99.6	
Missing	1	0.4	
Total	262	100.0	

TABLE 6.4: Gender of users

	Frequency	Percent	Cumulative Percent
Male	146	55.7	55.7
Female	116	44.3	100.0
Total	262	100.0	

TABLE 6.4: Division of Residence in Kampala City

	Frequency	**Percent**	**Cumulative Percent**
Central	53	20.2	20.2
Kawempe	45	17.2	37.4
Makindye	53	20.2	57.6
Nakawa	50	19.1	76.7
Rubaga	61	23.3	100.0
Total	262	100.0	

TABLE X: Network associated with

	Frequency	Percent	Cumulative Percent
MTN	61	31.3	31..3
UTL	43	22.1	53..3
ZAIN	41	21.0	74.4
WARID	30	15.4	89.7
MTN and WARID	7	3.6	93..3
All	9	4.6	97..9
MTN, UTL, ZAIN	3	1.5	99.5
MTN, UTL, WARID	1	0.5	100.0
Total	195	100.0	