FACTORS INFLUENCING CUSTOMERS' SATISFACTION IN THE TELECOMMUNICATION SECTOR: A CASE STUDY OF TELKOM KENYA LIMITED CENTRAL RIFT VALLEY REGION

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DECLARATION

DECLARATION BY STUDENT

This research proposal is my original work and has not been presented for a degree in any other university.

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SUPERVISORS APPROVAL

This Research project has been submitted for examination with our approval as the University Supervisors

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God bless you mighty.

DEDICATION

To my Dad Jonathan Ngeno and Mum Ruth for seeing me through very difficult times in life and their persistent prayer to see me succeed in life.

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ABSTRACT

Telecommunication plays a key role in economic development of a country. It is not only a dynamic growth sector but is also the backbone of growth for other sectors. This study aimed at establishing factors influencing customers satisfaction in the provision of telecommunication services. The sample used was selected using revenue proportions contributed by the two groups of customers that is corporate and individual customers. A sample of eighty (80) corporate and Twenty (20) Individual customers was used. From the list of 300 corporate customers in Nakuru Municipality 80 were selected using random sampling. The questionnaires were delivered and picked from the respondents premise. A research assistant was located at the company receipting office to serve the questionnaires to the 20 individual customers systematically after an interval of three. A response rate of 95% was realized. Data obtained was analyzed using cross tabulation and factor analysis. The hypotheses were tested using Chi-square. Factors found to be of importance to the study included customer perception, competition, exchange capacity and the billing system adopted by the company. The results depicted customer perception and billing system to have a significant influence on customers service satisfaction. It is recommended that constant review by the management of these factors be made to improve customer satisfaction which in turn leads to improved returns.

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GLOSSARY

TKL-Telkom Kenya Limited

CRV- Central Rift Valley

CORPORATE- include parastatals and business bodies

COMPANY- Telkom Kenya limited.

INTELLIGENT NETWORK (IN) - Modern technology network consisting of computerized services.

EXCHANGE- Investment infrastructure.

K P& T C- Kenya posts and telecommunications corporation.

G.O.K –Government of Kenya.

PTO-Public Telecommunication Operator

CALLING CARDS- Prepaid service

TELECOM-Telecommunication

DEFINITION OF TERMS.

Factor Loadings - Represent the degree of correlation between the particular variables and the factor. They are derived by the principle of least squares.

Factors - are linear combinations of data

Principal Component- Is the empirical method for reduction of voluminous data so that a maximum of the variance is extracted.

Communalities - Communality is a measure of the amount of a variable's variance that is explained by the extracted factors and is obtained by adding the squares of factor loadings.

Eigen value - This represents the percentage of variation for the variables Studied that is accounted for by the extracted factors.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Telecommunication has long been recognized as the engine for economic growth (Afullo, 1999). It is not only a dynamic growth sector itself, but it is also the backbone of development and economic growth in other sectors of the economy. It is an enabler, a facilitator and a stimulator of economic growth. The telecommunication market is one of the largest market in the world's economy, ranking third after banking and health services (McLarty, 1998). As service businesses have become more international, telecommunication services are rapidly growing and are the fastest growing part of international service trade (Gronroos, 1999). In addition, telecommunication is an important infrastructure of other businesses.

The increasing growth of international telecommunication and the importance of the telecommunication business in the current global economy has stimulated research into the telecommunication business. Historically, telecommunication was a natural monopoly, and because of national security concerns, was state-owned in most countries (Economides, 1998; Sarkar, Cavussgil, and Aulakh, 1998). Telecommunication has developed because of globalization forces and technology turbulence. In the 1900s, the telecommunication business was moved towards free markets (Economides et al., 1999). The increasing information intensity of economic activity and the globalization of capital flows, manufacturing and trade have resulted

Global competition and tremendous advances in information technology have rapidly reformed telecommunication markets from traditional public telecommunication operator (PTO) model into private capital markets for funding their modernization (Sarkar et al., 1999). Countries around the world such as, United Kingdom, Germany, and Argentina, have deregulated and developed into more competitive markets (Sarkar et al.,1999). By the early 1900s, there existed more than one competing firm in many regional markets (Economides, 1998).

Social-Political groupings such as the European Union have contributed to reforms in the sector. This union issued directives to all it's member countries to liberalize their sectors by 1998 otherwise they were to face sanctions. In the case of developing countries, besides the issue of technological changes in the sector and the abysmal performance of the incumbent operator, pressure from World Bank and other international organizations are influencing the opening up of the sector to competition (Wallsten, 1999). The main premise of the reform was to allow multiplicity of the operators to take advantage of the technological innovation in the sector to provide services that will meet the different needs of the subscribers.

This change has created a wave of privatization and liberalization, and thus new market opportunities. In the Kenyan environment poor infrastructure has been a significant drag on economic growth and development. High level of investment is required to rehabilitate, upgrade and expand infrastructure to attain growth targets set by the government for the economy. To achieve this objective and due to insufficient

resources to finance these investments, the Kenyan government introduced a Telecommunication regulator to regulate services provided by the telecommunication providers. This saw the split of KP&TC into three entitles i.e. Telkom Kenya a telecommunication company wholly owned by the Kenya government, Postal Corporation of Kenya and the Communication commission of Kenya.

Telkom Kenya Limited was expected to mobilize capital from the private sector through joint ventures and revenue sharing arrangements by issuing shares to the public through the Nairobi stock exchange (GOK, 2000) but this has not been affected. The mobile operators Kencell and Safaricom Limited have brought in Competition in the provision of Telecommunication services thus a need for Telkom Kenya Ltd. to improve its services despite inadequate modern infrastructure.

Table 1.1: Telecommunication services operators in Kenya

COMPANY	OWNERSHIP	TYPE OF SERVICE PROVIDED
Telkom Kenya Limited	100% G.O.K	All (National network operator)
Kencell communication Ltd.	60% French Telecoms-vivendi 40% Naushad Merali family	Cellular mobile telephone
Safaricom Limited	60% GOK 40% UK Vodafone	Cellular mobile telephone

Source: Compiled from data from the various companies

Telkom Kenya Limited has adopted a new billing technology to enable it compete in

the market but it seems the existing infrastructure is not sufficient to meet customers demand. The company has divided its operations according to geographical areas to enable smooth operations and control. Central Rift Valley region has a total line capacity of 26,712 lines and a current telephone connection of 16,833 lines. At least 6000 of these lines are connected to digital exchanges while the rest are analogue or manual. Telkom Kenya Ltd services can be grouped based on the mode of payments. The company offers postpaid, prepaid and spot services. The customers are grouped into two categories:-Corporate and other customers. The corporate customers contributes 80% of the revenue while 20% is contributed by the other customers both Government departments and individuals. It is evident from the revenue statistics on table 1.1 below that there has been unexplained revenue decline over the last few years.

Table 1.2 Telkom Kenya Limited/ CRV Revenue Analysis

Year	1999-2000	2000-2001	2001-2002	2002-2003
Revenue (Kshs.)	1,246,000,000	1,035,143,000	972,117,000	844,533,000

Source: TKL reports (1999-2003)

1.2 Problem Statement

Liberalization of the Telecommunication industry has seen the entry of other operators in the provision of telecommunication service. New entrants to an industry bring new investment, new products and even new technology. The seriousness of the threat depends on the barriers present and the reaction from existing competitors

was the adoption of modern technology to match those provided by the mobile service providers. The products introduced includes itemized billing system and the calling card which is a prepaid service item which should represent a quick return on investment. The prepaid service operates along side with the post-paid service have an advantage of being flexible to use and the ability for the customers to control their expenditures. The calling card can be utilized from any telephone connected to a digital exchange, hence it is expected that this will encourage many users of the company services.

The problem can thus be stated as despite the many years that TKL has been in operation, its revenue is constantly declining and it is not clearly known what factors influence customers satisfaction of the services provided.

1.3 Objectives

The general objectives of this study is to determine the factors influencing customers satisfaction in the telecommunication services provision. The specific objective is :-

(i) To determine factors that influences TKL customer's satisfaction

1.4 Hypotheses

The following hypotheses are proposed to guide the study:

i. The existing exchange capacity does not have any significant influence on customer's service satisfaction.

ii. Industry competition in the provision of Telecommunication service has no significant influence on customer preference for telecommunication services.

iii. Customer perception on Telkom Kenya services has no significant influence on

customer demand.

iii. The billing system has no significant influence on customer service satisfaction.

1.5 Scope and Limitations

Research in telecommunication services is in the early stage, there are a few studies done on the subject matter. Therefore analysis of this study is based on newspapers, magazines articles and Internet materials.

1.6 Justification of the Study

The liberalization of the Telecommunication service has brought in competition in the provision of telephone service. Competitive firms are able to generate revenue, which is then used to improve on the service and consequently becomes more stable and profitable. The study is very useful since telecommunication is not only a dynamic growth sector by itself but also is the backbone of development and economic growth in other sector. The performance of telecommunication influences those of other sectors therefore it is necessary to establish the factors influencing the demand of the services offered by the sector. The increasing growth of international telecommunication business in the current global economy has encouraged research into the telecommunication business. This research will help generate information that can be used as an input into future financial decisions by TKL. The research will also generate information to investors who would like to know the performance of the company over time to enable them make informed investment decision .To the interested researcher it may be an input for further research.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Definition of a Service

Various definitions of a service exist by various authors Kotler and Armstrong (1996) have defined services, as "Any act performance that one party can offer to another that is essentially intangible and does not results in the ownership of anything. The American marketing Association (Palmer, 2000) defined services as activities, benefits and satisfaction, which are offered for sale or provided in connection with the sale of goods.

2.2 Unique Characteristics of Services

Services have certain characteristics that distinguish them from physical goods. These are intangibility, variability, inseparability and Perishability (Palmer, 2000).

Intangibility

Services are intangible. They cannot be seen, tested, heard or smelt before they are purchased. Services are performances that can be experienced only as they are delivered (Berry et al., 1982). They are therefore said to be riskier than physical goods since they cannot be experienced before they are purchased.

Variability

Services cannot be produced consistently and the customers are usually present in the production process (Palmer, 2000). Production may differ from day to day and from time to time thus making uniform quality difficult to assure.

Perishability

Unlike most goods, services cannot be stored. This therefore requires that attention is given to the management of demand and supply (Palmer, 2000).

Inseparability

Services cannot be seen but the buyer has to have faith in the service provider. The service provider therefore need to do certain things to improve on the clients confidence to enable them develop loyalty to the service. A service is inseparable from its source whether the source is a person or machine. The entertainment value is inseparable from the performance.

2.3 Telecommunication Services

Telecommunication is one of the important service for economic growth (Afullo, 1999). Services are classified into dimensions: General dimensions and international dimensions. In general, there are three types of services: People-processing services, Possession processing services, and Information-based services (Lovelock and Yip 1996). People-based services involve tangible actions to customers in person.

Possession-processing services involves tangible actions to physical objects to improve their values to customers. The objects need to be involved in the production process. Finally, information-based services depend on collecting, manipulating, interpreting and transmitting data to create value. Telecommunication service, according to this classification is people-based service. In terms of international services, telecommunication is classified as vehicle-based service. International service is classified into four idealized types (Clarke and Rajaratnam, 1999). First, contact-based services are services where people (producers or consumers) cross boarders to engage in transactions (e.g. consultant service, temporary labor). Second, vehicle-based services are communications that are directed in and out of nations via radio, televisions, satellite, transmissions, wires and/or wireless or other facilitating "Vehicles" (e.g. telecommunications). Third, Asset-based service are commercial service ideas that are tied to foreign direct investment and which cross boarders to establish an operating platform (e.g. Banks) Fourth, object-based services are physical objects impregnated services which move into a nation (e.g. Computer software, video cassette, repairs to machinery).

2.4 Classification of Telecommunication Services

Telecommunication is a communication-based service that is the essential ingredient for economic development (Clark et al., 1999). Telecommunication is both the core and the infrastructure of the information economy (Afullo, 1999). Telecommunication is composed of fixed-line telephone, Cellular telephones, Televisions, Internet, Radios, Personal computers, Satellite and cable (Fisk, 1999).

Telecommunication is also classified as basic services and enhance services (Mclarty, 1998). Basic telecommunication services are voice and non-voice services. It consist of the transmission of information between point specified by user in which the information delivered by the telecommunication agency are voice telephone services, packet-switched data transmission services, circuit switched data transmission services, facsimile services, privately leased circuit services and mobile services. Enhanced telecommunication services are services in which the voice or non-voice information being transferred from one point to another undergoes an end to end restructuring or format change before it reaches the customer. Enhanced telecommunication services include electronic mail, voice mail, on-line information, electronic data interchange, value-added facsimile services, code and protocol conversion, and data processing

2.5 Role of Telecommunication in a Country or Global Business

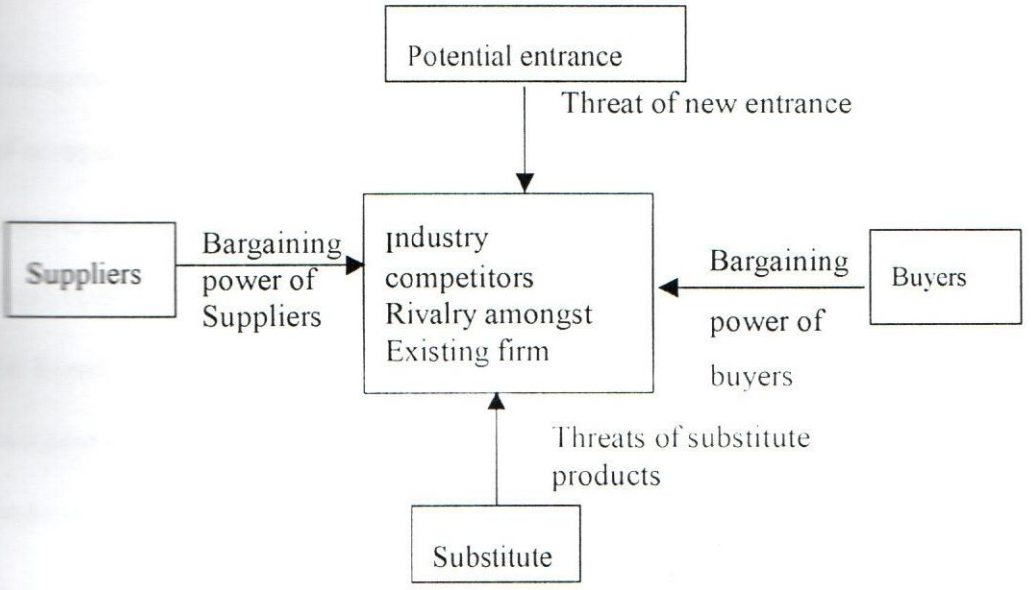
The telecommunication business plays a very important role in today's global business. It is both distinct sector of economic activity and the underlying transport means for other business (Mc Larty,1998). As a global vehicle-based service business itself, it is the fastest growing service business in the global economy (Clark and Rajaratname, 1999). In addition, it supports other service businesses in the delivery of service and allows them to communicate internationally easier and faster than in the past (Mclarty et al., 1998). Through the advanced technology of telephone services, such as wireless communication and electronic commerce, International services have become more diverse (Afullo, 1998). Telecommunication

service helps other services by offering and distributing services online. This telecommunication service is emerging as a key globalization driver for other services especially information-based services.

2.6 Factors affecting Firms Performance

Porter (1979) illustrated on forces that shape industry competition by scrutinizing industry competitors, customer needs, vertical industry structure, channels of distribution, cost, barriers to entry, availability of substitute and suppliers. A strategist seeks to determine whether the firm current internal capabilities represent strength or weakness in the competitive arena.

Figure 2.1: Forces driving industry competition



Source: Porter (1979)

The nature and degree of competition in an industry hinge on the above five forces, the threat of new entrants, the bargaining forces of suppliers, the threat of substitute products or services and the jockeying among current contestants. Looking at the competitors, firms in the same industry often have different marketing skills, financial resources technical know-how, brand images, level of integration, managerial talents and other qualities. These may represent strength or weakness depending on the strategies the firm adopts. The weaker the collective forces, the greater the opportunity of the stronger/superior firms to perform better. The corporate strategists goal is to find a position in the industry where the firm can defend itself against those forces.

Telkom Kenya Ltd. is on a restructuring process that could help reposition the company as a market leader in the increasing competitive market.

Fremprong (2002) noted that one of the offshoots of liberalization is the introduction of competition in the provision of telecommunication services in a country. In Ghana competition in the telecommunication sector is taking place on two fronts among the fixed operators on one hand and between mobile operators on the other. In his study he found out that financial difficulties affect the capacity of the companies to compete effectively thus influence customers satisfaction and effect has an impact of firms revenue the growth of revenue.

2.7 Fixed Versus Mobile Network Evolution –complements or substitutes

Several previous economic studies have addressed the question whether fixed-line and mobile communication substitute for or complement one another (Gruber and Verboven, 2000). In various countries e.g. Finland and Portugal the number of mobile phone subscribers has grown rapidly and is currently higher than the number of fixed-line services subscribers. This trend suggests that mobile communication may substitute for fixed telephone line use. Nevertheless, an increase in mobile telephone use may also increase traffic in the fixed telephone network. In other words, it is credible that wireless and wire line network use are complements. The net effect of mobile phone diffusion on the demand for fixed telecommunication network seems unclear. Gruber and Verboven (2000) as well as Ahn and Lee (1999) suggest that in the central and eastern European countries investments in fixed telecommunication network have not been sufficient to satisfy the demand for telecom services, mobile phones complement the fixed telephone lines. Empirical findings by Borros and Cadima (2000), instead suggest that an increase in the mobile phone penetration rate has decreased fixed-line telephone penetration in the Portuguese markets. High capacity networks made competition viable in the provision of fixed-line services, but the economic reasons for liberalizing telecommunication markets have primarily arisen from dissatisfaction with the functioning of monopoly markets.

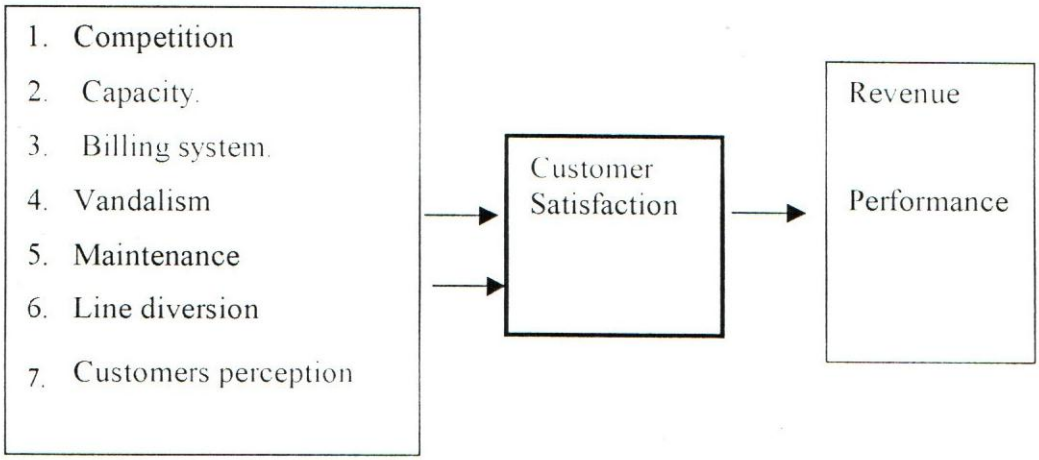
2.8 Conceptual Framework

In a highly technological and fast-paced environment especially of

telecommunication, patience with service shortcomings tend to run out pretty quickly. Quality service is quite essential since new customers would not like waiting for too long to be connected. It is important for the service provider to install adequate modern infrastructure, which will meet the customers demand therefore leading to increased return to the company. It is reasonable to expect that with the opening of the market, licensed operators are competing to increase their market share therefore it is expected that prices will come down, quality of service improved and new modern services introduced. Telkom Kenya Ltd. has introduced the prepaid services to the existing post-paid service to be able to compete with the mobile service providers. However its exchange capacity is not fully modernized. Customers opting to use the new products may not be accommodated due to inadequate exchange capacity.

The company facilities are highly susceptible to vandalism this has led to delay in the expansion and modernization of the network. It is expected that as a result of the theft of the telephone wires, customers are not able to generate calls and this leads to a decline in revenue. Line diversion on the other hand leads to the company loosing revenue especially on numbers not allocated to customers. Similarly if customers lines are diverted the company revenue drops due to the disputed accounts.

Fig. 2.2 Conceptual framework



Source: Author's own, 2003

This model signifies the effect of the various variables on customer's service satisfaction.

The provision of services to the customers is affected by various variables including competition, investment capacity, the billing system, natural catastrophes and vandalism, line diversion and other variables. All these variables have influence on the customer's satisfaction, which affect the company revenue. To achieve the desired results, it is important for a firm to ensure sustained improvement in the availability, reliability and quality of telephone service

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This section covers research design, study area, target population, type of data to be collected, data collection instruments, sampling procedure, data analysis and presentation. A survey study was to be carried among various categories of Telkom Kenya Limited customers.

3.2 Area of Study

The study concentrate in Nakuru town. Nakuru is the headquarters of Rift Valley Province and also is the Headquarters of Central Rift valley region as per Telkom Kenya regional segmentation. The town is centrally placed and is the fifth revenue earner and being the fourth largest town in Kenya after Nairobi, Mombasa and Kisumu it harbors most of the customers of interest.

3.3 Population

The population of concern included all Telkom Kenya Limited customers in Central Rift of about 16,000. This region cover five districts (Nakuru, Koibatek, Nyandarua, Baringo and part of Laikipia).

3.4 Sampling Procedure

A sample of 100 customers was used for this study. It is expected that most of the customer's opinions on the company's service are similar across the board therefore

due to limited finances and time a sample of 100 was sufficient. The sample was selected based on revenue contribution. A list of the (300) company corporate customers who contribute 80% of the regional revenues was used to extract those in Nakuru town of about (100). The other company customers of over (15,000) contribute 20% of the total regional revenue. Therefore stratified sampling based on revenue contribution was used. In this case a sample of 80 corporate customers was selected using random sampling method. The population was numbered from 1 to 100, 80 customers were selected from the random table in a systematic way. A Sample of (20) representing other customers using Telkom Kenya Limited service was selected by placing a research assistant at Telkom receipting center (Telecare center). Systematic sampling method was utilized to obtain the required sample of 20 customers. The first customer was selected at random, after that an interval of 3 was maintained until the 20 customers were obtained.

3.5 Data Collection and Instruments Used

A cross sectional study was conducted. Primary data was collected using both Structured and semi-structured questionnaires. The primary data collected included customer's attitude towards Telkom Kenya service provision, maintenance of Telephone numbers, the billing method and their preference, use of other telephone services apart from TKL fixed lines, the lines preferred by customers, the ease of use of TKL services.

3.6 Data Presentation and Analysis

Data was analyzed using both descriptive and analytical methods. This included frequency tables, cross tabulation and Chi-test of independence and factor analysis.

3.6.1. Measurement of variables

Qualities associated with the specific variables conceptualized were all gauged in a likert scale.

3.6.2. Model of analysis

$P_K = a_{kj}x_j + a_{kj}x_j + \text{---} + a_{kj}x_n$

Where

P_K = Principal Component (Factor identified)

K = 1,2,3,-- - n

a_{kj} = Factor loading (coefficient)

X_j = Variables

j = 1,2,----10

CHAPTER FOUR

4.0 FINDINGS AND DISCUSSIONS

4.1 General findings

The targeted population for the study was stratified based on revenue contribution. A sample of eighty (80) corporate and twenty (20) individual customers in Nakuru municipality was used for the study. All the 100 questionnaires were served to various respondents. A response rate of 95% was obtained. This response was considered representatives as the respondent were drawn from various categories of customers.

4.1 Distribution of Corporate Customers

Type of business	Frequency	Percentage
Motor vehicle	17.0	22.4
Insurance	6.0	7.9
ISP	3.0	3.9
Farm input	5.0	6.6
Bookshop	4.0	5.3
Hard ware	9.0	11.8
Product processing	10.0	13.2
Hotel	10.0	13.2
Supermarket	5.0	6.6
NGO	3.0	3.9
Banking	4.0	5.2
Total	76	100

Source: computed from survey data

From table 4.1, the corporate customers who responded to the questionnaire were 76 representing 95% of the expected response. The motor vehicle dealers formed 22.4

% while the least was the NGO forming 3.9%.

Table 4.2: Distribution of fixed telephone lines amongst the corporate customers

Lines	Frequency	Percentage
1-5	49.0	64.5
6-10	24	32.6
21-25	3.0	3.9
36-40	0	0.0
Total	76	100.0

Source: Computed from survey data

Table 4.2 shows that 64.5% of the respondents have between 1-5 lines, 22.4% between 6 – 10 and 13.1% have over 21 lines. It can be concluded from the findings that most of Telkom Kenya corporate customers have more than one telephone line and none has over 36 lines. This group of customers could be using the telephone for fax facility and even Internet services the TKL needs to concentrate on provision of quality service to maintain these customers.

Table 4.3 : sufficiency of telephone lines

Response	Frequency	Percentage	Telephone Application
Yes	55	72.4	No
No	21	27.6	Yes
Total	76	100%	

Source: Computed from the survey data

Table 4.3 indicates that 72.4% are satisfied while 27.6% are not. This study revealed that most of the corporate customers are satisfied with the telephone lines already

installed in their premises. The table above indicates that of the 76 respondents, 55 were satisfied with the number and the performance of telephone lines owned while the remaining 21 were not satisfied have already applied for extra telephone lines.

Table 4.4 Distribution of personal Customers according to sex

Sex	Frequency	Percentage
Male	10	52.6
Female	9	47.4

Source: Computed from the survey data

Table 4.4 indicates that of the 19 individual customers who responded 52.6% of them were male while 47.4% were females. Though the male represent the highest percentage the differential is very minimal. This could be interpreted to mean that sex is not a critical determining factor of ownership of telephone service.

Table 4.5 : Distribution based on age and income

Income	Age	Frequency	Percentage
10,000-30,000	30-40	18	94.7
20,000-30,000	50-60	1	5.3
Total		19	100

Source: Computed from the survey data

Table 4.5 showed that most of the individual customers having fixed telephone lines are of age between 30 and 40 years and earn an income of between 10,000 and 20,000. This basically shows that age and income determines individual ownership of telephone service but it doesn't determine the satisfaction of the same.

Table 4.6: Telephone line owned

	INDIVIDUALS		CORPORATE	
Series	Frequencies	%	Frequencies	%
21XXXX	9.0	47.4	65	85.5
4XXXX	2.0	10.5	11	14.5
8XXXX	3.0	15.8	-	-
Others	2.0	10,5	-	-
No fixed lines	3.0	15.8	-	-
Totals	19	100	76	100

Source: Computed from the survey data

From table 4.6 both groups of customers have differing opinions concerning the kind of services offered by Telkom Kenya. 85.5% of the corporate customers and 47.4% of the individual customers prefer telephone numbers with series 21xxxx. Further investigations indicates that most of those respondents with other series of numbers have already consulted for change of number but the response received from the company is that the optional numbers are not available. The telephone line series most preferred have modern facilities which are designed to meet the requirement of the customers. Thus there is a tendency for the customers to shift from the outdated technology to modern technology where they are able to control their consumption by using call barring facilities, callback services, use of prepaid cards and even recording their calls.

Table 4.7: Prepaid services usage

	CORPORATE		PERSONAL	
Responses	Frequency	%	Frequency	%
Yes	11	14.5	3	15.8
No	65	85.5	16.0	84.2
		100		100

Source: Computed from the survey data

Table 4.7 shows that both corporate and personal customers have not extensively adopted the use of prepaid services. Out of 76 corporate customers only 11 representing 14.5% use this service and out of the 19 individual customers only 3 representing 15.8% uses this service. The prepaid service has not been extensively adopted by TKL customers.

Table 4.8: Purchase trend of the prepaid cards.

	Corporate				Individuals			
Responses	200	500	1000	2000	200	500	1000	2000
Yes(%)	39.5	19.7	2.6	64.5	36.8	-	-	5.3
No(%)	60.5	80.3	97.4	35.5	63.2	100	100	94.7
Total	100	100	100	100	100	100	100	100

Source : Computed from the survey data

Table 4.8 indicate that corporate customers who buy prepaid cards buy more of the 2000/= denomination cards representing 64.5% while the individual customers buy more of the low valued cards of 200/= representing 36.8%.

Table 4.9 : Ranking of TKL services by users

	Corporate		Personal	
Response	Frequency	%	Frequency	%
Excellent	9.0	11.8	2.0	10.5
Very good	40.0	52.6	4.0	21.1
Good	46.0	30.3	10.0	52.6
Poor	4.0	5.3	2.0	10.5
Very poor	-	-	1.0	5.3
Total	76	100	19	100

Source: Computed from the survey data

Table 4.9 shows that 52.6% of the corporate respondents rang TKL services as very good while 52.6% view the services as good. Further investigations revealed that about 77.6% of the corporate respondents used mobile services while 89.50% of the individual customers use the mobile services as an alternative means of communication. There was a common reason given by both groups of reliability and convenience.

Table 4.10: Telkom Billing system

	Individual		Corporate	
	Frequency	Percentage	Frequency	Percentage
Very Expensive	4	21.1	8.0	10.5
Expensive	12.0	63.2	61.0	80.3
Normal	3.0	15.8	7.0	9.3
Total	19	100%	76	100%

Source: Computed from the survey data

Table 4.10 indicates that 80.3% of the corporate respondents and 63.2% of the

individual respondent's feel that the services offered by TKL are expensive. Those who find the billing to be normal are 15.8% corporate and 9.3% of the individual customers. TKL needs therefore to reconsider its billing system and compare it with the service provided.

4.2. Factors Analysis

The section presents the extractions of factors that influence customers satisfaction using the principal component method.

Table 4.11 Variable affecting customers satisfaction

Variable	
X_1	Prepaid cards are easy to use
X_2	Prepaid cards good budget
X_3	Calling cards cheaper than scratch cards
X_4	Calling cards can activate disconnected line
X_5	Faulty lines are repaired immediately
X_6	Customers line always available
X_7	Customers are attended promptly
X_8	Disputed accounts are rectified immediately
X_9	TKL Services best compared to mobile
X_{10}	Low access charges
X_{11}	Fixed lines are economical.

Source: Field Studies, 2003.

Factor analysis was performed on corporate customer's response to reduce the large set of variables into few significant factors. The process helped to reveal the

underlying factors that determine relationship between the observed data. The coordinate of each variable was measured to obtain the factor loading. Table 2 (Appendix II) reflects the interrelationship between the various factors. A strong correlation is indicated by factor loading greater than or equal to 0.5. The findings in Table 2 (Appendix II) shows that the variables are highly correlated. The analysis of the principal component was used to group the variables into few factors. Table 3 (Appendix II) identified to two factors, which explained the highest variability in the variables. It is indicative in table 3 (Appendix II) that factor 1 explains 78.86% variability while factor 2 explains 21.81%.

A varimax rotation was carried out to establish more factors since the factor loadings obtained were very high.

Table 4.12. Identifies the factors associated to the variables with factor loading of over 0.5 extracted from table 4 (Appendix II)

Table 4.12 Identification Factors (corporate respondents)

Factor Name	Variables	Factor Loading	Variation %
Customer perception	X_5	0.927	
	X_6	0.987	
	X_7	0.976	78.86
	X_8	0.984	
	X_9	0.837	
	X_{10}	0.975	
Billing System	X_1	0.946	
	X_2	0.905	
	X_3	0.905	21.81
	X_4	0.868	

Source: Computed from Survey data.

The equation related to this factor are as follows;

$P1 = 0.927X_5 + 0.987X_6 + 0.976X_7 + 0.984X_8 + 0.837X_9 + 0.975X_{10}$

$P2 = 0.946X_1 + 0.905X_2 + 0.905X_3 + 0.868X_4$

A similar analysis was done to the same variables with the response data from the individual customers. Table 3 appendix (III) shows that there were four factors extracted. After varimax rotation factors 1,2,3,4 constituted 25.07%, 21.94%, 18.94%, 12.46% of the variation respectively. The factors identified according to the strength of variability were as tabulated below:

Table 4.13: Identification of factors (individual Respondents).

Factor Name	Variable	Factor Loading	Variation %
Customer Perception	X4 X5 X9	0.897 0.609 0.908	25.07
Billing System	X6 X7	0.849 0.584	21.94
Exchange Capacity	X1 X8 X10	0.696 0.678 0.751	18.94
Competition	X3 X5	0.876 0.607	12.46

Source: Computed from survey data

The equations related to these four factors are as follows:

$P1 = 0.897X_4 + 0.609X_5 + 0.908X_9$

$P2 = 0.849X_6 + 0.584X_7$

$P3 = 0.696X_1 + 0.678X_8 + .751X_{10}$

$P4 = 0.876X_3 + 0.607X_5$

high variability and the various variables associated are seen to be significant for the study.

Other factors extracted included exchange capacity and competition which also showed an extend of variability. The general conclusion obtained is that customer satisfaction is influenced by a combination of factors including customer perception, the billing system, exchange capacity and industry competition. To establish which factor has a great influence over the firms performance the independence of each factor was measured using the Chi-square test.

4.3. Hypothesis Testing

The hypothesis of this study were tested using a Chi-square test of independence

Hypotheses 1

Ho: The existing exchange capacity does not have any influence on customers service satisfaction. The chi –square calculated was on 0.500 while the Chi-tabular was 0.7779 at 5% level of significance. Decision rule – reject Ho if the Chi-square calculated is greater than Chi-tabular. The null hypothesis therefore failed to be rejected and a conclusion reached that there is insufffient evidence of a relationship between exchange capacity and customer satisfaction.

Hypotheses 2

Ho: Industry competition in the provision of Telecommunication service has no

significant influence on customer preference for Telecommunication services. The computed Chi-square value was 0.00 and the table value was 1 at 5% level of significance. Decision rule reject Ho if Chi- calculated is greater than- Chi tabular. Since Chi- calculated was less than Chi-tabular the researcher failed to reject Ho and conclude that there's insufficient evidence of a relationship competition and customers preference of Telecommunication services.

Hypotheses 3

Ho: customer perception on Telkom Kenya services has no significant influence on customers demand. Chi- square computed was 0 while the Chi-tabular was 1 at 5% level of Significance. Decision rule reject Ho if Chi- calculated is less than Chi tabular we fail to reject Ho and conclude that there's insufficient evidence of a relation ship between customer perception and satisfaction.

Hypotheses 4

Ho: - The billing system has no significant influence on customer service satisfaction. The Chi square calculated was 0.0 and the Chi -square tabular was 1. We failed to reject the Ho and conclude that there is insufficient evidence of a relationship between the billing system and customer satisfaction.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

This study revealed that customers satisfaction of Telecommunication service is influenced by a combination factors. The variables conceptualized in this research were all found to be contributing to the customer satisfaction for the service. The study also revealed that those factors influencing the corporate customer satisfaction do also influence the individual customers but with lower variability. This is an indication that the two groups of customers need to be treated differently when providing services.

The leading TKL corporate customers based on the study were the motor vehicle dealers representing 22.4% of the total corporate respondents. The corporate customers have more than one telephone lines installed and 64.5% of the corporate customers have between 1-5 telephone lines. 72.4% of the corporate customers are satisfied with the performance of TKL services.

Most of the company revenue is obtained from these customers who own more than one line and are satisfied with the performance. The study confirmed as was earlier indicated that 80% of the company revenue is from the corporate customers.

Most of the individuals who own telephone services are of age bracket 30-40 years

and earn an income of between 10,000-20,000/=. The male represent 52.6% hence the leading based on this observation. Therefore sex, age and income determine the ownership of telephone services by individuals.

Both individuals and corporate customers use mobile services to a large extend. The reason for the use of mobile services is due to reliability and convenience. This shows that TKL services do not sufficiently meet customers needs. There is therefore need for improved service provision in terms of maintenance of lines, accurate billing e.t.c. to reduce the exit due to unreliable services. There's a preference by both groups of customers of telephone lines with series 2xxxxx. Statistics indicates that 81.6% of the corporate and 52.3% of individuals prefer the numbers with the above series. It is also indicative from the study that TKL is not in a position to service the need for these required numbers. The response from TKL to customers request on change of numbers is that the optional lines are not available. It was also observed that very few customers have adopted the use of prepaid services. 14.5% and 15.8% of he corporate and personal customers already use the prepaid service. The corporate customers prefer the use of 2,000/= denomination while the individual customers prefer 200/= denomination cards. Out of these customers who use this service 84.2% of the corporate and 78.9% of the individual customers find the prepaid cards less expensive compared to post paid service. This shows that Telkom prepaid services though economical in use have not been adopted by the customers. Both groups of customers use other means of communication. The study shows that 77.6% of the corporate and 89.50% of the individual customers use mobile services with the reason of the reliability and convenience of the service. It

was observed that there was no one unique factor responsible for the observed revenue trend as such a combination of factors were responsible for this. However it was established that customer perception and the billing system adopted greatly affected the company revenue.

5.2 Recommendations

To be able to survive in the competitive environment, TKL need to concentrate on the provision of the services required by the customers. Therefore an increased in the number of telephone lines with series 2xxxxx to be able to cope with customer's demand.

The company needs to improve its prepaid service to enable it be attractive to the customers. Based on the findings customers tend to prefer the mobile prepaid services as compared to TKL prepaid service despite being cheap. An inclusive marketing of these service may be necessary to enable customers appreciate the facility. The company to concentrate on provision of quality service to their corporate customers since they contribute a high percentage of revenue by ensuring that their lines are properly maintained and are in working conditions throughout.

5.3 Further research

I. A similar research study to be conducted in other regions to test the validity of the findings.

II. Establish all the factors influencing customers satisfaction for the Telecommunication services and the extend to which this factors have influenced revenue growth.

III. To establish the performance of TKL prepaid cards in the market and ways to improve this service.

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APPENDIX I

STELLA KORIR,

P.O BOX 536,

NJORO.

TO WHOM IT MAY CONCERN

Dear Sir / Madam,

RE: REQUEST FOR RESEARCH DATA

I am a Master of Business Administration student at Egerton University carrying out a research project in partial fulfillment of the degree requirements. The research topic is:- factors influencing revenue growth in the telecommunication sector: a case study of Telkom Kenya central rift valley region.

I hereby request you to complete this questionnaire. The information obtained is purely for academic purpose and will be held in strict confidence.

Thank you,

Yours faithfully,

Stella C Korir.

RESEARCH QUESTIONNAIRE

(CONFIDENTIAL)

To be answered by Telkom Kenya Limited corporate customers

PART A: INSTRUCTIONS

Where necessary tick appropriately in the space provided. ☐ If the space provided is not enough use the back of the respective page.

1. What is the name of your organization? ----------

---

2. Which business are you involved in? ----------

---

3. How many Fixed Telephone lines do you have in your organization?----------

4. Are the numbers you have sufficient for your needs?

   Yes ☐

   No ☐

5. If Yes go to 8 . Have you applied for extra lines?

   Yes ☐

   No ☐

6. If Yes. What was the response from TKL?

Wait ☐

No lines ☐

No service of numbers required ☐

Others ☐

7. If No why have you not applied?----------

---

8. Which series of Telephone do you have?

21 xxxx ☐

4 xxxx ☐

8 xxxxx ☐

9. Others----------

---

10. Are you satisfied with the performance of this line?

Yes ☐

No ☐

11. If No which of the numbers perform well and why ----------

---

12. Have you consulted Telkom Kenya for change of numbers

Yes ☐

No ☐

13. If yes what was the response----------

---

14. Do you use prepaid service?

YES ☐

NO ☐

15. If yes how has your telephone expenditure been affected?

More expensive ☐

Less Expensive ☐

Same ☐

16. What is the frequency of your purchase of calling cards and in what denomination

Kshs.	200	500	1,000	2,000
In a Week				

17. Do you use Mobile telephone services?

Yes ☐

No ☐

18. If yes give reasons ----------

---

19. How do you classify Telkom services compared with the mobile telephone service providers?

Excellent ☐ Very good ☐ Good ☐ Poor ☐ Very poor ☐

20. What is the frequency of your purchase of the mobile scratch cards?

Kshs	250	500	1,000	2,000
In a week				

21. How would you describe the billing systems of Telkom Kenya Ltd.

Very expensive ☐

Expensive ☐

Normal ☐

Fair ☐

Part II

Please indicate on the scale by ticking (√) the extend to which you agree on the following statement on the use of Telkom Kenya Lines.

Strongly agree = 5, Agree = 4, neither nor Disagree = 3, Disagree =2,

Strongly disagree = 1

It is easy to follow Instructions when using calling cards. ☐

The use of calling cards represents a good amount of the budget. ☐

Using of calling cards is cheaper than the postpaid (bills). ☐

Calling cards can activate a call even when the phone is disconnected. ☐

Faulty lines are repaired immediately to enable Customers utilize services ☐

Customers lines are never interfered with the lines are always available for use when required. ☐

Customers are attended to promptly when they call on help lines.

Disputed accounts are rectified immediately they are brought to attention. ☐

Telkom Kenya services are the best Compared to the mobile services. ☐

The access fee raised on the bills is on the lower side. ☐

It is very economical to utilize the fixed lines ☐

RESEARCH QUESTIONNAIRE (CONFIDENTIAL)

To be answered by Telkom Kenya other customers

PART A: INSTRUCTIONS

Where necessary tick appropriately in the space provided ☐ cases indication of "others" are given please provide information in the space provided. If the space provided is not enough use the back of the respective page.

1. Name of the respondent (Optional)----------.

2. Sex of the respondent
   (a) Male ☐
   (b) Female ☐

3. What is your age bracket? please tick
   20-30 ☐
   30-40 ☐
   50-60 ☐
   60-Over ☐

4. Occupation of the respondent e.g. (a teacher, lawyer)----------

5. What is your income bracket?
   (a) Less than 5000 ☐
   (b) Between 5000-10000 ☐
   (c) Between 10000-20000 ☐
   (d) Over 20000 ☐

6. Do you own a fixed telephone line?
   (a) Yes ☐
   (b) No ☐

7. If yes Which series of Telephone do you have?

21 xxxx ☐

4 xxxx ☐

8 xxxxx ☐

Others----------

---

7. Are you satisfied with the performance of this line?

Yes ☐

No ☐

8. If No which of the numbers perform well and why ----------

---

9. Have you consulted Telkom Kenya for change of numbers

Yes ☐

No ☐

10. If yes what was the response----------

Do you use prepaid service?

YES ☐

NO ☐

If yes

7 How has your telephone expenditure been affected?

(a) More expensive ☐

(b) Less Expensive ☐

(c) Same ☐

8 What is the frequency of your purchase of calling cards and in what denomination ?

	200	500	1,000	2,000
In a Week				

9 Do you use Mobile services?

Yes ☐

No ☐

If yes give reasons ----------

---

10 How do you classify Telkom services compared with the mobile services

Excellent ☐ Very good ☐ Good ☐ Poor ☐ Very poor ☐

11 About how much are you spending on the other services?

	250	500	1,000	2,000
In a week				

12. How would you describe the billing systems of Telkom Kenya Ltd.

Very expensive ☐

Expensive ☐

Normal ☐

Fair ☐

APPENDIX II

FACTOR ANALYSIS – CORPORATE CUSTOMERS

Table 1: The considered variables

			SA	A	NND	D	SD
Variables 1	Easy of use	X1	0.00	0.00	7.89	92.11	0.00
Variable 2	Calling card good budget	X2	0.00	1.32	13.16	67.11	18.42
Variable 3	Calling card cheaper than post paid	X3	0.00	1.3	13.2	67.11	18.4
Variable 4	Activates lines during disconnection	X4	0.00	6.6	19.7	50.0	23.7
Variable 5	Faulty lines repaired immediately	X5	0.00	0.00	7.9	42.1	50.0
Variable 6	Customers lines available	X6	0.00	0.00	0.00	35.5	64.5
Variable 7	Customers attended to promptly	X7	0.00	0.00	6.6	35.5	57.9
Variable 8	Disputed A/C rectified immediately	X8	0.00	0.00	2.6	35.5	61.8
Variable 9	TKL Services the best	X9	0.00	0.00	10.5	47.7	42.1
Variable 10	Low access charges	X10	11.8	0.00	6.6	34.2	47.4
Variable11	Land lines economical	X11	63.2	0.00	3.9	10.5	22.4

Key : ***SA*** ***- Strongly agree*** ***D*** ***- Disagree***

A ***- Agree*** ***SD*** ***- Strongly Disagree***

NND ***- Neither nor Disagree***

Table 2: Correlation matrix

Variables	1	2	3	4	5	6	7	8	9	10	11
1	1.000	0.964	0.964	0.883	0.496	0.268	0.317	0.287	0.656	0.372	-0.242
2	0.964	1.000	1.000	0.970	0.697	0.489	0.542	0.510	0.826	0.571	-0.296
3	0.964	1.000	1.000	0.970	0.697	0.488	0.542	0.509	0.826	0.571	-0.296
4	0.883	0.970	0.970	1.000	0.774	0.577	0.641	0.602	0.883	0.623	-0.438
5	0.496	0.697	0.697	0.774	1.000	0.962	0.980	0.971	0.979	0.964	-0.165
6	0.268	0.489	0.488	0.577	0.962	1.000	0.994	0.999	0.889	0.971	-0.061
7	0.317	0.542	0.542	0.641	0.980	0.994	1.000	0.997	0.921	0.971	-0.115
8	0.287	0.510	0.509	0.602	0.971	0.999	0.997	1.000	0.902	0.973	-0.081
9	0.656	0.826	0.826	0.883	0.979	0.889	0.921	0.902	1.000	0.914	-0.219
10	0.372	0.571	0.571	0.623	0.964	0.971	0.971	0.973	0.914	1.000	0.094
11	-0.242	-0.296	-0.296	-0.438	-0.165	-0.061	-0.115	-0.081	-0.219	0.094	1.000

Table 3: Factor loading using principle component

Variables	Factor 1	Factor 2	Communalities
Easy of use	0.687	-0.673	0.000
Calling card good budget	0.847	-0.510	0.114
Calling cards cheaper than post paid	0.847	-0.510	0.114
Calling cards activate lines in disconnection	0.895	-0.431	0.216
Faulty lines repaired immediately	0.971	0.231	1.446
Customer lines available	0.875	0.472	1.814
Customers attended promptly	0.906	0.410	1.730
Disputed A/C rectified immediately	0.888	0.449	1.787
TKL services the best	0.999	0.036	1.070
Low access charges	0.900	0.414	1.729
Land line economical	-0.230	0.452	0.049
Eigen Value	7.886	2.181	15.800
Average % explained by the factor	0.7886	0.2181	1.580

Table 4: Rotated component matrix

The factors which were important in the study are those which are significant at 0.5 (any factor equal to or above 50%)

Variables	Factor 1	Factor 2	Communalities
Easy of use	0.173	0.946	1.251
Calling card good budget	0.398	0.905	1.698
Calling cards cheaper than post paid	0.398	0.905	1.698
Calling cards activate lines in disconnection	0.484	0.868	1.827
Faulty lines repaired immediately	0.927	0.371	1.685
Customer lines available	0.987	0.119	1.222
Customers attended promptly	0.976	0.187	1.354
Disputed A/C rectified immediately	0.984	0.145	1.275
TKL services the best	0.837	0.546	1.912
Low access charges	0.975	0.180	1.334
Land line economical	0.072	-0.502	0.184
Eigen Value	5.992	4.076	23.930
Average % explained by the factor	0.599	0.408	2.393

APPENDIX III

FACTORS ANALYSIS INDIVIDUAL CUSTOMERS

Table 1: Variables to be considered

			SA	A	NND	D	SD
Variables 1	Easy of use	X1	6.3	10.1	32.1	31.1	20.4
Variable 2	Calling card good budget	X2	5.3	14.2	42.1	24.1	14.3
Variable 3	Calling card cheaper than post paid	X3	10.5	22.0	26.3	21.1	42.1
Variable 4	Activates lines during disconnection	X4	5.3	26.4	38.2	15.9	22.1
Variable 5	Faulty lines repaired immediately	X5	15.8	15.2	37.4	15.8	14.2
Variable 6	Customers lines available	X6	10.5	11.2	41.5	26.3	15.8
Variable 7	Customers attended to promptly	X7	10.5	12.3	50.9	15.8	10.5
Variable 8	Disputed A/C rectified immediately	X8	26.3	13.1	34.3	15.8	10.5
Variable 9	TKL Services the best	X9	21.1	10.1	37.3	15.8	10.5
Variable 10	Low access charges	X10	5.3	15.8	42.00	21.1	15.8
Variable11	Land lines economical	X11	0.0	0.0	0.0	0.0	0.0

Key : ***SA*** ***- Strongly agree*** ***D*** ***- Disagree***

A ***- Agree*** ***SD - Strongly Disagree***

NND ***- Neither nor Disagree***

Table 2 : Correlation matrix

Variables	1	2	3	4	5	6	7	8	9	r 10
1	1.000	0.357	0.165	-0.444	0.023	-0.325	-0.187	0.194	-0.254	0.317
2	0.357	1.000	0.260	-0.449	-0.046	-0.484	-0.533	-0.095	-0.310	-0.348
3	0.165	0.260	1.000	-0.330	0.216	-0.113	-0.149	-0.106	-0.371	-0.072
4	-0.444	-0.449	-0.330	1.000	0.368	0.145	0.446	0.258	0.834	0.186
5	0.023	-0.046	0.216	0.368	1.000	0.169	0.269	0.325	0.494	0.253
6	-0.325	-0.484	-0.113	0.145	0.169	1.000	0.470	0.376	0.178	0.471
7	-0.187	-0.533	-0.149	0.446	0.269	0.470	1.000	0.570	0.530	0.442
8	0.194	-0.095	-0.106	0.258	0.325	0.376	0.570	1.000	0.289	0.292
9	-0.254	-0.310	-0.371	0.834	0.494	0.178	0.530	0.289	1.000	0.358
10	0.317	-0.348	-0.072	0.186	0.253	0.471	0.442	0.292	0.358	1.000

Table 3 : Factor loading using principle component The factors are significant at 50%

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Comm
Calling cards good budget	-0.329	0.776	0.063	-0.449	0.004
Calling cards cheaper	-0.658	0.261	0.433	-0.093	0.003
Calling cards can activate disconnected line	-0.353	0.429	0.117	0.733	0.856
Faulty lines repaired immediately	0.767	-0.345	0.415	-0.050	0.618
Customer lines are always available	0.463	0.379	0.565	0.380	3.195
Customers are attended to promptly	0.603	0.117	-0.576	0.302	0.199
Disputed A/C are rectified immediately	0.806	0.161	-0.155	0.042	0.730
TKL serves best compared to mobile services	0.538	0.512	0.014	-0.132	0.869
Low access bills	0.800	-0.127	0.468	-0.164	0.954
Fixed lines are economical	0.550	0.535	-0.259	-0.184	0.413
Eigen Value	3.716	1.722	1.338	1.338	13.731
Average % explained by the factor	0.3716	0.1722	0.1338	0.1338	1.3731

Table 4 : Principle components after rotation

Rotated Component Matrix	Factor 1	Factor 2	Factor 3	Factor 4	Comm
X_1 Calling cards good budget	-0.352	-0.554	0.696	0.023	0.035
X_2 Calling cards cheaper	-0.221	-0.773	-0.032	0.225	0.641
X_3 Calling cards can activate disconnected line	-0.284	-0.084	-0.057	0.876	0.203
X_4 Faulty lines repaired immediately	0.897	0.233	-0.034	-0.154	0.885
X_5 Customer lines are always available	0.609	-0.013	0.286	0.607	2.219
X_6 Customers are attended to promptly	-0.008	0.849	0.268	0.085	1.427
X_7 Disputed A/C are rectified immediately	0.417	0.584	0.433	-0.012	2.019
X_8 TKL serves best compared to mobile services	0.270	0.178	0.678	0.074	1.438
X_9 Low access bills	0.908	0.135	0.199	-0.139	1.219
X_{10} Fixed lines are economical	0.088	0.342	0.751	-0.038	1.308
Eigen Value	2.507	2.194	1.894	1.246	11.394
Average % explained by the factor	0.2507	0.2194	0.1894	0.1246	1.1394

Comm = Communalities