ASSESSING THE EFFECT OF CUSTOMER RELATIONSHIP MANAGEMENT ON CUSTOMER SATISFACTION IN TELECOMMUNICATION SECTOR: A CASE STUDY OF TIGO TANZANIA LIMITED DAR ES SALAAM REGION CUSTOMERS

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PROJECT MANAGEMENT OF THE OPEN UNIVERSITY OF TANZANIA

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CERTIFICATION

The undersigned supervisor certifies that he has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation titled: *"Assessing the Effect of Customer Relationship Management on Customer Satisfaction in Telecommunication Sector: A Case Study of Tigo Tanzania Limited Dar es Salaam Region Customers"* in partial fulfillment of the requirements for the Degree of Master of Project Management of the Open University of Tanzania.

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Dr Raphael Gwahula

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Date

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DECLARATION

I, **Kalistus Omari Mambo,** do hereby declare that this dissertation is entirely my own work and it has not been presented to any other Institute of higher learning for a similar other academic award.

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Signature

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Date

DEDICATION

The heartily dedication for this success should go to my lovely family, my lovely wife Victoria Stanley Mambo, my lovely daughter Calissa Karl Mambo, my lovely son Vian Kalistus Mambo, my lovely mother Bernadetha Zacharia Pola all my other family members as you all supported me to achieve this since a lot of time has been consumed, let me raise this flag towards the achievement together. Nothing I have rather than to thank you all for this celebration and God bless you all and this goal belongs to you all.

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Without forget my family members Calissa, Vian, Janet, Brighter and Bernadetha for their support to me.

ABSTRACT

Customer relationship management considered as a key that bring about the satisfaction to the customers. The objective of this study is to examine the relationship between customer relationship management and customer satisfaction in telecommunication industry in Tanzania. The study designed in such a way questionnaire were used in primary data collection in which Tigo Tanzania was used as a case study, particularly customers served by Tigo shops located in Dar es Salaam region were used as respondents during data collection process. A total of 380 questionnaires were distributed to Tigo customers where 354 were successfully filed and returned to the researcher equivalent to 93.2%. Customer relationship management dimensions (tangibles, reliability, responsiveness, assurance and empathy) were independent variables while customer satisfaction was dependent variable. A simple random sampling was employed in the study with Statistical Package for Social Sciences (SPSS version 16) used for analysis. Multiple linear regression model was used. This study was measured under five dimensions of SERVQUAL model. Findings revealed that customer relationship management and customer satisfaction are well connected and parallel for the healthy of Tigo Tanzania business. Tigo Tanzania Limited cannot run away from the customer relationship management when aim of the business is to satisfy the customers which bring profit, healthy and loyalty to the corporate business. It was also revealed that customer satisfaction with Tigo services is affected by the four dimensions; (responsiveness, assurance, tangibility and empathy). It was recommended that policymakers can opt from a set of service quality dimensions to improve the quality of service.

Keywords: service quality, customer satisfaction, telecommunication industry

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LIST OF ABBREVIATIONS

CRM	Customer Relationship Management
ETC	Ethiopian Telecommunication Corporation
MTN	Mobile Telecommunication Network
RoI	Return of Investment
SPSS	Software Package for Statistical Science
SPSS	Statistical Package for Social Sciences
TCRA	Tanzania Communications Regulatory Authority
TPTC	Tanzania Posts and Telecommunications Corporation
TTCL	Tanzania Telecommunications Company Limited
UCSAF	Universal Communications Services Access Fund
URT	United Republic of Tanzania

CHAPTER ONE

INTRODUCTION

1.1   Introduction

This chapter one of the subject consists of background to the research problem, problem statement, objectives, main research questions as well as the significance of this paper study.

1.2   Background to the Research Problem

Early 1993 in Tanzania there was changes and liberalization of telecommunication industry sector which resulted in the dissolution of Tanzania Posts and Telecommunications Corporation (TPTC) in 1994. Introduction of technology leading to common networks for multiple services and applications is being experienced worldwide (Mutula 2002). Telecommunications services and products have been continued improving over time due to efforts of the public and private owned companies like Tanzania Telecommunications Company Limited (TTCL), MIC Tanzania Limited (Tigo), Airtel Tanzania Limited, Vodacom Tanzania Limited PLC, Zanzibar Telecommunication Limited (Zantel), SMART Tanzania Limited, Halotel Tanzania Limited and Smile Tanzania Limited) which operate in Tanzania which supply various services and products. Most of the telecommunications operators operates in almost all the Tanzania regions though not most of them fully penetrate the remote areas, although now there are Government strategies under Universal Communications Services Access Fund (UCSAF) where by The Tanzanian Government provides telecommunication products and services with the aim to promote social, education and economic development activities for the people of the rural and urban under-served areas.

Mobile companies have been making profit regardless the competition they are facing from each other through the introduction of the new products and services. The advancement in the communications sectors, worldwide have been highly affected by the general global changes and the expanding of the business requirements (Gillwald and Mureithi 2011). The growing market (customers), communications service competition and global pressure is now used as the factor to determine the needs of customer and hence by providing the customer relationship management.

MIC Tanzania Limited was granted a license November 30, 1993. The Company began operations in 1994 under the name Mobitel and launched Tanzania's first cellular under analogue technology services in March 28th 1995. In 1998 the company expanded significantly and began pre-paid service under the brand **"Simu Poa"** and began issuing pre-paid cards under the brand **"Kadi Poa".**

In 1999 Adesemi Tanzania another telecommunication company operated in the country was acquired by Mobitel and it gave Mobitel customers access to the companies Private Automatic Branch Exchange networks. At the time Mobitel was the first company in Africa that provided subscription-free Internet services under their "MobiNet" brand. In September 2000, with a partnership with Ericsson Mobitel launched its digital global system for mobile technology know as GSM network in Dar es Salaam. Both networks were run simultaneously, with the GSM network in the cities and the analogue network in rural areas. The analogue network was continually phased out and was eventually shutdown in September 2005. All these networks speed up and evolution aimed to satisfy customer requirements and to maximize the satisfaction using the modern technology and innovations. Due to the

business competitive nature, environment becomes fiercer and more turbulent, providing excellent good quality products or services, we need also and above all to keep loyal customers who will contribute long-term profit to organizations Tseng, (2007). Thus, competition had shifted in the last couple of decades to a focus on inventing new ways of providing value to customers and make them feel this prestige. One of the consequences of this trend has been the emergence of the customer relationship management (CRM).

Customer relationship management is an ongoing process, which provides the good integration of every area of business that touches direct the customers, to building and maintaining a profit maximizing portfolio of customer relationship (Sinisalo, J., Salo, J., Leppaniemi, M., & Karjaluoto, 2005). In telecommunication industry this has brought minimizing costs exercise are sales force automation and more efficient call-center management which can be easily achieved through customer relationship management while improving quality of service to gain customers loyalty.

In actual sense, the purpose of customer relationship management is the building of relationships to affect customer acquisition, retention, loyalty and profitability (Swift in Ngai, 2005), resulting in the development of one to one relationship with these customers. Leisen and Vance 2001 said that "Customer satisfaction is a personal feeling of either pleasure or disappointment resulting from the evaluation of services provided by an organization to an individual in relation to expectations". Customer satisfaction is a great priority placed frequently by service providers as it has been observed as preliminary factor for retaining customers. Anderson *et al.* (1994) explains that "a positive outcome of marketing activities, high customer satisfaction

leads to repeat visitation to stores, repeat product purchases, and word-of-mouth promotion to friends while low customer satisfaction has been associated with complaining behavior". Tahir and Abu-bakar (2007) argue that "A satisfied customer often stays loyal longer and is likely to patronize the firm in future. Customer satisfaction can be conceptualized as either transaction-specific satisfaction or cumulative satisfaction. Transaction-specific satisfaction is a customer's evaluation of his or her experience and reactions to a specific company encounter. Cumulative satisfaction refers to customers' overall evaluation of patronage experience from inception to date.

The degree to which communications service and products satisfy the customer's need and desire, it normally measures customers' expectations on how satisfied quality products and services offered from the producers or service givers. That means, producers need to produce and offer the best quality products and services to their customers and build loyalty (Angelova and Zekiri 2011) while customer expectations being the main important factor to use for measuring.

Kotler (2000) explains that usually customers create their own expectations through friends' advice and environment analysis. Marketers' play a very big role to contribute on customer requirements formation by giving correct or wrong information and promises to them and forget to observe and win competitors side in. According to Parasuraman *et al*, (1988) the literature explained that to maintain expectations from rising, the organization is responsible to perform its services properly from the first time and fulfill the promise made.

1.3   Statement of the Research Problem

Customer relationship management is a core to telecommunication business organizations. Customers are the only one who determine the success or failure of the telecommunication organization thus knowing what is needed and not needed through customer behavior is an important part of planning of what must be done to maximize the customer satisfaction, hence make profit to a telecommunication organization concerned. With this competitive World in telecommunication sector many aspects of business have been simplified in a sense that it is a matter of knowing what exactly the requirement of the customer.

In managing an entity that means business, customer relationship management has now been an integral part of day-to-day activities hence; one cannot separate proper business management without the fully consideration of the customer relationship management. It is difficult and contentious to measure the payoff of a customer relationship management system, especially in its early stages, which can lead to poor judgments by management.

For instance, Mobile telephone has enormous potential for development by facilitating greater access to market and health information as well as financial services' (URT, 2012a: 143), Nyamba (2012) indicated that the largest increase in the use of information communication technology has been in mobile phones in Tanzania, Accenture (2001), as many as 75 % of American organizations are unable to measure the Return on Investment (ROI) of their customer relationship management implementations. Core to the discipline of customer centricity, customer relationship management requires a return measurement component (Richard Hochhauser, 2003).

Therefore, the telecommunication companies need to understand the association between customer relationship management and customer satisfaction. The research tries to examine the relationship between customer relationship management and customer satisfaction in telecommunication industry in Tanzania.

1.4 General Objective

The main objective of the study is to assess the relationship between customer relationship management and customer satisfaction in telecommunication industry in Tanzania.

1.4.1 Specific Research Objectives

(i)   To assess the impact of customer orientation to services and customer satisfaction among Tigo customers.

(ii)   To examine the level of customer satisfaction brought by customer-personnel relations.

(iii) To assess the impact of personnel knowledge management on the level of customer satisfaction.

(iv)   To evaluate how technology-based customer management affects customer satisfaction on services rendered.

1.5 Research Questions

(i)   What are the customers' responses on orientation to new services and products provided by Tigo Tanzania?

(ii)   What is the customers' feedback on customer-personnel relation from Tigo Tanzania?

(iii) What is the customers' impact on personnel knowledge management for Tigo Tanzania?

(iv)   What is the customers' view with respect to the technology-based customer management provided by Tigo Tanzania?

1.6   Significance of the Study

This research paper brings into the attention the relationship between customer relationship management and the customers' satisfaction on the services or products offered. It is an informative material to decision makers from various business organizations and scholars on the advantages of customer relationship management to customers and the capacity needed to get the desired or needed quality of services and products to the respective customers within the various organizations. This is the part of requirement of master's degree in project management from the Open University of Tanzania. It has four variables that linked to determine the satisfaction of the customers within various sectors and organizations. These variables assessed on their merits on determining the importance of each against the performance of the case study. It has been conducted in Dar es Salaam within Tigo Tanzania's customers who visit MIC branded as Tigo Tanzania Limited shops only.

The study presents some key information as a continuation of research gaps that were covered from previous studies. Furthermore, it enables scholars to gain knowledge and understanding related to the topic of concern. The study provides management of Tigo Tanzania with an understanding on how customer relationship management relates to customer satisfaction. The study adds on to the number of studies done in Telecommunication industry in Tanzania.

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction

From this chapter the various literatures were written with relevance to the same study. The topic of a study has been documented and printed, but to this study, only chosen few used to bring an insight in terms and aspects related to customer relationship management scenario. The respective chapter is for the different literature review and various models or some theories related to the research problem. This has been organized into various conceptual definitions, theoretical and empirical reviews leading to the derivation of knowledge space that exist in various academic studies. The same chapter also contains conceptual framework on customer relationship management and customer satisfaction in telecommunication industry with Tigo Tanzania Dar es Salaam Region Customers.

2.2   Conceptual Definitions

2.2.1   Customer Relationship Management

This concept of customer relationship management particularly has been derived from the term contact management in the 1980s and it essentially relates to collecting all the information when customers meet companies (Knox et al., 2003). Customer relationship management may be defined and described as the process in which the organizations and other business enterprises based on understanding and react to customers' evolving and varies requirements, utilizing detailed customer behavior and transaction information, to drive customer acquisition, loyalty, satisfaction and profitability. It has been defined as an enterprise approach to developing full

knowledge about customer behavior and preferences and to developing programs and strategies that encourage customers to continually enhance their business relationship with the company (Parvatiyar and Sheth, 2002).

The origins of customer relationship management are found in relationship marketing theory which is aimed at improving long term profitability by shifting from transaction-based marketing, with its emphasis on winning new customers, customers retention through effective management of customer relationships (Christopher et al., 1991). Reichheld and Teal (1996) found out those customers who have been around long enough to get familiar with the company's procedures, will create more valuable business relationships, will acquire more products and will be less price sensitive on individual offers.

2.2.2 Customer Satisfaction

This is the client or customer contentment for the product or service offered in pleasurable level of consumption-related fulfillment Oliver (1980). Customer fulfillment depends upon the product's or services perceived performance relative to buyer's expectations and desire. Kotler and Armstrong (2006) justify as if the product's performance falls short of expectation, the customer is dissatisfied. If performance matches or exceed the expectations, the customer is fully satisfied with a services or products.

Outstanding marketing companies go out of their technique to keep important customers satisfied. According to Ojo (2010) give explanation that the highly satisfied customers make repeat purchases and tell others about their good experiences with the

product. The key is to match customer expectations and desire with organizational or entity performance. Serious and smart organizations or companies aim to win their esteemed customers by promising the target only what they can deliver, then at the end of the day they deliver more than they promised to their respective customers.

2.2.3 Service Quality and Customer Satisfaction

From today's competitive global business environment, customer relationship management is very crucial factor that determines the organization's success. Nevertheless, the services literature is dominated by papers, which deal with customer service related concepts such as service or product quality and service or product satisfaction.

Unfortunately, these papers do not explore much how customer relationship management methods are specifically connected to quality and satisfaction. The evidence suggests that there is a clear link and bridge between service or products satisfaction and customer loyalty, which is the key to business success (Wezels, M., *et al*, 2000). A lot of papers in this area have also examined the relationship among the customer service constructs.

Cronin, Brady, and Hult (2000) synthesized the various research efforts and tested an empirical model involving the customer service constructs. According to this model, service quality is an implication of satisfaction, which, in turn, precedes behavioral intentions such as loyalty, positive feedback about the firm, recommending the firm to other consumers and consumers as well as spending more with the firm. Service quality is also found to have a direct link and relationship to behavioral intentions.

This proof has been a driving force in the global telecommunication business community's concern to take steps to improve their service and product quality to gain a competitive trust which result into the improvement of the organization's profitability in business. Many organizations or enterprises or various entities, their desire to improve service or product quality has become an obsession because, when compared to consumer markets, losing some few customers could alter the organization's profit picture. The most common approaches that organizations or enterprises companies take to improve service or products quality include improving the attractiveness and brand of service provider's facilities, using the latest equipment and technology, meeting customer needs in a reasonable time, handling customer complaints promptly, providing correct and adequate information and clear details to the esteemed customers upon the first request itself, showing concern and attentiveness to customer needs, among others. Inherent in some of these approaches is the deployment of the latest technology to facilitate the process of delivering superior quality service and to help manage customer relationships ((Durvasula S., et al 2000). For example, advances in database management systems are now making it possible for the various departments such as marketing, accounting, and manufacturing to share information on customers, orders, and inventory levels.

Adding to our ambiguity of understanding is compelling literature suggesting that even though a firm may take a number of steps to improve service quality, not all customers want improved 'quality' in products and services given that some customers feel that there is no value in the so-called improvements (Best, D.F. and Wong, S.M., (1993), Turpin, D.V. (1995)). It has also been discovered that about 70% of those

customers, who switch service providers, cited indifferent attitudes of service provider's contact staff as the key reason, but not service delivery or price.

2.2.4 Quality of Service

As per Parasuraman *et al.* 1988 quality as the differences between customer's expectations of service provider's performance and their evaluation of the service they received. The service quality can be defined as the difference between customers' expectations for the services or products against their perceptions of the services or products received. Reliability: An organization to be able to accurately work towards achieving its services or products in time and with accordance with promises made to the respective clients. Responsiveness: This is about the willingness and tendency of services providers or products manufacturers to assist clients and provide the satisfaction for their needs, immediately reply to their inquiries and solve their problems as quickly as possible (Parasuraman *et al.* 1988). Competence: Acquiring required information and enough skills to enable employee to perform their tasks properly (Parasuraman *et al.* 1988). Accessibility: Granting easy accessibility to service with regards to location and through services provided via the internet, the telephone or any other means of communication, (Parasuraman *et al.* 1988).

2.2.5 Organization Performance

Poister, (2010), defines that performance as "the accomplishment, execution, carrying out, and working out of anything ordered or undertaken". This refers to outputs/outcomes (accomplishment) but also states that performance is about *doing the work* as well as about the *results achieved*. "'Performance'' could therefore be regarded as, *behavior*- the way in which organizations, teams and individuals get

work done. The performing organization is, therefore, a situation of receiving the better results from the teams understanding and measuring performance within an agreed framework of goals, standards and competitive requirements. Performance organization is also concerned with employee development.

2.3   Theoretical Literature Review

2.3.1   Theory of Assimilation

As per Festinger's theory of dissonance (1957) forms the basis for the theory of assimilation states that the "users makes a sort of cognitive judgment between the expectations regarding the product and its performance". If there is an inconsistency between prospect and the product's perceived performance, the dissonance will not fail to appear. This point of view on post-usage evaluation was introduced in the literature discussing satisfaction under the form of the theory of assimilation (Anderson 1973).

According to Anderson, the consumers trying to avoid dissonance by adjusting their perceptions of a certain products or services, to bring it closer to their expectations. In a similar way, the consumers can reduce the tension resulted from the discrepancy between expectations and the product's performance, both by distorting the expectations so that they could agree with the product's perceived performance, and by increasing the level of satisfaction through reducing the relative importance of experimental disconfirmation (Olson and Dover 1979). The theory presumes the consumers are motivated enough to adjust both their expectations and their product performance perceptions. If the consumers adjust their expectations or product

performance perceptions, dissatisfaction would not be a result of the post-usage process.

Olson and Dover (1979) explain that consumers can reduce the tension resulting from a discrepancy between expectations and product/service performance either by distorting expectations so that they coincide with perceived product performance or by raising the level of satisfaction by minimizing the relative importance of the disconfirmation experienced. Some researchers have discovered that the control on the actual product performance can lead to a positive relationship between expectations and satisfaction (Anderson 1973). Consequently, it is assumed that dissatisfaction could never appear unless the evaluation process began with the customers' negative expectations.

Assimilation theory involves number of deficiencies namely, the approach assumes that there is a relationship between expectations and satisfaction, but it does not specify the way in which the expectation disconfirmation can lead to fulfillment or dissatisfaction. Moreover, the theory posits that clients are motivated enough to adjust either their expectations or their perceptions about the performance of the product. Some researchers have found that controlling for actual product performance can lead to a constructive relationship between expectation and contentment. Therefore, dissatisfaction could never occur unless the evaluative processes were to begin with negative consumer expectations, (Peyton *et al.* 2003).

2.3.2 The Customer Knowledge Theory

This theory has a successful customer relationship management system, there is a need to know how the association of customer relationship management with

improvement in customer satisfaction is rely directly by an improvement in customer knowledge. From the managerial perspective, an understanding of causal mechanisms will shed light on the conditions that facilitate customer relationship management success in terms of customer satisfaction. This customer knowledge subsequently drives customer satisfaction because firms can tailor their offerings to suit their customers' requirements. Previous research provides support for this view. For example, Bharadwaj (2000) notes the advantages of gathering customer knowledge from customer encounters and disseminating this knowledge to employees for cross-selling and forecasting product demand. Bolton, Kannan, and Bramlett (2000) provide empirical evidence that IT-enabled loyalty programs enable firms to gain valuable customer knowledge about customers' purchase behavior.

Jayachandran, Hewett, and Kaufman (2004) show that customer knowledge processes enhance the speed and effectiveness of a firm's customer response. Better knowledge of customer behavior enables firms to manage and target customers because of evolving service experiences rather than stable demographic criteria, which increases the perceived value of the firm's offering and decreases the chance of loyal customers defecting to the competition.

2.3.3 The Behavioral Theory of the Firm

The decision to classify the behavioral theory of the firm as part of an organizational economics approach to strategic management has its precedents, notably in the work of Barney and Ouchi (1986). Furthermore, the behavioral theory of the firm serves as an important block in transaction costs theory; it is also a building block in dynamic capabilities theory and evolutionary economics (Nelson and Winter, 2002). The

theory emphasizes the actual process of making business decisions and provides detailed observation of the ways in which organizations make these decisions. Cyert and March (1992) present the rudiments of a behavioral theory of the firm that have proven to be relevant both to economic theory and to the theory of complex organizations. Organizations provide those in responsible positions the means for exercising authority and influence over others. Organization influences the environment of information and strategies in which decisions are carried out. This theory is therefore relevant to this research as it attempts to assess customer relationship management and customer satisfaction.

2.3.4   Resource-based Theory

Resource based theory at business level is used in explorations of the relationships between resources, competition, and profitability including the analysis of competitive limitation, the appropriability of returns to innovations, the role of imperfect information in creating profitability difference between competing firms, and how the process of resource accumulation can sustain competitive advantage.

Together, these contributions amount to what has been termed "the resource-based view of the firm." however the implications of this "resource-based theory" for strategic management are unclear for two reasons. First the various contributions lack a single integrating framework. Second, little effort has been made to develop the practical implications of the theory. This theory proposes a framework for resource-based approach to strategy formulation, which integrates a number of key themes arising from strategic planning literature.

The framework involves five-stage procedure for strategy formulation; analyzing the firm's resource-base; appraising the firm's capabilities; analyzing the profit-earning potential of firm; selecting a strategy and extending and upgrading the firm's pool of resources and capabilities for results in performance (Rumelt, 1984). The resource-based view (RBV) is a business management tool used to determine the strategic resources available to a company.

2.4   Empirical Literature Review

Negi (2009) conducted on user's perceived service quality of mobile communications in Ethiopia. This study examines and explores causal relationship between customer satisfaction dimensions, overall customer relationship management gaps as experienced by the subscribers of the mobile services of Ethiopian Telecommunication Corporation (ETC). Stratified random sampling was used to measure seven dimensions of SERVQUAL namely empathy, tangibles, reliability, convenience, responsiveness, network aspect, and assurance which were used to measure customers' perceptions and expectations.

The result was below average by over half of the respondents, followed by less than one-third who mentioned it as average, and about one-fifth as above average. Convenience was reported to be lowest and network aspect regarded as the highest dimension on service quality. Reliability and network aspect dimensions have been predicted on overall service quality by using two regression models.

Ojo (2010) examine the relationship between service quality and customer satisfaction in Telecommunication industry a case of Mobile Telecommunication Network (MTN)

in Nigeria. Descriptive statistics, Pearson product moment correlation coefficient and regression analysis were employed on methodology. The study shows service quality has effects on customer satisfaction, which lead to the positive relationship between them. The organization should focal point more attention on service quality because of its outcome on customer satisfaction. To ensure customer satisfaction level to be high organization must know the expectations of the customers and how they can meet such expectations. Commonly, it costs to attracting new customer than to retain the existing ones.

Mushi (2013) observe the influence of service quality on customer satisfaction in transport service industry, Dar Express passengers in Tanzania. Methods used in collecting required information for the study were questionnaires, interview and observation were employed and data was analyzed by using descriptive, correlation and regression analysis. As a result, passengers are satisfied with the transport services provision with Dar Express Bus. Responsiveness, assurance and tangibles dimensions played a significant effect on passengers' satisfaction. In other words, these dimensions were found to be good predictors of customer satisfaction.

Temba (2013) assess customer satisfaction and service quality using SERVQUAL model within Tanzania Telecommunication Company Limited (TTCL). The study evaluates customer satisfaction and service quality by using SERVQUAL model. Convenience sampling was used to collect data through questionnaire for TTCL customers. The analysis shows the overall service quality perceived by customers was not acceptable; means customers vision exceeded perceptions. Also, analysis revealed that TTCL Customer Care, Network Coverage, recharge voucher availability,

handsets flexibility and air time charges are the critical factors that hinder satisfaction. The findings reveal that SERVQUAL model is not the best tool to use in measuring service quality for TTCL because the dimensions were negative gap whereby the study contributes to the already existing studies examining service quality within TTCL using SERVQUAL model.

Foya *et al.,* (2015) evaluate the consequence of the technology-based customer relationship management service quality in the Telecommunication industry in Arusha, Tanzania. The study involves theories of technology and customer service relationship management. Data obtained through predetermined questionnaire and analyzed by descriptive and inferential statistics also multiple linear regressions were used to test the four hypotheses.

The study uses descriptive survey design whereby population of four Telecommunication companies in Tanzania namely, Airtel, Tigo, Vodacom and Zantel with their respective distributors and subscribers. As a result, the mobile phone companies use technology-based customer relationship management to a good point so as to support their business activities towards delivering services to customers.

Tulu (2015) conducted a study on service quality and customer satisfaction, a case of Ethio-telecommunications in Ambo town, Ethiopia. Tulu use a mix of qualitative and quantitative approaches to find out the consequence of Ethio-telecommuncations service quality on customer satisfaction. Primary and secondary information are taken from document and brochures. A sample of a total population was selected through simple random sampling.

The research design is employed descriptive and the uses of charts and frequency tables for output. Therefore, the study revealed mobile phone users incurs many problems like network busy, error in connection, rundown network coverage, poor mobile internet service and expensive price of the products and services.

2.5   Research Gap

Several authors try to scrutinize the telecommunication industry on area of service excellence, client satisfaction and relationship management.

Table 2.1: A Summary of Empirical Literature Review

Author (Year)	Tittle (Country)	Methodology	Findings
Negi (2009)	User's perceived service value of mobile communications: Experience from Ethiopia	Stratified random sampling and two regression models	The result was below standard by over half of the respondents followed by less than one-third who mentioned it as average and about one-fifth as above average. Expediency was reported to be lowest and network aspect regarded as the highest measurement
Ojo (2010)	The relationship between service quality and customer satisfaction in the Telecommunication Industry, Nigeria	Descriptive statistics, regression analysis and person product moment correlation coefficient	The study shows service quality has effects on customer approval which lead to the constructive connection between them.
Mushi (2013)	Service quality and customer satisfaction in Transport service industry in Tanzania	Descriptive, correlation and regression analyses	The finding specify that passengers are pleased with the transport service provided with Dar Express Company ltd. Responsiveness, assurance and tangible dimensions proved to have significant effect in passenger satisfaction.
Temba (2013)	The assessment of service quality and customer Satisfaction using SERVQUAL model: Tanzania Telecommunication Company Limited from Tanzania	Convenience sampling	The study exposes that SERVQUAL model is not the most excellent instrument to use in measuring for TTCL because dimensions were unconstructive gap.
Foya et al (2015)	Relating Technology Based CRM to service quality in the Telecommunication industry in Arusha City, Tanzania.	Descriptive, inferential statistics and Multi linear regression	The mobile phone companies use expertise based CRM to a good location so as to support their business activities towards delivering services to customers.
Tulu (2015)	Service quality and customer satisfaction: a case of Ethio-Telecommunications, in Ambo town, Ethiopia	Descriptive, simple random sampling, qualitative and quantitative approaches	The study revealed mobile phone consumer incurs many problems like network busy, error in connection, poor network coverage, slow mobile internet service and expensive price of the service.

Source: Researcher data, (2017)

Different researchers use different studies but on the same sector (Negi (2009), Temba (2013), Foya et al., (2015 Tulu (2015) Mushi (2013), Temba (2013) and Foya et al. (2015) of Tanzania as area of study in different studies. Ojo (2010) Observe the relationship between service quality and customer satisfaction in Telecommunication industry in Nigeria.

2.6   Conceptual Framework

The theoretical and empirical reviews exposed to the logical customer relationship management that bring into consideration the customer satisfaction in telecommunication industry in Tanzania. The extent to which communications services and products satisfy their esteemed customer's need and desire, it normally measures customers' expectations on how satisfied quality products and services offered from the producers or service providers. The relationship resulted into customer orientation, customer personnel relationship, personnel knowledge management and technology-based customer management.
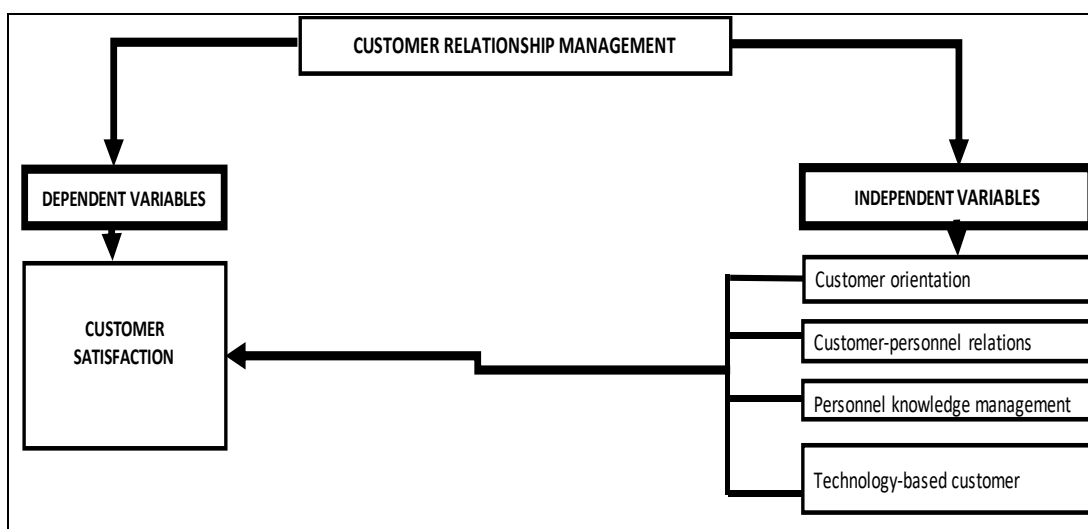
Figure 2.1: Conceptual Framework
Source: Researcher, (2017)

In connection to this, behavioral theory will address in some details as a theoretical framework in study of methodology of customer satisfactions of the firm as part of an organizational economics approach to strategic management has its precedents. Furthermore, the behavioral theory of the firm serves as an important block in customer knowledge theory. The theory emphasizes the actual process of making business decisions and provides detailed observation of the ways in which organizations make these decisions.

2.6.1   Description of the Variables

Conceptual framework depicting the relationship between customer relationship management on customers' satisfaction in telecommunication industry. From the conceptual framework, customer satisfaction depends on several factors that, when combined in customer relationship management, produces an expected result. These variables are hereunder explained:

2.6.1.1 Customer Orientation

In this competitive world of telecommunication business, always there is introduction of new products and services to the market. With this situation of introducing a new products and services, telecommunications sector firms can compete into the market to be able to make and maximize profit within their respective organizations. Perception of these new products and services highly depends much on how customers are oriented into choosing the services or products over other competitors services or products. Personnel responsible for orientation play a major role in orienting customers to know how each product or service is better than the other. If

the customers understand these new products, they will easily be satisfied as it creates

the clear awareness for them to acquire and realize the level of quality they desire.

2.6.1.2 Customer-personnel Relations

It is important to maintain a good relationship between customers and personnel.

Personnel works to make a customer feel royal, hence customer satisfaction may be

influenced by the way he/she is treated. The personnel must show the customer that he

is valued and respected, and that they are happy to serve him on time and in

appropriate manner with good reception and smile. A happy and satisfied customer is

always good ambassador for any business delivery or services or products.

2.6.1.3 Personnel Knowledge Management

Knowledge management of personnel comes through time to time trainings, as we live

in the ever-changing world of technology; personnel must be up to date equipped with

all knowledge needed to serve the customers. Trainings can be in-job or off-job. When

a customer calls for assistance, the first thing he expects is to get accurate information

and solutions. These can be obtained from personnel who has been kept up to date

with all necessary information.

2.6.1.4 Technology-based Customer Management

Technology has brought about simplification of life. In telecommunication industry,

the better the technology, the better the service; thus, it is important to ensure that

customers not left behind with the use of outdated system in delivery of services. For

instance, the world is using 4G for mobile data, then as a telecom firm it must switch

to 4G to maintain customers (satisfy) and attract new ones. The same the world is using customer services applications through mobile phones, so the firms must invest on the development of various apps to support and resolve the customer experiences or to support the customers on the resolution of various issues for the support. This is the world evolving with technology on daily basis, so organizations also need to gain enough momentum to create the good environment for their customers to get satisfied with the technology advancement.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This is the study applied a case study approach. Tigo Tanzania was used as a case study to represent telecommunication industry in relation to the impacts of customer relationship management toward the customers' satisfaction. Case studies are generally the preferred approach when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context" (Yin 2002: 1). This research was asking 'how' much customer relationship management relates to customer satisfaction. Case study research aims to explore and depict a setting with a view to advancing understanding of it (Cousin 2005).

3.2 Research Paradigms

"Paradigm is a way of examining social phenomena from which particular understandings of these phenomena can be gained and explanations attempted" (Saunders et al 2007). In this study the researcher used positivist paradigm, which aligns itself with a view of the mechanisms and assumptions of natural sciences, supported by a belief that only what is grounded in the observable can count as a valid knowledge.

3.3 Research Design

The research design of this study is descriptive quantitative in nature where the cross-sectional survey was used. This design is normally used when a researcher plans to

use a deductive approach to this study. Survey strategy enables a researcher to collect standardized data from large populations economically, permits easy comparison and easy to understand and explain (Saunders *et al.,* 2012). This was a descriptive study seeking to understand the impacts of customer relationship management to customer satisfaction in telecommunication industry in Tanzania. The study employed a mixed design method of both qualitative and quantitative with a semi-structured questionnaire to collect primary data from the respondents within a selected environment.

3.4   Study Area

Recent statistics as per the Tanzania Communications Regulatory Authority (TCRA) shows that MIC Tanzania Limited branded as Tigo has over ten million customers, which is one among the fast-growing telecommunication firm and is the second largest wireless telecommunication networks in Tanzania (TCRA 2017). The study population of this study was the customers coming to seek various services into Tigo shops located in Dar es Salaam. The study was conducted at 11 Tigo shops, which are located at Kinondoni ((Makumbusho, Tegeta, Mlimani City and Masaki), Ubungo (Manzese and Shekilango), Temeke (Mbagala) and Ilala (Buguruni, Posta and Nkrumah), Kigamboni (Kigamboni) Municipals in Dar es Salaam region.

3.4.1   Inclusion Criteria

In this study inclusion of the participants based on those who used Tigo services for at least 6 months prior to the day of the survey. In addition to that all of them were residents of Dar es Salaam City and above 18 years of age because according to

government regulation, any person above 18 years can consent without the presence of the guardian.

3.4.2 Exclusion Criteria

Participants who have not been using Tigo services for at least 6 months prior to the day of the survey were not included in this study. Nonresidents of Dar es Salaam City and those who were below 18 years of age were also not included in the survey.

3.5 Sampling Design

Sampling design implies the context and the environment where the sample size for the study can be obtained. It can be obtained from several categories such as individuals, groups, other living and non-living creatures, institutions, organization and others depending on the nature and type of the study. The study for that matter consisted of the sample size, which was generated from the study area alone in the specified context and scope of the study.

3.5.1 Sampling Unit

Sampling unit refers to the category to be used as a sample size for the study. The unit can be individuals, animals, plants, other living and non-living creatures and others.

Tigo customers: The study proposes a sample size parameter for the primary quantitative data collected to be powered at 80% to detect a 10% change in the outcomes of interest with no more than a 5% margin of error. Using precision criteria on sample size determination as proposed by Cochran (1977), Kish (1956), Kalton

(1983) and Särndal (1937)[1], the smallest number of Tigo customers to be sampled is obtained from the following expression;

x = Z(c/100)2r (100-r)

n = N */ ((N-1) E_2 + x)

E = Sqrt [(N - n) x/n (N-1)]

Where:

N is the population size, which is 354 customers as of 2017,

r is the fraction of responses that you are interested in, and

Z(c/100) is the critical value for the confidence level c.

When replaced with numbers, the above equation gives a total of 380 Tigo clients who were provided with questionnaires.

Table 3.1: Sample Distribution   N=380

Type of respondent District	Number of respondent expected	Questionnaire Distribution (%)	Questionnaire Returned	Percentage Returned (%)	Sampling techniques
Kinondoni	180	47.3	172	45.3	Random sampling
Ilala	130	34.2	122	32.1	Random sampling
Temeke	50	13.2	46	12.1	Random sampling
Kigamboni	20	5.3	14	3.7	Random sampling
Total	380	100.0	354	93.2	

Source: Researcher, 2017

3.6   Data Collection Tools and Analysis

The initial component consisted of document review to establish a secondary data. Key documents were reviewed to establish the role played by customer relationship

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[1]Kalton G. Introduction to survey sampling. Sage Publications, 1983

management in increasing customer satisfaction functionality and profitability of an enterprise but also to determine the moderating effect factors on the relationship between customer relationship management and the customers' satisfaction on products and services delivery.

The secondary part involved primary data collection to establish the values that were used to test the stated null hypotheses. Under this, the study used the SERVQUAL instrument (semi-structured questionnaire) to assess the effects of customer relationship management on the customer satisfaction on the products and services delivery at Tigo Tanzania. The population for the study comprised of Tigo Tanzania customers in Dar es Salaam region. The SERVQUAL instrument was made up of five dimensions. These dimensions are tangibles, reliability, responsiveness, assurance and empathy. A five-point Likert scale ranging from "Strongly Disagree = 1" to "Strongly Agree = 5" will be used to measure the items in the dimensions.

3.7   Data Analysis

The primary data collected from questionnaires were analyzed by using simple descriptive statically analysis technique using Software Package for Statistical Science (SPSS). The method is chosen because it is suitable to measure the frequency, mean, percentage score and statistical significance to determine for each specific statement. Statistical Package for Social Sciences (SPSS) version 16.0 was used during analysis. Regression model and descriptive data analysis of quantitative was done where frequencies and percentages have been presented in tables and graphs. The nature of the study requires descriptive analysis of qualitative data as well as qualitative data

analysis using the standardized tools. The study run quantitative data analysis and qualitative data was analyzed based on the content, where key categories and concepts were identified and grouped into key themes as presented into Analysis Matrix.

3.7.1 Multiple Linear Regression Analysis

In this study multiple linear regression model has been used. It is a tool for the investigation of relationships between variables. Multiple linear regression is used to develop a better understanding of the relationship between a dependent variable and a set of independent variables (Wakefield and Baker, 1998). At the outset of any regression study, one formulates some hypothesis about the relationship between the variables of interest. Multiple liner regression has been used to assess determinants of customer satisfaction. The multiple regression models is built on the following assumptions:

(i) Linearity and additively of the relationship between dependent and independent variables, the expected value of dependent variable is a straight-line function of each independent variable, holding the others fixed;

(ii) Regression assumes that there is little or no multicollinearity in the data;

(iii) Homoscedasticity - the model assumes a constant variance of the errors;

(iv) Normality of the error distribution (meaning that errors of the response variables are uncorrelated with each other) Berry and Feldman (1985). Test statistics such as linktest (model specification), variance inflation factor-an indicator (multicollinearity) and normality test has been used during analysis.

f (**Customer Satisfaction**) = (Accessibility of Customer Orientation, Accessibility of Customer Personnel Relation, Accessibility of Personnel Knowledge Management, Analysis of Technology Based Customer Management)

Since that is the case, the study is governed by the formula formulated by Kraus (2005), which is stated as follows:

$$CS = \beta_o + \beta_1 ACO + \beta_2 ACPR + \beta_3 PKM + \beta_4 ATBCM + e$$

Where by

CS = Customer Satisfaction

β_o = Constant factor

ACO= Accessibility of Customer Orientation

ACPR = Accessibility of Customer Personnel Relation

PKM = Accessibility of Personnel Knowledge Management

*ATBCM =*Analysis of Technology Based Customer Management

β=coefficient

ε = error term

3.8   Validity

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform (Pallant, 2010). Validity is measured in degrees. As a process, validation of data involves collecting and analyzing data to assess the accuracy of an instrument used. Since this study is quantitative, a pilot study will be carried to perform statistical tests before going to the field.

One of the validities to be determined is the External validity. This is the extent to which the results of a study can be generalized from a sample to a population. Bhattacharjee (2012) points out that external validity indicates the extent to which the results of the experiment are applicable to the real world. Therefore, the surveyed research where data is sourced from a variety of individuals, firms or other units of analysis to be generalized. Survey research is employed to ensure that external validity of this study is compromised. Establishing external validity for an instrument, then, follows directly from sampling. An instrument that is externally valid helps obtain population generalizability or the degree to which a sample represents the population.

In addition to that, the Content validity will also be determined. This refers to the appropriateness of the content of an instrument. Checking that measures accurately assess what is intended to know. This would involve taking representative questions from each of the sections of the unit and evaluating them against the desired outcomes.

Furthermore, Convergent validity will be also determined. This is obtained when the scale items in a construct converge or share a high proportion of variance. To measure convergent validity, the size of factor loadings will be considered. It is recommended that the required standardized factor loadings should be 0.5 or above and ideally 0.7 and above (Hair et al., 2016). Average Variancce extracted (AVE) will also be calculated for convergent validity. A value of 0.5 or above is regarded as enough to reveal high convergent of items at a specific construct (Hair et al., 2016).

Another important validity to be determined is the face validity. Face validity is closely related to content validity. This is the degree to which a measure appears to be related to a specific construct. That is, a test has face validity if its content simply looks relevant to the person taking the test. It should be noted however that, face validity is a crude and basic measure of validity as having face validity does not mean that the instrument measures exactly what it was supposed to measure (Pallant 2011).

3.9 Reliability

Reliability refers to the extent which data collection techniques or analysis procedure yield consistent finding (Saunders et al 2009). The study will use multiple item measurement scales, hence the need to determine if the scale is reliable. Pallant (2010) provides two frequently used indicators of scale's reliability namely test-retest reliability and internal consistency reliability. However, the test re test will be not carried out for this study. Internal consistency reliability is the degree to which the items that make up the scale are all measuring the same underlying attributes will be measured using Cronbach's Alpha. It will be accepted if it reads 0.7 or above and will be rejected if it reads below.

3.10 Ethical Considerations

This study was approved by relevant bodies for graduate studies at the Open University of Tanzania. A research clearance letter to conduct research was obtained from the office of Vice Chancellor before data collection exercise. The approval to conduct this research obtained from MIC Tanzania Limited (Tigo) Head Office Human Resource Department. The researcher understood that the data provided by

respondents was highly confidential; he ensured that the identity of respondents was protected. The researcher kept respondents' consent and ensured that information was collected for specified research purposes and not used in any manner incompatible with these purposes. Therefore, during doing this research, the researcher observed the highest degree of confidentiality. The study used the SERVQUAL instrument to assess the effects of customer relationship management on the customer satisfaction on the products or services delivery at Tigo Tanzania.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1   Introduction

The chapter presents the findings, analysis of the findings and discussion of the results, on the assessing the effect of customer relationship management on customer satisfaction in telecommunication industry: a case of MIC Tanzania Limited branded as Tigo Dar es salaam region. This chapter covers, consideration areas critically to assess the impact of customer orientation to services or products and customer satisfaction among Tigo customers in Dar es Salaam region. Also, to examine the level of customer satisfaction brought by customer-personnel relations, to assess the impact of personnel knowledge management on the level of customer satisfaction and to evaluate how technology-based customer management affects customer satisfaction on services or products provided.

4.2   Validity and Reliability Analysis

A conclusion of any study can be affected by either a researcher's bias or subjective judgment in the data collection process (Yin, 1994). The researcher must provide supporting evidence that a measuring instrument does in fact measure what it supposed to measure. Interviewing a single respondent at a time and carrying on discussions with the respondent was a way of maintaining validity.

On the other hand, data collection was done by only one person for owning and controlling the questionnaire administration and it was conducted in the form of an interview. Prior to the main survey, a pilot study of 20 respondents was done, and the

questions were modified. Validity test usually determines whether the research truly measures what it was intended to measure in the study population (Saunders *et* al, 2007).

The reliability test conducted using the Cronbach's alpha (α), reliability test is reliable if it is consistent over time and within itself (Nunnally, 1978). According to Nunnaly, (1978) a cut-off of 0.7 Cronbach's alpha (α) test scale is a good scale. Moreover, Miller *et al.,* (2002) confirm that Cronbach's alpha (α) should be at least 0.70 or higher to retain variables in adequate scale.

4.3   Demographic and Socio-economic Characteristics of the Respondents

In this section, the study provides demographic information and the characteristics of the respondents participated into this study. This information's are crucial as it made the researcher to understand the person who were dealing with and have the clear vision on their characteristic and behavior. The information's of the respondents provided are like marital status, age, gender, level of education and employment status by the time of data collection presented in Table 4.1.

These characteristics provided the demographic and socio-economic descriptions of the study sample and often cited to be among the contributing factors influencing the customer satisfaction in telecommunication industry at Tigo Tanzania customers in Dar es Salaam region.

Table 4.1: Demographic and Socio-economic Characteristics

Variable	Variable category	Frequency	Percentage
Sex			
	Male	130	36.7
	Female	224	63.3
Age of Respondent			
	18-30	105	29.7
	31-45	156	44.1
	46-60	51	14.4
	60+	42	11.9
Marital Status			
	Married	158	44.6
	Single	196	55.4
Educational Level			
	Secondary education	114	32.2
	Graduate	190	53.7
	Post graduate and above	50	14.1
Working experience			
	Less of 1 Yr	21	7.1
	1 – 5 Yrs	124	41.8
	6 – 10 Yrs	131	44.8
	Above 10 Yrs	20	6.8

Source: Researcher Data, 2017

4.3.1 Gender

According to Table 4.1, the study findings also indicate that there were few males (36.7%) in the surveyed sample than females (63.3%). These results suggest the number of females were larger in customer satisfaction in telecommunication industry services study area.

4.3.2 Age of Respondents

This study was interested with the age of respondents to determine in which age group Tigo had more customers thus knowing the relation between customer relationship management and their satisfaction. The study findings that (44.1%) of the respondents were aged between 31 and 45 years, followed by those aged between 18 and 30 years (29.7%). The respondents aged between 46 – 60 years find that (14.6%) and lastly is

(11.9%) for over 60 years. Generally, 73.8% of respondents were younger than 46 years (Table 4.1).

These results suggest that most the respondents were in the active age group that was capable of actively undertaking on telecommunication mobile services and products. This shows that Tigo customer base is dominant with younger people below 40 years of age. Most of the respondents belonged to that age group; hence the findings of the study reflect much of that age group satisfaction more than other age groups. The study needed to know age distribution of the respondents as it affects the levels of satisfaction due to different demands by different age groups. The youngest customers' service demands are not the same as older customers due to their usage of the technology within telecommunications industry. In understanding the classification of respondents, it creates a platform for making generalized end results of the findings.

4.3.3 Marital Status

According to Table 4.1, the total number of 354 respondents were successfully filled and returned given questionnaires. 196 respondents, which, is equivalent to 55.4% were single and 158 respondents, which equates to 44.6% were married. These results suggest that majority of the respondents were single. This implies that most respondents were not married.

4.3.4 Level of Education

Findings in Table 4.1 shows that a large proportion of respondents (32.2%) had a secondary level of education compared to the respondents with a graduate education

(53.7%) and post graduate and above (14.1%), respectively. This implies that there is few numbers of the members for PhD, Master and undergraduate level of education in Tigo (T) at Dar es salaam who are involved on customer satisfaction in order to increase efficiency and effectiveness of working and services in the telecommunication sector. These results suggest that all the respondents had adequate basic literacy to understand on customer care satisfaction.

These findings indicate that all respondents had enough educational background to enable them to accurately respond to study questions. In other meaning, respondents' educational background was basic instrumental in responses that needed clear understanding of the questions. Level of education is influential to some extent in understanding services provided as well as changing perceptions of the customers.

4.3.5   Working Experience

The length of working experience served in this organization determines the extent to participants' level of experience in customer care, the participants whether they were at any point involved in customer services, what their thoughts were on the involvement of staff members in on customer satisfaction. According to the results, as shown in Table 4.1, 7.1% of the respondents indicated that they had an experience of less than one (1) years, another 41.8% of the respondents had an experience of 1 - 5 years, as well as 44.8% of those who indicated that they had an experience of 6 - 10 years and 6.8% of the respondents who indicated that they had an experience of over ten (10) years. This shows that 52.9% of the respondents had working experience between 0-5 years and most respondents of that staff members are involved in

exercise of health activities at customer care satisfaction. Furthermore, mostly of the workers are on communication services.

Table 4.2: Customer Satisfaction

	Cronbach alpha	Percentage responses of respondents				
		Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Customer Orientation	0.754	20.0	35.1	25.6	16.9	2.4
Customer Personnel Relation	0.746	13.9	45.6	13.1	25.5	1.8
Personnel Knowledge Management	0.837	18.7	26.9	16.1	35.0	3.3
Technology Based Customer Management	0.737	12.0	31.9	19.0	32.9	4.2
Average customer satisfaction	**0.769**	**16.15**	**34.88**	**18.45**	**27.58**	**2.93**

Source: Researcher, 2017

The results are presented in Table 4.2 in a descending order, which was obtained by computing, for each item percentages based on a seven-point Likert type scale. The Likert scale was anchored as follows: 1= strongly agree, 2= agree, 3= uncertain, 4= disagree and 5= strongly disagree. In other words, the points ranged from 1 which indicates that a indicator was very often to 5 which indicates that the indicator was don't know. The average and Cronbach Alpha coefficient were also computed to assist in the interpretation of the percentages. The study findings presented in Table 4.1 depict that Cronbach's Alpha coefficient for each score ranged between 0.7 and 0.8. This suggests that the items were suitable for measuring.

4.4   The Impact of Customer Orientation to Services and Customer

**   Satisfaction among Tigo Customers**

4.4.1   Customer Orientation on New Product or Service

Customer orientation to new products is the process where a firm gives its customers instructions on how that service or product works through different means such as media, concerts, fliers and banners. In understanding the impact of customer satisfaction towards orientation to the introduction of new products and services, the respondents had different views.

According to Figure 4.1, the total of 354 respondents were presented with a few questions related to Customer orientation to new products of mobile phones in the surveyed area. The finding indicates that 31.9% of all respondent's equivalent to 113 said that they strongly agreed that they were getting orientation to new products and services from Tigo. 89 respondents (25.1%) agreed whereas 69 respondents (19.5%) were uncertain of the fact that they were given orientation or not. On the other hand, 21 respondents and 62 respondents which is equivalent to 5.9% and 17.5% respectively disagreed and strongly disagreed. Majority of the respondents agreed that they were given orientation when new services and products were introduced in the market by Tigo. A total of 57% shows that there is orientation and majority of customers are satisfied.

The finding is in line to Esselaar *et al.* (2007) that the highly visible intuitive role of mobiles phone was to keep in contact with customers and clients. In a related way, Anurag *et al.* (2009) unveiled that the micro-business operators were able to transact

payments directly with their customers and suppliers through a mobile phone in the palm of their hands without necessarily going through a bank and without having to leave their business premises.
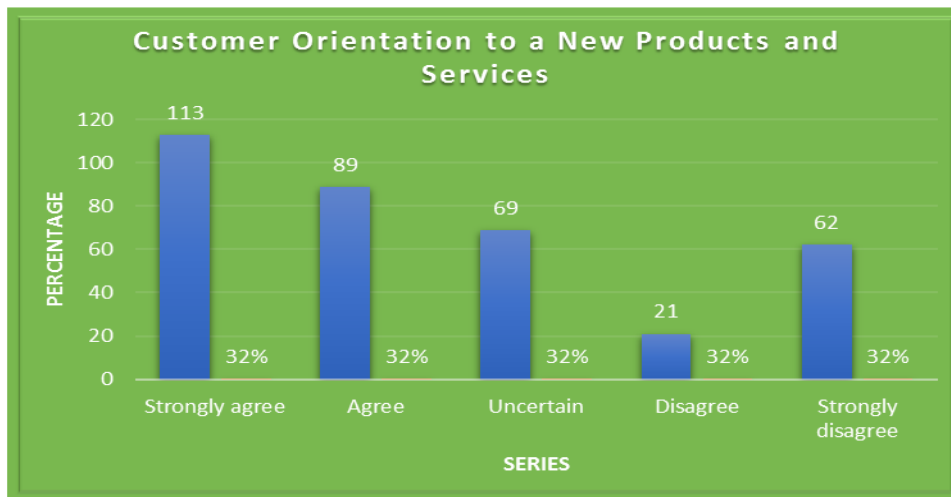
Figure 4.1: Customer Orientation to New Products and Services

Source: Researcher, 2017

4.4.2 Provision of Customer Orientation in Timely Manner before the use of New Service/Product

Customer orientation is meant to make the service/product known to the customers. The customer is a primary target of any new product/service that telecommunication service providers introduce in the market. Orientation on new service makes the consumer familiar with it before starting using the service. Without orientation, customers cannot use that service and hence be dissatisfied with it.

According to the Figure 4.2, the respondents had the following responses to the timely manner provision of customer orientation to new services/product by Tigo: 132 respondents which is 37.3% disagreed and 67 respondents amounting to 18.9% strongly disagreed while 45 respondents (12.7%) were uncertain. Furthermore, 38 and

72 respondents which is equal to 10.7% and 20.3% strongly agreed and agreed respectively.

What the findings denote is that, majority of the respondents disagree on the timely provision of customer orientation. It might be that they are being given orientation way far after the product/service is in the market or that the means used to orient customers does not reach all customers. In other words there is dissatisfaction among customers on the timely delivery of customer orientation to new products.
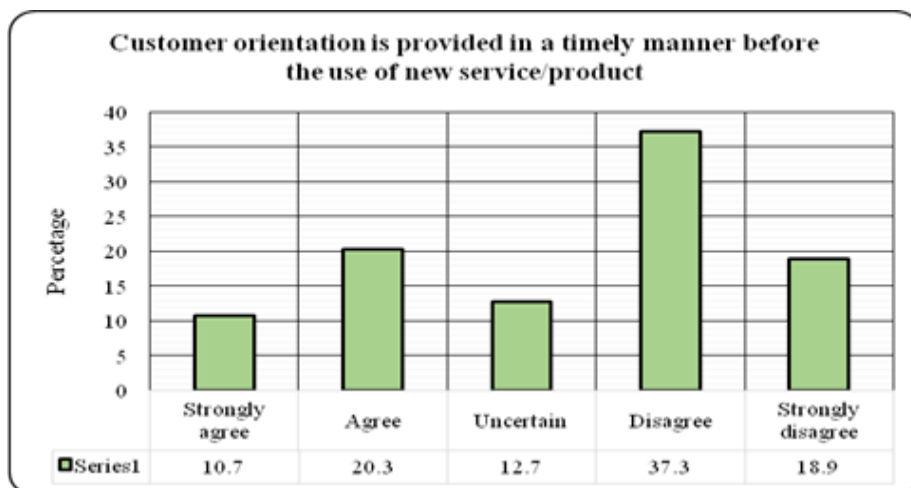
Figure 4.2: Provision of Customer Orientation in Timely Manner before the use of New Service or Product

Source: Researcher, 2017

4.4.3   Language used in Orientation

Language use can be a useful tool or a barrier. The study was interested to know how language used in customer orientation is understood by the customers and to which satisfaction levels. According to Figure 4.3, the responses were as follows: 137 respondents (28%) strongly agreed that language used in orientation was simple and easily understood. 99 respondents (38.7) agreed, 49 respondents (13.8%) were

uncertain, 34 respondents (9.6%) disagreed and 35 respondents (9.9%) strongly disagreed. These findings show that there is satisfaction among majority of the respondents on the fact that Tigo provides orientation in simple understandable language.
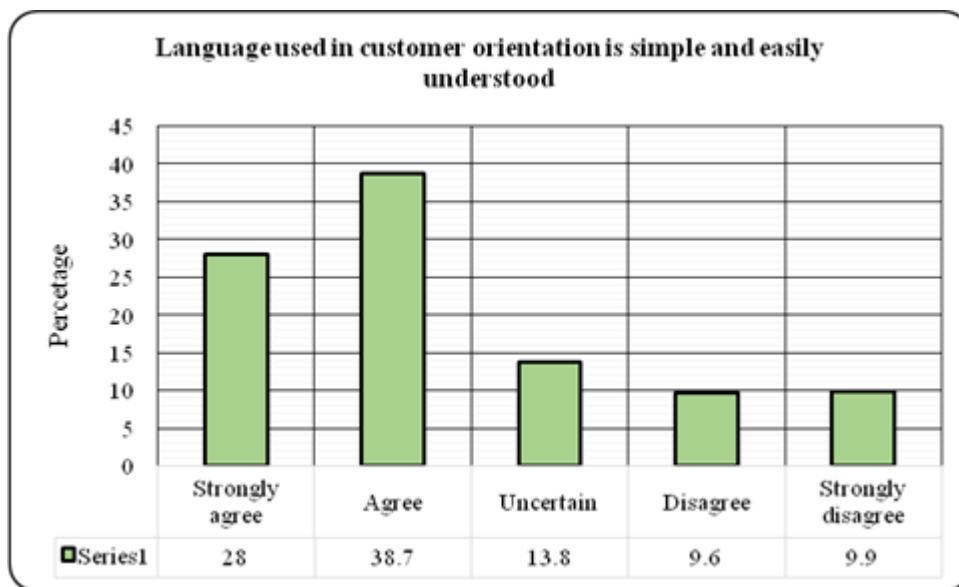
Figure 4.3: Language used in Orientation

Source: Researcher, 2017

4.4.4 Prices for Services are Affordable and Reasonable

In business, price plays an important role in determination of customers' satisfaction. Value for money is what a customer is looking for when purchasing services or products. According to Figure 4.4, responding to the posed question on prices offered for services being affordable and reasonable, majority of the respondents agreed that prices for services were affordable and reasonable. 38.7% of the respondents (137) strongly agreed while 31.1%, which equals to 110 respondents agreed. That makes a total of 69.8% of responses agreeing to the fact that Tigo services are offered at an affordable and reasonable price.

These findings show high level of customer satisfaction with prices meaning that when other factors have been rectified, Tigo customers will be the most satisfied in telecommunication industry in Tanzania.

This study is in line with the study done by (J.D Power and Associates Survey 2009) which explain that a number of factors are associated with customer satisfaction, such factors includes coverage, call quality, promotions and offerings of incentives and rewards, prices of service, billing, customer, bundled services.

Percentage Distribution on Prices for services

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Series1	38.7%	31.1%	16.4%	11.0%	2.8%
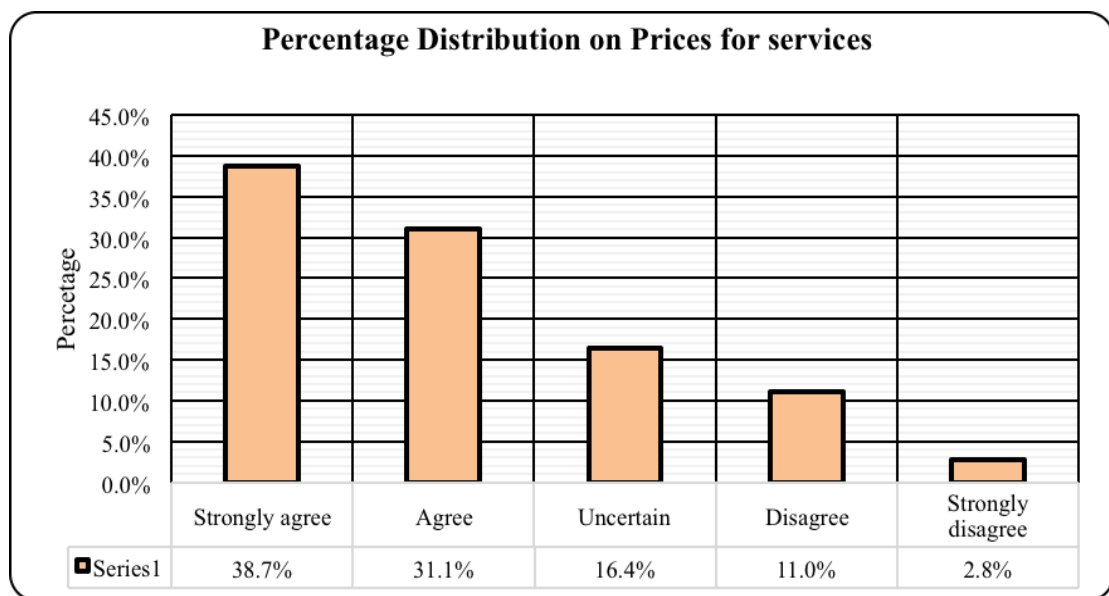
Figure 4.4: Prices for Services are Affordable and Reasonable

Source: Researcher, 2017

4.4.5 Quality of Services Provided is Actual Comparing to Customer Orientation

During orientation marketing officers apart from giving instructions and directives on the new service/product, they promote that service/product. A customer expects to get that said quality from the product when he starts using it. When the actual quality of the service is different from that promoted during customer orientation, the results are always customer dissatisfaction.

According to Figure 4.5, respondents had the following views when it comes to actual quality of services provided comparing to their expectations from orientation. 89 respondents which is 25.1% of all respondents disagreed, 85 respondents who represent 24% strongly, 62 respondents who are 17.6% of all respondents were uncertain.

On the other hand only 79 respondents equivalent to 22.3% and 39 respondents' equivalent to 11% agreed and strongly agreed respectively. The findings indicate that there is a problem with messages provided in product orientation, which in turn is reflected by customer dissatisfaction on the expected quality of products. Responses show that there is inconsistence between the value promised and what is delivered to the customer.
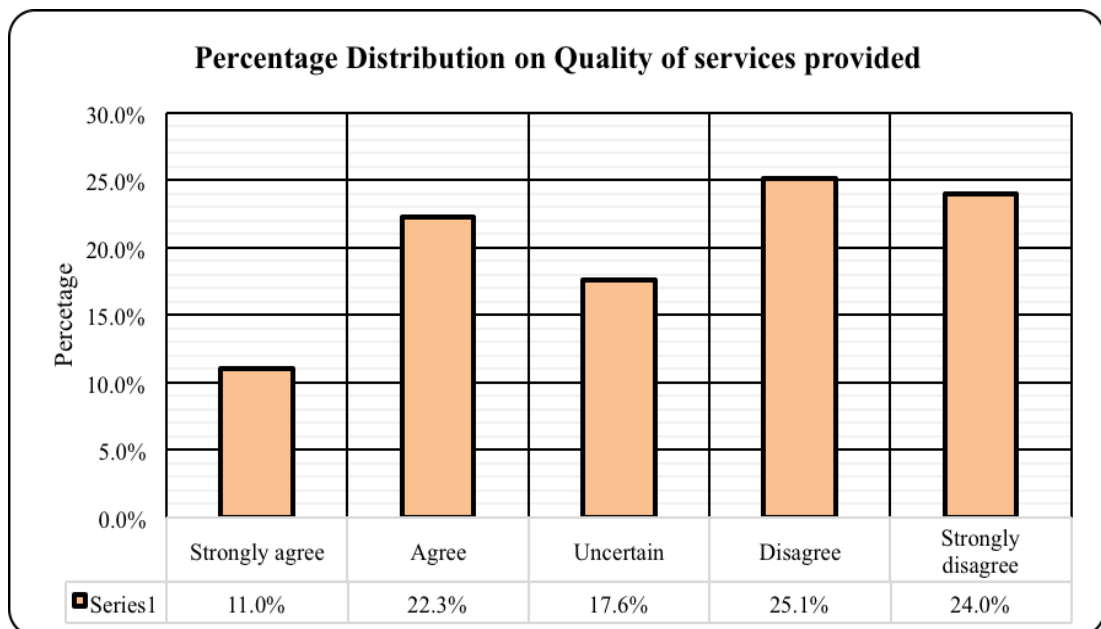
Figure 4.5: Quality of Services Provided is Actual Comparing to Customer Orientation

Source: Researcher, 2017

4.5   Level of Customer Satisfaction Brought by Customer-Personnel Relations

Table 4.3: Response on Customer Satisfaction Brought by Customer-Personal Relations

Statements	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Prompt service delivery to customers	113 (31.9%)	107 (30.2%)	61 (17.2%)	47 (13.3%)	26 (7.3%)	354 (100%)
Professionalism and discretion to customers	131 (37.0%)	32.5 (12%)	12.7 (55%)	8.5 (27%)	9.3 (4%)	354 (100%)
Customer interests	155 (43.8%)	97 (27.4%)	54 (15.4%)	48 (13.6%)	0 (0.0%)	354 (100%)
Equal weight is given in finding solutions for all inquiries	132 (37.3%)	97 (27.4%)	62 (17.5%)	48 (13.6%)	15 (4.2%)	354 (100%)
General customer handling satisfaction	180 (50.8%)	103 (29.1%)	46 (13.0%)	25 (7.1%)	0 (0.0%)	354 (100%)

Source: Researcher, (2017)

4.5.1   Prompt Service Delivery to Customers

Customers are satisfied when they get needed service on time. In mobile money transactions for instance, a person may be in an emergence or in hurry and needs making mobile money transactions or voucher recharging. The delay in deliverance of such service is annoying to the customers. Asked on level of satisfaction on prompt service delivery by Tigo, the responses were as follows: according to Table 4.3 show that 113 respondents that make 31.9% of respondent said that they strongly agree while 107 respondents equivalent to 30.2% said that they agreed. 61 respondents, that is 17.2% were uncertain while 47 respondents that makes 13.3% disagreed and 26 respondents which is 7.3% strongly disagreed. With more than 60% agreeing that they were satisfied with prompt service delivery by Tigo, it shows that customers are satisfied with the speed of service delivery.

This is in line with the recent study which was conducted in Malaysia using the SERVQUAL model to examine the impact of service quality dimensions on customer satisfaction showered that all service quality dimensions positively influenced customer satisfaction in terms of loyalty and attitudes (Arokiasamy and Abdullah, 2013).

4.5.2   Professionalism and Discretion to Customers

Telecommunication industry is the industry that demands high levels of discretion and professionalism as it deals with people confidential information, jobs, relationships and personal lives in general. A customer must be assured of discretion when using services of telecommunication network. As employees of telecommunication network, professionalism includes secrecy and discretion as to communications of customers.

According to Table 4.5, respondents had these views when responding to the question that asked their level of satisfaction on service providers' practice of professionalism and discretion: 131 respondents (37%) strongly agreed whereas 115 respondents (32.5%) agreed and 45 respondents (12.7%) were uncertain. Those respondents that strongly disagreed and disagreed were 33 which is 9.3%, and 30 which is 8.5% respectively.

The findings depict high levels of satisfaction with how Tigo personnel handle their communications with professionalism and discretion. With about 70% of the responses either agreeing or strongly agreeing, it shows that there is trust on the network from their customers when it comes to discretion and professional conduct of personnel. This brings confidence in customers as they feel safe using the network

whether is for communication or financial transactions. This feeling increases customer satisfaction as well as retaining him/her as safety comes first to any customer.

4.5.3 Customer Interests are Respected and given Uppermost Importance

Customer care and technical staff needs to have uppermost importance to the interests of the customer. Basically, they are employed to serve the customer who is their immediate boss. A satisfied customer is a good boss thus, it is the duty of every personnel in telecommunication industry to understand this and put efforts on ensuring that every customer needs and interests are given priority especially with the competition in the market.

Table 4.3, the study needed to know how the customers rate the level of satisfaction on the importance that their interests are given by Tigo personnel. 155 respondents which is equivalent to 43.8% of all respondents strongly agreed and 97 respondents which is equivalent to 27.4% agreed. On the other hand, 54 respondents who represent 15.3% were uncertain while 48 respondents which is 13.6% disagreed.

What can be portrayed from these findings is that customers are satisfied with how their interests are taken care of by Tigo personnel. Those who agreed were above 70% of all the respondents and there were none who strongly disagreed, which in turn portray high level of satisfaction.

4.5.4 Equal Weight is given in Finding Solutions for all Inquiries

In business, service providers may sometimes prioritize some problems and ignore or give less concern to other problems. To customers it is the other way around. Each

problem is important to the customer at the same weight, and so it should be dealt with to make the customer satisfied. Ignoring customers' problems creates a vacuum between personnel and customers. This vacuum in turn brings dissatisfaction on part of the customer and may result into loosing that customer.

According to Table 4.3, responding to whether all their inquiries are given equal weight in finding solutions, the respondents had divide opinions as follows: 132 respondents that make 37.3% strongly agreed, 97 respondents that amounts to 27.4% agreed while 62 respondents that equals to 17.5% were uncertain and 48 respondents which is 13.6% disagreed whereas the remaining 15 respondents who represent 4.2% strongly disagreed.

The study reveal that, customer care and technical teams seem to have done a good job of satisfying the customers with majority agreeing that all inquiries are treated with the same weight at Tigo Tanzania. This increases customer satisfaction and builds trust and good relationship between customers, personnel and the company.

4.5.5 General Customer Handling Satisfaction

In assessing personnel – customer relationship at Tigo Tanzania, the study posed a question to rate the levels of general customer satisfaction on how they are handled by Tigo personnel. This was meant to provide a picture of customer management by the personnel. According to Table 4.3, the study shown that 50.8% of the respondents, which is 180 strongly agreed that they are generally satisfied with how they were handled by Tigo personnel and 29.1% that represented 103 respondents agreed. 13%, which is 46 respondents, were uncertain where the other 7.1% disagreed.

What this data say is that, there is a general customer satisfaction by how Tigo personnel handled their customers. The rate of those that agree was around 80% which says a lot about little mischiefs that could be addressed to ensure that there is full customer satisfaction from services and products offered by Tigo personnel.

4.6 The Impact of Personnel Knowledge Management on the Level of Customer Satisfaction

Table 4.4: Response on Personal-Knowledge

Statements	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Availability of technicians to solve technical problems at Tigo	54 (15.3%)	148 (41.8%)	92 (26.0%)	60 (16.9%)	0 (0.0%)	354 (100%)
Advertisements reflects actual services provided	170 (48.1%)	113 (31.9%)	46 (13.0%)	25 (7.0%)	25 (7.0%)	354 (100%)
Quality of services provided	99 (28.0%)	112 (31.6%)	76 (21.5%)	47 (13.3%)	20 (5.6%)	354 (100%)
Personnel installing confidence in customers	139 (39.3%)	100 (28.2%)	34 (9.6%)	56 (15.8%)	25 (7.1%)	354 (100%)
The Company has employees who understand the needs of customers	137 (38.7%)	88 (24.9%)	71 (20.1%)	39 (11.0%)	19 (5.4%)	354 (100%)

Source: Researcher, (2017)

4.6.1 Availability of Technicians to Solve Technical Problems at Tigo

The study wanted to see how technical problems reported to Tigo were attended; as the means in which technical problem is attended to get a solution can be a reason for customer dissatisfaction. For instance, if there are no technical staffs to support customer care staff on technical problems once they arise. In another scenario, a customer might be referred to somebody else other than Tigo expert, hence creating misunderstandings and dissatisfaction to the customer.

According to Table 4.4, the respondents asked if technical problems reported are solved by Tigo personnel not referred somewhere else, 148 respondents which

represent 41.8% agreed where 54 other respondents representing 15.3% strongly agreed. 92 respondents who make 26% were uncertain and 60 others who make 16.9% disagreed. The implication of these findings is that most technical problems are solved by Tigo technical teams and others might not have come across a technical problem that needed assistance from Tigo technical teams.

4.6.1   Advertisements Reflects Actual Services Provided

In this era advertisement is part and parcel of business. Good advertisement brings good business. Tigo Tanzania has several advertisements relaying information on goods and services provided by the cellular network. Some customers are attracted by the advertisements and choose Tigo over other networks. The question that relates to customer satisfaction comes to the actual services and goods, if they live to the advertised standards or not.

The study needed to know how promotions and advertisement personnel deliver their advertisements in relation to what is really delivered to customers. Table 4.4 shows that, 170 respondents that is equivalent to 48% strongly agreed while 113 respondents that is equal to 31.9% agreed and 46 respondents were uncertain. On the other hand, 25 respondents, which equate to 7.1% disagreed and 25 respondents representing 7.1% strongly disagreed.

From the data, it can be said that there is a good relationship between advertisements and services advertised. Majority of the respondents agreed that what they are seeing or hearing from advertisements is what they get by using Tigo services and products. People working in marketing department have got their good jobs appreciated, which means customers are satisfied.

These results conflicts with the recent study which was conducted on 460 regular users of mobile services Wael (2015) in Syria showed a direct significant impact of service quality on customer satisfaction, and this effect had appeared through three dimensions (network quality, responsiveness, reliability) and there was no direct effect of other dimensions on customer satisfaction. In our case we had defined only four customer satisfaction dimensions of which we found they had influence on customer satisfaction

4.6.2   Quality of Services Provided by Service Providers is Satisfactory

Quality of services depends on many factors that combined provide satisfaction to the customers. Quality of service providers is one of the factors. When a company has service providers who are qualified for their respective positions and who are well compensated, then one can expect good quality services. In explaining about customers' satisfaction on the quality of services delivered by service providers, table 4.6 shown that, the respondents had the following views: 112 and 99 respondents agreed and strongly agreed which is equivalent to 31.6% and 28% respectively. 76 respondents were uncertain which represent 21.5% of the respondents. The remaining respondents disagreed and strongly disagreed by 13.3% and 5.6% respectively. The finding of study reveal that, customers seemed to be satisfied with how they were handled by service providers which suggest that Tigo has expected quality of service providers that deliver expected services to the customers, hence satisfying them.

4.6.3   Personnel Installing Confidence in customers

In telecommunication industry, customers' confidence in a network is very important. A customer needs to feel that the network he uses is reliable and trustworthy. This

confidence is built upon customers through different factors. These includes but not limited to safety of communications and transactions, reliability, accessibility coverage and personnel.

The first person to install this confidence is that personnel, who have first contact with the customer, be it direct or indirect. He/she has the duty of installing confidence to the customer that his company is the right choice for his communication needs. The respondents responded if Tigo employees install confidence in them with different views.

Table 4.4 shown that, 39.3% of the respondents strongly agreed where 28.3% agreed, 9.6% were uncertain, 15.8% disagreed and 7.1% strongly disagreed. The finding of study reveal that, with way more than half the respondents agreeing that Tigo employees installed confidence in them, it show that there is high levels of satisfaction from customers. In turn, this confidence is important in retention of customers as well as attracting new customer base. It is important to improve for the company to be successful.

4.6.4   The Company has Employees who Understand the Needs of Customers

This part concerned more customer care section as they are the ones dealing directly with customers in a daily basis. Professionally, customer care department needs to have personnel who are highly trained on all possible questions that might be asked by customers and they need to have knowledge of how to solve most of queries that are brought to them. It is this part that can please a customer or annoy him. When a customer has a query that customer care personnel cannot help a customer is annoyed and angry customer is not good for business.

On Tigo personnel understanding of customer needs and having knowledge of solving customer queries, 38.7% of the respondents strongly agreed and 24.9% agreed. 20% were uncertain while 11% disagreed and 5.4% strongly disagreed. Implication of the findings is that Tigo personnel have enough knowledge to satisfy its customers as majority of the respondents have indicated in their responses as presented in Table 4.5.

4.7 To Evaluate how Technology-Based Customer Management Affects Customer Satisfaction on Services Rendered

Table 4.5: Response on Technology-based Customer Management Affects Customer Satisfaction

Statements	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Up-to-date technology	133 (37.6%)	119 (33.6%)	54 (15.3%)	48 (13.6%)	0 (0.0%)	354 (100%)
The Company has modern equipment and facilities	134 (37.9%)	109 (30.8%)	78 (22.0%)	23 (6.5%)	10 (2.8%)	354 (100%)
The use of online/automated customer services is remarkable	98 (27.7%)	122 (34.5%)	103 (29.1%)	31 (8.8%)	0 (5.6%)	354 (100%)
Mobile money transfers are prompt and reliable	155 (43.8%)	109 (30.8%)	33 (9.3%)	39 (11.0%)	18 (5.1%)	354 (100%)
Technology used is more advanced than other companies	105 (29.7%)	61 (17.2%)	78 (22.0%)	85 (24.0%)	25 (7.1%)	354 (100%)

Source: Researcher, (2017)

4.7.1 Up-to-date Technology

Technology is controlling almost every aspect of human life nowadays. Telecommunication has evolved in recent decades to solely depend on technology. There is inventions of new technologies in a daily basis and telecommunication companies are chasing each other on the use of modern technology available so as their customers will enjoy up to date services. Competition on new technology has

become a tool in winning more customers and one of the determinant factors of one's satisfaction or dissatisfaction with telecommunication company's services. Every customer looks at the latest technology in communication, so it is among core elements of customer satisfaction.

Asked whether Tigo has up to date technological facilities, Table 4.5 shown that, 133 respondents who amounts to 37.6% of all respondents said that they strongly agreed. 119 respondents which is 33.6% said that they agree. 54 respondents which is equivalent to 15.3% were uncertain while 48 respondents (13.6%) disagreed. This finding result shows that customers are satisfied with the technology that Tigo is using to provide them telecommunication services. The numbers show that a few responses were dissatisfied with the level of technology used as illustrated in figure 6 below.

4.7.2 The Company has Modern Equipment and Facilities

With the fast-growing levels of technology, especially information technology, telecommunication industry must always improve its facilities and equipment so as to be competitive. Customers are attracted by impression of the company facilities such as offices and communication equipment. Regarding Tigo possessing modern equipment and facilities, Table 4.5 shown that, 37.9% of the respondents strongly agreed, 30.8% agreed whereas 22% were uncertain and 6.5% disagreed where 2.8% strongly disagreed. These numbers point toward higher levels of satisfaction among customers on the present facilities and equipment used by Tigo Tanzania.

4.7.3 The use of Online/Automated Customer Services is Remarkable

As technology has simplified most tasks in our lives, online or automated services have taken over many tasks that were formerly performed by humans. In

telecommunication industry, due to the number of customers served, it is almost impossible to serve all of them through human personnel, and it will be time consuming for customers. To solve this problem some services are automated so as a customer may be able to get help without speak with customer service representative.

There are pre-saved answers for frequent asked questions for instance. Through a mobile phone one can get help through help menus. Table 4.5 shown that, 27.7% of the respondents strongly agreed that Tigo use of online/automated services was remarkable. 34.5% agreed, 29.1% were uncertain and 8.8% disagreed. This reveals that customers' satisfaction maybe aggravated by the fact that mobile communications create a good link between customers and provider in the study area. In this regard customers are able to place orders at any time hence replace travel costs, get product and price information from the reliable source and on time.

4.7.4   Mobile Money Transfers are Prompt and Reliable

Mobile money has become popular within telecommunication industry in Tanzania as it is the easiest way of saving, money transfer and purchases. Each network is trying to satisfy its customers with the best mobile money services. The study wanted to know levels of satisfaction as to Tigo Pesa money transfers being prompt and reliable. Table 4.5 shown that, 43.8% strongly agreed, 30.8% agreed, 9.3% were uncertain, 11% disagreed and 5.1% strongly disagreed as shown in Table 4.5. Majority of the respondents said that they agreed the fact that Tigo mobile money transfers were prompt and reliable hence they were satisfied with the services.

4.7.5   Technology used is More Advanced than other Companies

Nowadays in telecommunication industry it is very important that companies impress their customers by employing the highest levels of technology so as to be competitive in the market. Levels of technology use differ from one company to the other. For instance, Tigo has the highest coverage of fourth generation technology (4G) in the country while others still cover most parts in third generation technology (3G).

On measuring satisfaction levels of customers on technology used by Tigo Tanzania to be more advanced than its competitors, 29.7% and 17.2% strongly agreed and agreed respectively. 22% of the respondents were uncertain whereas 24% and 7.1% disagreed and strongly disagreed respectively.

4.8   Econometric Assumptions Testing

4.8.1   The Multicollinearity Test Result for the Customer Satisfaction Multiple Regression

To test multicollinearity among explanatory variables, the Variance Inflation Factor (VIF) test was conducted (Jenber, 2011). The Variance Inflation Factor result indicated that there was no multicollinearity problem among the explanatory variables. Because the value of VIF for each independent variable is less than 10, this shows that multicollinearity was not a problem. The primary concern is that as the degree of multi collinearity increases, the regression model estimates of the coefficients become unstable and the standard errors for the coefficients can get wildly inflated. It used the *variance inflation factor* (**VIF**) and tolerance rate to check for multicollinearity.

Table 4.6: Results of Multicollinearity Test between Independent Variables

Independent variable	Tolerance (1-R^2)	VIF (Variance Inflating Factors)
Customer Orientation	0.199	5.550
Customer Personnel Relation	0.199	5.446
Personnel Knowledge Management	0.178	5.355
Technology Based Customer Management	0.188	5.450
N=354		

In examining model performance information, the probit model correctly predicted 89.32 percent of the 9354 customer and staff surveyed in the Tigo (T), 77.42 percent in the company, and 70.59 percent in the aggregate customer. The formal model had the best correctly predicted value and no model had values greater than 5.55 in the VIF test, indicating that multicollinearity was not present.

4.8.2 The Autocorrelation Assumption Test

Table 4.7: Results of Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.788[a]	0.620	0.615	0.74239	1.51

a. Predictors: (Constant), Customer Orientation, Customer Personnel Relation, Personnel Knowledge Management, Technology Based Customer Management
b. Dependent Variable: customer satisfaction

Table 4.8 shows the results of the test of independence of observations. It is assumed that assumption that the errors associated with one observation are not correlated with the errors of any other observation cover several different situations. Errors are residuals or difference between the actual score for a case and the score estimated using the regression equation. No serial correlation implies that the size of the residual for one case has no impact on the size of the residual for the next case. Durbin Watson

statistic was used to test the presence of serial correlation among the residuals. The value of the Durbin Watson statistic ranges from 0 to 4 as a general rule of thumb, the residuals are not correlated if the Durbin Watson statistic was 1.51 and an acceptable range is 1.5 to 2.50. The findings imply that there is no serial correlation of errors and therefore the model was correctly specified.

4.8.3   Test of Normality

Table 4.8: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Customer Orientation	0.122	375	0.000	0.954	375	0.000
Customer Personnel Relation	0.125	375	0.000	0.947	375	0.000
Personnel Knowledge Management	0.131	375	0.000	0.955	375	0.000
Technology Based Customer Management	0.102	375	0.000	0.968	375	0.000
a. Lilliefors Significance Correction						

To analyze the regression model, some basic assumptions needed to be tested. One of the assumptions that needed to be tested was the normality test. After some of the variables are transformed to the logarithmic scale using the ladder and gladder commands, the problem of normality is solved. Table 4.9 shows that the P-values of all the service dimensions are less than 0.001 using Shapiro-Wilk test of normality. The results show that the two variables are not normally distributed. However Ghasemi and Zahedias (2012) argue that the test statistics requires a large sample size, violation of normality assumption should not cause major problems meaning that sampling distribution tend to be normal regardless of the shape of data.

4.8.4 Test of Homoscedasticity Assumption

Heteroscedasticity means presence of error of variance in the linear regression model, which is a violation against homoscedasticity variance assumption. Gujarat and Porter (2010) state that heteroscedasticity can be diagnosed by using White Test. According to them, White Test can be done by comparing the value of calculated and observed Chi-square values by using the formula: $\chi^2 = N \times R^2$ whereby $\chi^2 =$ is the calculated Chi-square, N= is the number of observation and R^2 = R-Square or coefficient of determination. The rule of thumb is: When Chi-square calculated is less than Chi-square observed there is no heteroscedasticity problem in the model. From the data analysis (Table 4.16a) R^2=0.620 and N=385, therefore calculated $\chi^2 = 0.620 \times 0.375 = 232.5$. The result indicate that calculated Chi-square is less that observed Chi-square which imply that the model does not exhibit heteroscedasticity problem.

4.9 Regression Analysis of Factors influencing the Customers' Satisfaction to Mobile Communications

The dependent variable customers' satisfaction was among an important contribution of using mobile communications was regressed on four independent variables namely accessibility of customer orientation, accessibility of customer personnel relation, accessibility of personnel knowledge management, analysis of technology-based customer management. The regression results gave a multiple correlation (R) of 0.882. This means that the independent variables, which were used in the regression model, collectively, were strongly associated with the dependent variable. The adjusted multiple coefficient of determination, R^2, obtained was 0.778. That is the

fitness of the model strength to explain the dependent variable. This means that the independent variables entered in the model had the ability of 77.8 per cent of explaining the variation in the dependent variable.

Table 4.9: Regression Analysis of the Customer Satisfaction (N=354)

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	32.135	16.713		1.923	0.052		
customer orientation	0.239	0.124	0.132	1.921	0.050	0.734	1.362
customer personnel relation	4.886	3.725	0.083	1.312	0.193	0.854	1.171
personnel knowledge management	-1.07	0.435	-0.228	-2.459	0.016	0.403	2.481
technology based customer management	2.47E-07	0	0.238	3.018	0.003	0.556	1.798

R= 0.882, R^2= 0.778, Adjusted R^2= 0.726, p ≤ 0.05

The independent variables had negative and positive beta (β) weights, implying that they had negative of the personnel knowledge management and positive contributions of the customer orientation, customer personnel relation and technology-based customer management on the dependent variable. The regression results reveal that the customer satisfaction was greatly affect to the Tigo communication (Table 4.6). The impact of customer orientation on the performance of customer satisfaction was positive (+ 0.132) and statistically significant at the 0.1 per cent level of significance. Thus, rejecting the null hypotheses "there is no statistically significant between personnel management and customer satisfaction based Tigo (T) and accepting the alternative. This implies that Tigo have a wide business network in terms of many customers realizes a better performance. This is a good finding because it implies that

the more the customers the more the performance of Tigo in the sense that mobile communication can enhance networking which in turn increases the volume of sales and profitability.

The results revealed that customer personnel relation of the respondents had positive contribution (+ 0.083) on the performance of mobile communication based Tigo, but statistically not significant (p= 0.193). The positive coefficient of the sex of respondents implies that customer personnel relation determines the performance of communication based Tigo. Nonetheless, the lack of significant impact of the customer personnel relation of respondents on the performance of Tigo implies that the company owners being likely to achieve better performance at the same extents.

In the personnel knowledge management in business, the results revealed negative (-0.228) contribution on the performance of Tigo (T), but statistically significant (p=0.016). Thus, rejecting the null hypotheses which states, "there is no statistically significant difference between personnel knowledge management in business and performance of communication industry based Tigo" and accepting the alternative.

This implies that the personnel knowledge management spends on doing a certain business, the more experienced one becomes. Therefore, Tigo owner who has more years of experience in business is likely to operate business more efficiently and become more successful and hence achieves better performance. Similarly, the results revealed that technology-based customer management of Tigo had positive contribution on the performance of Tigo (+ 0.238) and the contribution was significant at p< 0.05. The positive coefficient of operating capital implies that when an SME increases operating capital, realizes a better performance.

Uses of mobile phones also has positive contribution (+0.132) on the performance of customer satisfaction base in Tigo and it is statistically significant at $p<0.05$. Therefore, rejecting the null hypotheses "there is no statistically significant between performance of communication based Tigo and uses of the mobile phones" and accepting the alternative. This implies that increased use of mobile communication in business, enhances the performance of communication based Tigo.

Thus, it becomes more convenient for Tigo owners to continue use mobile phones in undertaking services that would in turn help in realizing better performance of Tigo. These result findings confirm earlier studies of (Matambalya and Wolf, 2001; Samuel et al., 2005; Esselaar et al., 2007; Sæbø and Melchioly, 2010; Aker and Mbiti, 2010) which reported that mobile communication contributed to the performance of customer satisfaction.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND

RECOMMENDATIONS

5.1   Summary of the Findings

This study had a good response from the sample selected and provided with great and carefully insight on the specific study area. All the four objectives were handled in proper way and the findings were unique. The study main objective was to examine the relationship between customer relationship management and customer satisfaction in telecommunication industry in Tanzania where MIC Tanzania Limited branded as Tigo was used as a case study. The findings have shown that customer relationship management plays an important and vital role in bringing about customer satisfaction in business related environment and other aspect, which involve customers in one way or another.

These findings went parallel with the study hypotheses in agreeing the fact that customer orientation to the new services and products increases the level of customer satisfaction since it increases the earliest customers awareness on the products and services. From the findings, it seems that customer orientation is not given in timely manner as majority of the respondents did not agree on the provision of orientation to new services and products in a timely manner after the launch.

On the second hypothesis, the findings proved that the customer-personnel relation is the key ingredient for customer satisfaction. Responses showed that there was a good customer-personnel relation that increased levels of satisfaction among customers.

Customers were generally satisfied and happy with how they were handled by Tigo Tanzania personnel representative, which results into brand loyalty.

The third hypothesis was about personnel knowledge management. The study helped to identify that personnel knowledge management has great impact to the levels of customer satisfaction. Respondents were satisfied with how technical personnel responses to technical problems as well as how their needs are met. It shows that Tigo has qualified personnel who knows what they are doing especially on the new technology and that installed confidence among the respondents.

The last hypothesis was on technology-based customer management and its impacts on customer satisfaction. The findings showed that in the technological era, Tigo customers were satisfied with the use of technology and the levels of technology employed by Tigo Tanzania. Majority of responses agreed that there is modern technology as well as equipment that make communication reliable like the use of Tigo applications installed into their mobile help them a lot like Tigopesa and Tigo app.

5.2   Conclusion

From this study results, it can be concluded that customer relationship management and customer satisfaction are well connected and parallel for the health of the business. Any company cannot run away from customer relationship management when the aim of a business is to satisfy customers, which bring profit and health into business and other commercial perspectives. Customer relationship management is a significant driver of customer satisfaction in telecommunication industry. This study

shows that improving customer relationship management practices has the potential of enhancing customers' satisfaction hence maintaining customer retention and loyalty.

Customer relationship management acts as tool to facilitate the business and thereby improving customer relationship with the organizations or company. Finally, after conducting this research and validating it through various data and quantitative analysis it can be effectively stated that customer relationship management is needed in any organization because when properly applied, it results in optimizing profitability, income and meeting the needs of customers. The most important thing that customer relationship management provides is customer satisfaction. An effective customer relationship management will lead a customer to satisfaction and if the customer is satisfied it drives towards positive word of mouth and loyalty. This in fact helps in leveraging the business as well as generating more revenues and profits as well as efficiency for the organizations in terms of services they provide to the society.

5.3   Recommendations

It is concluded from the analysis of the present study that customer relationship management elements are responsible for creating customer satisfaction. This indicates that telecommunication companies' managements and business decision makers should give greater emphasis on service quality provided to customer and giving high tension on solving customer problems and complaints raised immediately reported which was responsible mainly for customer satisfaction as shown in this study.

Telecommunication companies should be viewed as a source to provide addition value added services, which is developed based on customer needs and wants, and not only to consider customer relationship as customer's record only. Since competition in the telecommunication industry is very tense and high, greater importance should be given to customer relationship management as a tool to gain competitive advantage through customer satisfaction and enough research required for the telecommunication companies to identify the customer needs in terms of the services and product before to launch to achieve customers needs within that time.

Based on the above conclusion, the researcher recommends the following to take into considerations:

Telecommunication companies should conduct special and frequent training programs to all front office personnel to deal positively with customers through identifying main customer relationship management tools in telecom industry.

Telecom management should enhance the process and procedures of solving customer complaints and problems directly, which can foster customer relationship management and customer satisfaction.

Special attention should be given by management to physical environment and technological infrastructure, which has a direct relationship with customer satisfaction.

5.4   Areas for Further Research

This study focused on examining the relationship between customer relationship management and satisfaction in telecom industry in Tanzania: citing a case study of Tigo Tanzania. There is need for further research to be done in the following areas:

(i)   Impact of customer satisfaction on the choice of the service providers:

(ii) Further research can be done on the perceived service quality and what customers receive:

(iii) How the telecommunication pricing and bundles has the impact on customers satisfaction.

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APPENDICES

Appendix I: Questionnaire

SECTION A: DEMOGRAPHIC INFORMATION
Kindly mark (√) in the adjacent to your correct option
Marital status:
a) Married   b) Single   c) Widowed   d) Divorced   e) Separated
Age:
a) Less than 30 yrs   b) Between 31- 40 yrs   c) Between 41-50 yrs   d) More than 50 yrs

Gender:
a) Female   b) Male
Level of Education:

No Schooling	Primary Education	Secondary Education	Graduate	Postgraduate and above
1	2	3	4	5

Employment status:
a) Employed   b) Unemployed c) Student   d) Retired   e) Others

SECTION B: CUSTOMER RESPONSES
According to your experience in using Tigo services, please rate the following
questions about customers' orientation to new services and products in a scale of 1-5,
where 1 is **Strongly Agree** and 5 is **Strongly Disagree**

		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1	Customers get orientation whenever there is introduction of new product or service					
2	Customer orientation is provided in a timely manner before the use of new service/product					
3	Language used in customer orientation is simple and easily understood					
4	There is a survey before introduction of new service/product					
5	Prices offered for services are affordable and reasonable					
6	Quality of services/products is actual comparing to the customer orientation					

Kindly rate the level of your satisfaction on customer-personnel relation with Tigo service providers in a scale of 1-5, where 1 is **Strongly Agree** and 5 is **Strongly Disagree**

		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
7	Services are delivered on time when demanded by the customer (Prompt service to customers)					
8	Service providers practice professionalism and discretion to customers					
9	Employees make customers feel safe in their transactions					
10	Customers are treated with polite language					
11	Interests of the customers are given upper most importance					
12	All inquiries are given equal weight in finding solutions					
13	Service providers shows willingness and readiness to help customers					
14	Service providers keep customers informed about when services will be available/performed					
15	General customer handling at Tigo is satisfactory					

Please rate the level of Tigo personnel's knowledge of their jobs when serving the customers in a scale of 1-5, where 1 is **Strongly Agree** and 5 is **Strongly Disagree**

		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
16	Technical problems reported are solved by Tigo personnel not referred somewhere else					
17	Advertisements reflects actual services provided (What you see is what you get)					

18	There are personnel who do not know what they are doing					
19	Service providers are handling customers as promised					
20	Performing services right the first time					
21	Tigo employees installs confidence in customers					
22	Company have employee who have a neat, professional appearance					
23	Company have employee who understand the needs of their customers					
24	Employees who have the knowledge to answer customer questions					

In your experience with Tigo services, please kindly rate the use of technology-based customer management in a scale of 1-5, where 1 is **Strongly Agree** and 5 is **Strongly Disagree**

		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
25	Tigo has up-to-date technology					
26	The company has modern equipment and facilities					
27	The use of online customer services is remarkable					
28	Automated customer services provide enough information to customers in a timely manner					
29	Mobile money transfers are prompt and reliable					
30	Technology used is more advanced than other companies					

31. Please provide any improvements that you think can increase your satisfaction with services and management of Tigo

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Thank you for your time and cooperation