# Service quality and customer satisfaction: A case of the mobile telecommunication industry in Gweru, Zimbabwe.

## Chitura T.*, Dube, T.[2] and Chari, F.[3]

[1]Midlands State University, Faculty of Commerce, Department of Marketing Management, P Bag 9055, Gweru, Zimbabwe.
[2]Bindura University of Science Education, Faculty of Commerce, Department of Business Management, P. Bag 1020, Bindura, Zimbabwe.
[3]National University of Science and Technology, P. Bag AC 939, Ascot, Bulawayo.
*Corresponding author: Email: chituratofara2003@yahoo.com

## Abstract

This research paper reports on the exploratory findings from a consumer survey whose key objectives among others were: (1) to determine the technical quality dimensions of mobile phone services and (2) establish which of the technical quality dimensions have the greatest impact on service quality and customer satisfaction. A survey instrument was developed and used to collect responses from two hundred current mobile phone users in Gweru. The questionnaire was administered in a mall intercept type of situation whereby survey respondents were randomly intercepted in and around the central business district (CBD) and high pedestrian areas. The study found that from the three outcome/technical quality dimensions identified in the qualitative stage, network performance had the greatest impact on both service quality and customer satisfaction based on p-levels alone. Further, the study found a positive correlation between mobile phone quality and customer satisfaction. Lastly, the findings indicate that mobile phone subscribers are encountering a plethora of network related problems when accessing a service from their network providers. This implies that mobile network operators are not providing subscribers with the level of service quality which they want and desire. Hence, subscribers' service quality perceptions and their satisfaction levels are low. Predictably subscribers have not switched from their current network operators owing to a host of switching barriers. It is therefore logical to conclusively say that mobile phone subscribers are hostages, trapped in a situation they do not find desirable.

Keywords: Customer satisfaction, mobile phone, service quality

## Introduction

The liberalization of the telecommunications industry, of which the then Post and Telecommunications Corporation (P.T.C now Tel-One) had a monopoly, saw the coming in of private (M.N.O's) in the late 1990's. Consumers who had been fed up with the ineffectual P.T.C greeted this noble move by the Government of Zimbabwe with a sigh of relief. In principle effective competition should promote quality of services as subscribers have wider choices when fulfilling their communication needs. However, this has not been the case if the barrage of complaints expressed by subscribers both in the print and electronic media is anything to go by. The increasing number of complaints could be viewed as a reflection of the increasing reliance by consumers on mobile telecommunication services. Hence, it is imperative to assess service quality and customer satisfaction issues from the subscriber's point of view.

## Service Quality

It is generally agreed that service quality is a global judgement, or an attitude relating to the superiority of a service (Zeithaml and Bitner, 2003). Gronroos (2004) posit that service quality should include three dimensions; functional quality, technical quality and corporate image. Lehtinen and Lehtinen (1991) advanced two approaches of service quality dimensions; process quality and output quality. Edvardsson et al (1989) cited in Lewis and Mitchell 1990) espouses four dimensions of service quality, which are, functional quality, technical quality integrative quality and outcome quality. Parasuraman, Zeithmal and Berry (1994) identified five dimensions of service quality; tangibles, reliability, responsiveness, assurance and empathy. The outcome of a service encounter is evaluated after the service performance; this dimension is called technical quality by Gronroos (2004), and

outcome quality by Lehtinen and Lehtinen (1991) and Edvardsson et al (1989). Service quality is also evaluated based on how the service was delivered. Gronroos (2004) and Edvardsson et al (1989) call this dimension functional quality, while Lehtinen and Lehtinen (1991) named this dimension interactive quality. Additionally, marketing scholars are yet to identify technical (outcome) quality dimensions of cell phone providers (Kang, 2006). Only a few studies have recently tried to empirically explore the outcome dimension of service quality (Aswathi and Dogra, 2005). For evaluative purposes, we suggest subscribers tend to rely primarily on technical quality dimensions, since they do not have the knowledge and/or skill to evaluate functional quality dimensions of mobile phone services.

## Customer Satisfaction

While it is generally accepted that customer satisfaction is "a consumer's fulfillment response" (Zeithaml and Bitner, 2003), debate continues concerning the best way to conceptualise and measure it (Babin and Griffin, 1998 cited in Jones and Suh, 2000). From a transaction specific perspective, customer satisfaction is viewed as a post-choice evaluative judgement of a specific purchase occasion (Oliver, 1993 cited by Wang and Lo, 2002). Cumulative customer satisfaction is an aggregation of all previous transaction-specific satisfactions and is updated after each specific transaction (Parasuraman et al, 1994).

## Relationship between service quality and satisfaction:-

The distinction and association between service quality (SQ) and customer satisfaction (CS) has remained at the forefront of many academic and practitioner oriented

research endeavors (Spreng and Mackoy 1996 cited by Lasser et al 2000). It is agreed that service quality is distinct from satisfaction, although the exact nature of the distinction and the relationship between the two is in disagreement (Robinson, 1999).

In view of the apparent lack of consensus surrounding the relationship between the two constructs, Sonne (1999) reports two schools of thought, which have since formed the basis of the ongoing raging debate. The first school of thought postulates that the two constructs measure the same underlying concept hence they are the same. Theodorakis et al (2001) attribute this stance to the inherent similarities in some definitions as well as some practitioners, researchers and the popular press which often refer to the two constructs interchangeably.

However literature reviewed from Voss et al (2004), Lovelock and Wright (2002), Johnson and Sirikit (2002), Lewis and Mitchell (1990), Hoffman and Bateson (1997) and Zeithaml and Bitner (2003) suggest that the two constructs are different. They espouse that the difference is in terms of their underlying causes and outcomes though they also acknowledge that the two are related. Parasuraman et al (1994) distinguished the two by the level at which they are measured, advocating that CS is a short term transaction specific measure while SQ is an attitude/global assessment formed by long term overall evaluation of a performance. In view of the various unresolved issues alluded to above, the following research hypothesis is proposed:

$H_1$: There is a positive linear correlation between service quality and customer satisfaction.

The remainder of the paper is structured as follows: the following section presents the discussion of the research methodology followed by the results along with the discussion and finally the conclusions of the study.

## Research Methodology

An exploratory research design was adopted using a mixed-method approach (qualitative and quantitative). Bryman (2004 cited by Schroeder and McEachern 2005) justifies the adoption of a mixed-method to achieve an in-depth insight into consumer behaviour. The qualitative stage conducted in the form of focus group discussions facilitated the identification of the technical (outcome) quality dimensions used in the subsequent quantitative phase. Three dimensions of reliability, service accessibility and network performance were identified. Secondly a pilot study with twenty respondents was undertaken as a way of assessing face validity and purifying the questionnaire. The questionnaire was used to collect data from two hundred mobile phone users, with interviews being administered in a mall intercept type of situation. Respondents were randomly selected and intercepted in and around the central business district (CBD) and high pedestrian traffic areas.

SPSS version 10.0 was used to compute descriptive statistics such as mean, standard deviation and variance, and also to compute the Cronbach reliability coefficient as well as performing correlation and regression tests.

## Results

In view of the numerous complaints expressed by subscribers we saw it fit to explore service quality and customer satisfaction issues with regard to the mobile telecommunications industry. Congruent with earlier anecdotal evidence, survey respondents reported encountering a plethora of problems when accessing a service from their mobile network operators. As shown in figure 1 below, network congestion and intermittent loss of network top the list of the problems encountered by subscribers.

**Figure 1: Problems faced by subscribers**
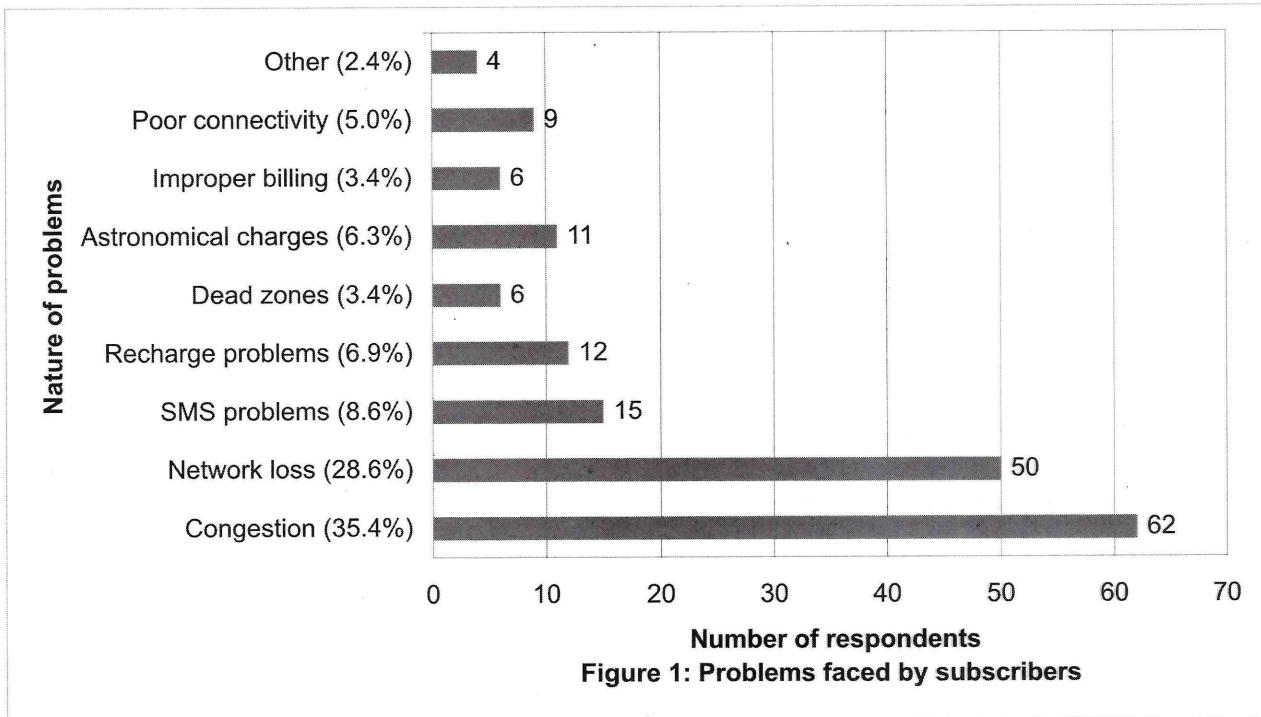
The reliability of measurement scales relating to the identified technical quality dimensions was computed by estimating the Cronbach using the reliability procedure in SPSS, version 10.0. The resultant was 0.836 (above the recommended minimum threshold of 0.7) indicating that the scales behaved consistently. Pearson's correlation coefficient was calculated to assess the statistical significance of the measurement scale's convergent validity. This was done by correlating the three technical quality dimensions with the measure of overall service quality. As shown in table 1 below, all marked correlations were significant at $p < 0.01$ levels, implying that the three dimensions converge with the overall measure of service quality.

Table 1: Correlation of overall service quality and mobile service quality dimensions

| Variables | | Overall Service Quality | Reliability | Service Accessibility | Network Performance |
|---|---|---|---|---|---|
| Overall Service Quality | Pearson correlation | 1.000 | .716** | .607** | .773** |
| | Sig. (2-tailed) | . | .000 | .000 | .000 |
| | N | 200 | 200 | 200 | 200 |
| Reliability correlation | Pearson | | 1.000 | .631** | .657 |
| | | | . | .000 | .000 |
| | Sig. (2-tailed) | | 200 | 200 | 200 |
| | N | | | | |
| Service Accessibility | Pearson correlation | | | 1.000 | .611** |
| | Sig. (2-tailed) | | | . | .000 |
| | N | | | 200 | 200 |
| Network Performance | Pearson correlation | | | | 1.000 |
| | Sig. (2-tailed) | | | | . |
| | N | | | | 200 |

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficients of overall service quality and technical quality dimensions of reliability, accessibility and network performance are 0.716, 0.607 and 0.773 respectively. Furthermore as postulated by Parasuraman et al (1994), the reliability of a scale as measured by the coefficient alpha reflects the degree of cohesiveness among scale items and is also an indirect indicator of convergent validity. The alpha values for the three technical quality dimensions were high thus agreeing with the above findings. Regarding the subscriber's performance perceptions with their mobile network operators across the three technical quality dimensions, reliability scored the highest average rating (6.84) followed by network performance (6.73) and service accessibility (6.59). However, the overall service quality score 7.02 was significant with the average of the three dimensions (6.72).

Table 2: Mean and standard deviation for measurement scales

| Item | N | Mean | Std. Dev |
|---|---|---|---|
| Reliability | 200 | 6.84 | 1.71 |
| Network performance | 200 | 6.73 | 1.87 |
| Service accessibility | 200 | 6.59 | 1.90 |
| Overall Service Quality | 200 | 7.02 | 1.77 |
| Overall Customer Satisfaction | 200 | 7.04 | 1.91 |

As shown in table 2, the overall customer satisfaction rating is 7.04. Additionally, the customer satisfaction ratings showed differing levels across a host of other variables as depicted in table 3. Results show that subscribers whose monthly bill exceeded $3 000000 were less satisfied than their counterparts whose monthly bill was between $500 000 and $3 000000.

Table 3: Comparative satisfaction scores on multiple variables

| Item | Dimension | N | Mean Satisfaction Score | Stnd. D | Variance |
|---|---|---|---|---|---|
| 1. Billing plan | Prepaid | 131 | 7.00 | 1.97 | 3.89 |
| | Contract | 32 | 6.66 | 1.99 | 3.98 |
| | Prepaid contract | 37 | 7.46 | 1.54 | 2.37 |
| 2. Monthly Bill | <$500 000 | 36 | 6.42 | 2.23 | 4.99 |
| | $500 000-<$1 500 000 | 99 | 7.32 | 1.74 | 3.02 |
| | $1 500 000-<$3 000000 | 40 | 7.18 | 1.85 | 3.43 |
| | $3 000000 | 25 | 6.52 | 1.96 | 3.84 |
| 3. Duration | < 1year | 49 | 7.45 | 1.65 | 2.71 |
| | 1-2 years | 65 | 7.49 | 1.77 | 3.13 |
| | >2 years | 86 | 6.44 | 2.01 | 4.04 |

Despite reporting low satisfaction levels (7.04), subscribers do not switch to other mobile network operators due to a host of reasons as presented in figure 1. Subscribers do not change their current mobile network operators primarily because of the switching costs coupled with the non-availability of lines on the formal market.



Figure 2: Reason for not switching to another MNO
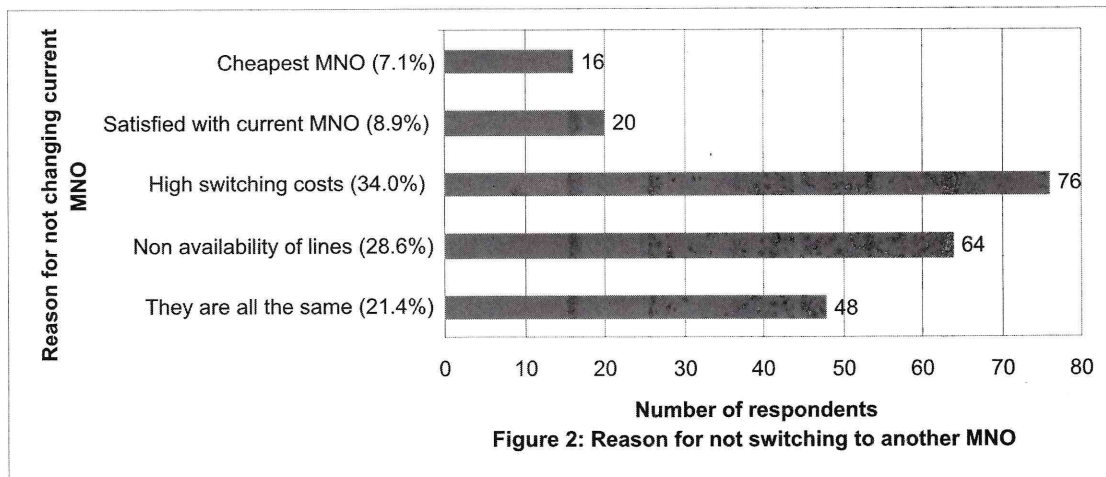
In pursuance of our research objectives, a linear regression analysis was computed in order to establish the predictive power of technical quality dimensions in assessing predictive validity. Technical quality dimensions were

regressed with overall satisfaction and overall service quality.

Table 4: Regression analysis

| DIMENSIONS[1] | BETA | $p$ – level |
|---|---|---|
| Reliability | 0.336 | 0.000 |
| Accessibility | 0.191 | 0.002 |
| Network performance | 0.364 | 0.000 |
| R= 0.779     $R^2$ = 0.607     Adjusted $R^2$ = 0.601     F = 101.106     $p$ <0.000 | | |
| DIMENSIONS[2] | BETA | $p$ – level |
| Reliability | 0.329 | 0.000 |
| Accessibility | 0.93 | 0.93 |
| Network performance | 0.501 | 0.000 |
| R = 0.82     $R^2$ = 0.679     Adjusted $R^2$ = 0.674     F = 138.443     $p$ < 0.000 | | |
| DIMENSION[3] | BETA | $p$ – level |
| Service quality | 0.758 | 0.000 |
| R = 0.758     $R^2$ = 0.574     Adjusted $R^2$ = 0.572     F = 267.084     $p$ < 0.000 | | |

[1] Service quality dimensions regressed with overall satisfaction with mobile services
[2] Service quality dimensions regressed with overall service quality
[3] Service quality regressed with customer satisfaction

As shown from the analysis, reliability and network performance have a greater impact on customer satisfaction and overall service quality. The *p* values for reliability and network performance in both instances are significant while service accessibility turned out to be an insignificant predictor (as shown by the *p* value of 0.93) of either service quality or customer satisfaction. Further, as shown by the beta coefficients, network performance and reliability rank as the first and second predictors of both customer satisfaction and service quality.

As for the relationship between service quality and customer satisfaction, results in table 4 demonstrate that the two constructs have a positive linear relationship (measured by correlation coefficient of 0.758). The coefficient of determination ($r^2 = 0.574$) suggests that the model fits the data well, while the scatter plot supports the positive linear relationship between service quality and customer satisfaction.

## Discussion

The problems being experienced by subscribers when accessing mobile phone services support earlier research findings by Cummings and Smith (2005) and Davies (2003). Day et al (2001) and Romero (2002) attribute these problems to increased usage and the influx of new users, which resultantly strain the capacity of mobile network operators to properly service existing customers. In view of the multiplicity and plethora of problems encountered by subscribers, performance ratings of mobile network operators across the three technical quality dimensions as well as subscribers satisfaction levels were low. These results support earlier findings by Cummings and Smith (2005) and Turel and Serenko (2004). Despite reporting low satisfaction levels, failure to switch their current mobile network operator suggests subscribers are hostages and false loyals. Lee et al (2001), Baker and Kim-Sung

(2003) and Davies (2003) cite high switching costs as one of the impediments deterring subscribers from switching to other mobile network operators. Regarding technical quality dimensions, mobile network operators should focus on network performance to improve not only subscribers' quality of experience but also service quality perceptions and customer satisfaction. Additionally, they should deliver a service commensurate with their marketing claims (reliability).

The importance of reliability as a driver of customer satisfaction is supported by the findings from JD Power Asia Pacific (2003). Our results pointing to the positive relationship between service quality and customer satisfaction conflict with empirical findings from Mittal et al (1998) who posit a non-linear relationship between the two constructs. However, the results inevitably support assertions by several researchers, among them Voss et al (2004), Lovelock and Wright (2002) and Johnson and Sirikit (2002) who argue that the two constructs are indeed different. Consequently, it follows that increasing mobile phone service quality yields corresponding changes in customer satisfaction levels.

## Conclusions

The aim of our study was four fold: 1) to determine the technical (outcome) quality dimensions of mobile phone services, 2) to assess which of the technical quality dimensions has the greatest impact on service quality and customer satisfaction, 3) to assess subscribers' satisfaction levels with their mobile network operators and 4) to assess the nature and strength of the relationship between service quality and customer satisfaction. With regard to the first and second research objectives, of the three technical quality dimensions identified as important during the qualitative stage, network performance and reliability rank as the first and second predictors and drivers of both service quality

and customer satisfaction. As for the third objective, mobile network operators need to improve their performance in order to improve service quality perceptions and ultimately enhance customer satisfaction. The reality is that mobile network operators are not providing subscribers with the level of service quality which they expect and want. Subscribers are frustrated with many aspects of mobile phone service they get from mobile network operators. Mobile network operators are missing many opportunities to delight their customers owing to the fact that their customers have not switched to other providers hence creating a false sense of satisfaction. In reality these subscribers are hostages who are trapped and cannot switch to other operators due to a host of switching barriers. Additionally, there is statistically different satisfaction levels between prepaid and contract subscribers despite the fact that they receive the same service.

As for the last research objective, indeed there is a positive linear relationship between service quality and customer satisfaction though the direction of causality is yet to be resolved.

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