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Quality of ICT Services and its Impact on Customer Satisfaction: A Case Study of Kenya Revenue Authority

Name: Ezekiel Saina

Student Number: MBA/1716/11

**Submitted in partial fulfilment of the requirements for Degree of
Master's in Business Administration at Strathmore University**



**Strathmore Business School
Strathmore University
Nairobi, Kenya**

June, 2013

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I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself

Name: Ezekiel Saina

Signature:

Date:



Approval

The thesis of Ezekiel Saina was reviewed and approved for examination by the following:

Name of Supervisor:

Faculty Affiliation:

Institution:

Head of School/Institute/Faculty
School Name

Dean, School of Graduate Studies

ABSTRACT

Information and communication technology (ICT) is regarded as a great invention owing to its ability of automating a large percentage of the work done by human beings. Unfortunately when services are designed they do not work ideally as intended, leading to quality issues which curtail satisfaction derived by end users as well as recipients of ICT services. This research seeks to examine quality issues which affect provision of ICT services at Kenya Revenue Authority (KRA), and to study the effects of quality of ICT services on customer satisfaction at KRA. The study focused on examination of quality issues which affect ICT service provision which in turn influence level of satisfaction among the consumers; staff of KRA, the taxpayers and the tax agents, of those services. The objective of the research was therefore to investigate the quality of ICT services, and to examine its impact on customer satisfaction on ICT based KRA services. The research used quantitative research approaches with a questionnaire as the data collection tool.

The study found out that the quality factors, collaboration was rated poor, while reliability and resources was fair and responsiveness, assurance, tangibility and empathy were rated good while none of the quality aspects was rated excellent. Further, satisfaction of ICT services varied among the various groups of respondents, where internal users registered the highest percentage rating of 70% followed by tax payers at 68.2% and lastly the tax agents at 63.6%.

The implication of these findings is that there is room for improvement of ICT services quality in order to increase customer satisfaction. There is need for researchers to undertake further research focusing on all aspects which influence quality of ICT in KRA such as total tax collected, per capita and GDP of the country in comparison to other tax administrations.

[Keywords: *Customer satisfaction, ICT services, Tax policy, Tax administration*]

TABLE OF CONTENTS

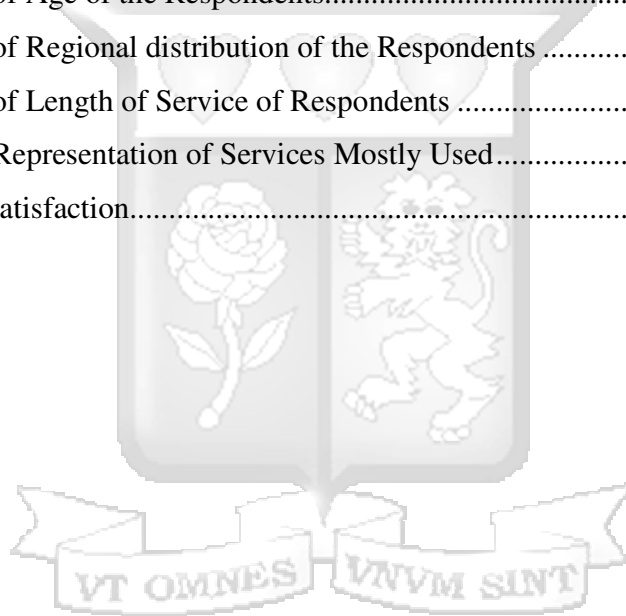
DECLARATION	ii
ABSTRACT.....	iii
TABLE OF CONTENTS.....	iv
LIST OF FIGURES	vii
LIST OF TABLES.....	viii
ACKNOWLEDGEMENT	ix
DEDICATION.....	x
CHAPTER ONE: INTRODUCTION.....	1
1.1 Introduction.....	1
1.2 Background of the Study	1
1.3 Problem Definition.....	3
1.4 Research Objectives.....	4
1.5 Research Questions.....	4
1.6 Scope of the Study	4
1.7 Significance of the Study	4
CHAPTER TWO: LITERATURE REVIEW.....	6
2.1 Introduction.....	6
2.2 Theoretical Review	6
2.2.1 Measurement of Quality	7
2.2.2 Hypothesis.....	10
2.3 The Impact of ICT Service Quality on Customer Satisfaction.....	10
2.4 Customer Satisfaction	12
2.4.1 Level of Satisfaction by External Customers.....	13
2.4.2 Level of Satisfaction by Internal Customers.....	13

2.6 Research Gap	14
2.7 Conceptual Framework	15
2.8 Chapter Summary	16
CHAPTER THREE: RESEARCH METHODOLOGY	17
3.1 Introduction.....	17
3.2 Research Design.....	17
3.3 Population	17
3.3.1 Sample.....	18
3.3.2 Sampling Technique	18
3.4 Data Collection	18
3.5 Data Processing and Analysis.....	19
3.6 Ethical Considerations	19
3.7 Validity and Reliability.....	20
3.8 Limitations	20
CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS	21
4.1: Introduction.....	21
4.2 Pilot Study.....	21
4.2.1 Descriptive Analysis	21
4.2.3 Hypothesis Testing.....	24
4.2.3 Qualitative Analysis.....	26
4.3: Descriptive Analysis from the Study.....	27
4.3.1: Sample Distribution	28
4.3.2: Gender.....	29
4.3.3: Age.....	29
4.3.4 Region	30

4.3.5 Length of Service	31
4.3.6 Services Mostly Used	32
4.4 Hypothesis Testing.....	32
4.4.1: General Model	33
4.4.3: Moderated Model.....	34
CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS.....	39
5.1 Introduction.....	39
5.2 Quality of ICT Services at KRA.....	39
5.2.1 Consistency of Responses.....	40
5.3 Satisfaction of ICT Services as a Result of Quality.....	41
5.4 Relationship between Quality and Satisfaction of ICT Services	42
5.5 Conclusion	44
5.6 Recommendations.....	44
5.6.1 KRA Management	45
5.6.2 Consumers of ICT services.....	45
5.6.3 The Public Sector.....	45
5.7 Areas for Further Research.....	46
REFERENCES	47
APPENDICES	50
APPENDIX 1: KRA REVENUE PERFORMANCE 1995/96-2010/11	50
APPENDIX 2: COVER LETTER	51
APPENDIX 3: QUESTIONNAIRE	52
Annex.....	56

LIST OF FIGURES

Figure 2.1: Conceptual Model	15
Figure 4.1: Pie Chart of Age Distribution.....	22
Figure 4.2: Pie Chart showing Length of Service.....	23
Figure 4.3: The Services most used	24
Figure 4.4: Pie Chart of the Respondents	28
Figure 4.5: Pie Chart of Gender of the Respondents	29
Figure 4.6: Bar Graph of Age of the Respondents.....	30
Figure 4.7: Bar Graph of Regional distribution of the Respondents	31
Figure 4.8: Bar Graph of Length of Service of Respondents	31
Figure 4.9: Bar Graph Representation of Services Mostly Used.....	32
Figure 5.1: Customer Satisfaction.....	42



LIST OF TABLES

Table 3.1: Population and Sample Space.....	18
Table 4.1: Gender Distribution	22
Table 4.2: The Region of Respondents.....	22
Table 4.3: Regression Analysis.....	25
Table 4.4: Descriptive Statistics	27
Table 4.5: Table of Distribution of Respondents.....	28
Table 4.6: Model Summary	33
Table 4.7: Coefficients.....	34
Table 4.8: Model Summary with Collaboration as a Moderator	34
Table 4.9: Coefficients.....	35
Table 4.10: Model Summary with Resources as a Moderator.....	35
Table 4.11: Coefficients.....	36
Table 4.12: Model Summary	37
Table 4.13: Coefficients.....	37
Table 4.14: Model Summary with both Collaboration and Resources.....	38
Table 4.15: Coefficients.....	38
Table 5.1: Rating of Quality of ICT Services.....	39
Table 5.2: Grading of the ICT Services.....	40
Table 5.3: ANOVA Test of the Results.....	41
Table 5.4: Overall Satisfaction of ICT Services	41

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May God Bless You All.

Ezekiel Saina

DEDICATION

This study is dedicated to my late daughter Caroline Chemutai who taught me that even the largest task can be accomplished if it is done one step at a time.



CHAPTER ONE: INTRODUCTION

1.1 Introduction

Information and communication technology (ICT) is a leading technological invention that has revolutionized the manner in which processes are executed both in the private sector and public sector. Services are designed ideally to work in a given predetermined manner. However this is not always the case since there are quality issues which curtail satisfaction by end users as well as recipients of services provided through ICT platforms. This research seeks to study the effects of quality of ICT services at Kenya Revenue Authority (KRA) on customer satisfaction of both internal end users as well as on external recipients of KRA services. KRA is the institution that is charged, through an act of parliament, with the mandate of tax administration in Kenya (KRA, 2009).

Quality of ICT services is very important in transforming the operations of an organisation. The shortcomings of previous studies coupled with the growing evidence of customer complaints on KRA services demonstrate the need to carry out this study. The frequent concerns by the combination of national stakeholders, tax agents, taxpayers and the private sector also necessitate the investigation into the effects of the quality of ICT services on the level of satisfaction of both internal and external KRA customers. In addition, no study has ever been undertaken on the quality of ICT services and its effects on the level of satisfaction of customers in KRA (KRA, 2009, KRA, 2010, KRA, 2011, KRA, 2012).

1.2 Background of the Study

The use of ICT in tax administration has been on the rise and the quality of ICT services in the provision of services to both tax collectors and taxpayers is of great significance in meeting satisfaction expectations of end users. As a result of this significant importance, application of technology has been incorporated as part of tax policy in most tax administrations in the world (KRA, 2011b). Tax policy is the choice of tax instruments with an objective to yield tax revenue enough to sustain government expenditure, reduce tax compliance cost and enhance economic growth. Tax administration is the implementation of tax policy and encompasses formulation and implementation of taxation laws, tax collection and organization and systems engaged in tax collection. Tax policy as well as tax administration are instruments used by governments in raising revenue for financing public goods and services. Tax administration

encompasses laws of taxation that stipulates tax liability, penalties and rates of tax enforceable by tax agencies to implement tax policy (Prasanta, 2009).

Prior to 1983, quality was defined on the basis of quality control as per some set standards. Juran (1951) defined quality as a suitable use while Crosby (1967) defined it as consistency with the needs and as a result quality standards and standards of operations. It was later realized that there is a conflicting definition in service industry and manufacturing industry. Zeithaml, Parasuraman, and Berry (1985) in conjunction with Zeithaml, Berry and Parasuraman (1994), expanded consumers' assessment of service quality, by introducing interior and exterior features of service as a measure of quality. Such steps are exposed to an internal united comparison, and proceeding to arrive at a higher level of service quality in accordance with customer's perception. In the recent past, research has shown that various customer-centered improvement strategies is the basis of specific service features, bringing into light action plans for various service requirements that demand managerial intervention. The outcomes of the studies have facilitated competitive positioning of services that are directly related to organizational success.

Like any other organisation, no public sector institution can meet its corporate objectives and remain with existing business processes to cope with ever increasing customer demands, and KRA is no exception to this situation. This is particularly so regarding tax policies and instruments with objectives to reduce the cost of tax compliance and to enhance economic growth (KRA, 2011b). Since its formation in 1995, Kenya Revenue Authority (KRA) has been experiencing phenomenal growth in its core mandate. The single most contributor to this phenomenal growth is the application of information technology which KRA has increasingly embraced to reform its business operations, and which influence over service innovations in service delivery is enormous. The KRA revenue administration reform programme started in 2003, with information technology being the main driver. The growth rate of KRA is shown in the attached Appendix 1. In the last four years, KRA has three times won the prestigious 'leading application of technology in the public sector' annual award (KRA (2010 a), Kenya Excellence Awards, 2011, CIO100, 2011 and Kenya Excellence Awards, 2010).

This study endeavored to examine customer satisfaction levels based on customers' assessment of service quality and hence its impact on customer satisfaction. From the perspective of customers, service quality influences customer satisfaction which can act as a pointer to ICT

investment requirements in KRA. In addition, it provides a basis for KRA to re-align its ICT policy and strategy to the business strategy in order to effectively deliver services to its customers, and hence enhance its customer satisfaction level.

However, it is important to note that improved ICT services do not necessarily translate into effective service provision on the technological platform, though there are a number of issues which need to be studied and streamlined in order to realize customer satisfaction. This research focused on both interior and exterior operations of ICT services and the ways in which they contribute to customer satisfaction.

1.3 Problem Definition

The above notwithstanding, and as demonstrated by occasional adverse publicity and complaints in the public media, through both Complaints and Information Centre (CIC) and intranet based ICT Complaints, and even in business news bulletins, KRA has continued to experience service delivery challenges in its day-to-day business operations, that is, shortcomings of systems and service providers is still an issue of concern. According to Donnelly, Wisniewski, Dalrymple, & Curry, (1995), Customer loyalty and satisfaction in private sector is mainly earned through provision of high quality services and products. In those organizations, high quality services and products provide fundamental features for the existence and success of such firms in the market place. Public sector are always subjected to constant pressure to improve services to their customers from internal user's genuine desire to improve services, the demands and expectations from the outside bodies such as oversight bodies, governing bodies and the general public (Donnelly, Wisniewski, Dalrymple & Curry, 1995).

Different studies have been conducted by KRA management to determine customer satisfaction on the various KRA services, but no study has been undertaken to identify the level of customer satisfaction with respect to quality aspects of ICT services (KRA, 2012, KRA, 2011b, KRA, 2010, KRA, 2009). But as the use of information technology is increasingly being embraced, it is important to carry out a study to gain insight about the level of customer satisfaction with respect to ICT services in KRA, to identify problem areas and propose recommendations for improvement. The quality of ICT services will not only lead to increased efficiency in collection of taxes but also lead to compliance to the set timelines and standards of service provision to tax payers. This would in turn lead to realisation of the tax administration objectives to reduce the cost of tax compliance and to enhance economic growth (KRA, 2011b).

The main focus of this research is to examine quality issues which affect ICT service provision which in turn has a bearing on the level of satisfaction of the consumers of those services, the customers. The consumers of the services include; the internal users who happen to be staff of KRA, the taxpayers and the tax agents (KRA, 2009).

1.4 Research Objectives

The general objective of this study was to investigate the quality of ICT services and examine its impacts on customer satisfaction. The specific objectives of this study were to:

- i. Investigate the quality of ICT services in KRA as perceived by its customers;
- ii. Investigate the influence of service quality dimensions on ICT service satisfaction at KRA;
- iii. Examine the level of satisfaction by customers who receive ICT based KRA services;
- iv. Investigate the impact of ICT service quality on customer satisfaction in KRA.

1.5 Research Questions

- i. What is the quality of the provision of ICT services in KRA?
- ii. How does quality of ICT services influence customer satisfaction at KRA?
- iii. What is the level of satisfaction among Customers who use and/or receive ICT services?
- iv. What is the impact of ICT service quality on customer satisfaction in KRA?

1.6 Scope of the Study

The study is limited to Kenya Revenue Authority (KRA); covering both internal and external users of ICT services. The study covers the quality of ICT services and its impacts on customer satisfaction as well as performance implications on service delivery in the regional operational areas of KRA across the country.

1.7 Significance of the Study

The findings of the study informs the much needed analysis of the current state of information technology in KRA, as part of developing a new ICT policy and strategy for the Authority. As the use of information technology is increasing by the day in the Authority, it is important to understand what the consumers of technology based KRA services think about the various features of ICT services, what their pain areas are, what recommendations they make and how they compare the ICT services of KRA with those of other government agencies.

KRA's management, through this research, can develop an appropriate ICT strategy and policies to address identified pain areas, and hence improve service delivery to KRA's customers. The findings of the study are therefore useful not only to KRA in order to identify negative aspects of its services so as to address them for enhanced delivery of services to its customers (and thus achieve further growth), but also to the Government at large to enhance services to the citizens in support of the national E-Government strategy; to other tax administrations in the region and beyond who gain from KRA's success stories following this study; and to institutions of higher learning so as to form basis for further research, thus aligning their research areas and curriculum to the demands of the market. The assumption was that the sample selected on the basis of convenience was representative of the whole population.



CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter explores the various studies which have been done in this research area. The review takes into consideration the research questions and consequently forms a basis for discussion in chapter five. The literature review seeks to give guidance on the research and form a basis for identification of research gaps and consequently qualify the need to conduct research in this field.

2.2 Theoretical Review

The measurement of customer satisfaction has been researched using different perspectives as well as determination of its relationship with other aspects of business. Levy (2009) in his research established a mechanism of measuring customer satisfaction whereas other researchers such as Wilson et al. (2008) demonstrated the aspects which could be used in determination of customer satisfaction as price, product and service quality, personal and situational factors. Wen-Yi, et al, (2009) focused on the relationship between customer satisfaction and total quality management, arguing that level of service quality provided by service provider forms the basis for realization of customer satisfaction.

Another research which employed a different theoretical perspective was that done by Wang & Hing-Po, (2002), who determined service quality in mobile phone market in China while emphasizing on dynamic relationship existing between customer value, service quality and customer satisfaction as well as their impact on future behaviours, when the fundamental drivers of customer value and customer satisfaction have been determined. In an attempt to determine the relationship of findings from past researchers particularly on non-profit organisations, Bennett & Barkensjo (2005) researched the relationship quality, relationship marketing, and client perceptions of the levels of service quality of charitable organisations of service quality and customer satisfaction. The results revealed that the SERVQUAL approach is indeed applicable within the non-profit domain (Bennett & Barkensjo 2005).

There are many theories which have been proposed by various researchers in this field that relate quality of service and customer satisfaction. Quality of service is a feature which is difficult to determine and thus service science literature greatly relied on an instrument called

SERVQUAL to determine quality of services in a given sector. The theory was initially developed for marketing but later applied to healthcare and service industry as a whole (Nyeck et al. 2002).The SERVQUAL tool has been used in many capstone studies to examine the difference between perceived levels of a service and the actual levels of services in a given organisation.

2.2.1 Measurement of Quality

Owing to the conceptualization of the fact that quality is an overall perception of the client towards the excellence of a given service, many researchers have relied on only one measurement scale which ranges from poor to excellent (Rust and Oliver, 1994). Parasuraman et al. (1985) came up with a multi-scale measurement scale where all the features of quality were measured separately. Zeithaml,, Berry and Parasuraman, (1985) refined SERVQUAL and came up with a five dimensional scale to measure the level of quality of a service. The dimensions describe the features which are desirable in a service in order to fulfill quality standards. The five dimensions are tangibility, reliability, responsiveness, assurance and empathy. These are discussed below:

Tangible:

This feature refers to the physical nature of the facilities (complementary assets), the appearance of service providers' personnel as well as the equipment used in service provision. According to SERVQUAL tangibles are described as physical facilities, staff appearance and equipment. This measurement parameter was seen as the display or the positioning of ICT department, that is, it is convenient for the customer to make transactions on the platforms provided for collection of tax at KRA. This was a reasonable dimension of measuring quality of ICT services because ICT department plays a major role in KRA and as such their services are of great concern to the customers (Parasuraman et al., 1988).

Reliability:

This refers to the ability of a given service to be delivered in accordance to pre-set expectations. The feature is positively related with the accuracy and dependability of a given system or service. SERVQUAL defines reliability as the ability of a service which has been promised to perform in a dependable and accurate manner to meet those expectations.

This parameter was compared to accuracy of services for KRA, that is; the customers consider ICT services provided as reliable or perfect. This perspective was paramount for ICT services since it involved service providers as well as transactions which involve monetary transactions. Moreover reliability was also seen as time consciousness of ICT staff to attend to the customers and consequently the time element is significant in provision of services to their clients. This was also seen to encompass the queue element where the customers' needs are attended to on time and hence no clients are kept waiting for service (Parasuraman et al., 1988).

Responsiveness:

This is the rate with which the customers are attended to by service providers. The feature also involves the willingness of the system or the staff to promptly meet the needs of a client. According to Parasuraman et al., (1985), responsiveness can be defined as the willingness to attend to the needs of customers and provide prompt service. For a financial institution such as Forex Bank, this quality dimension was seen as service time. The relevance of this dimension in this study is that this sector has a middle person rendering services to the customer. In SERVQUAL, responsiveness can also be viewed as shop assistance; the help given to esteemed clients while they are obtaining a product from a shop or from a shopping mall. Responsiveness was related to accurate and timely provision of services, where tax transactions are carried out by the various categories of customers. Therefore this feature can be termed as the willingness of clients to provide prompt service to their clients.

Assurance:

The ability of service providers to give knowledge based information and convince the client to trust a given system or service is called assurance. This covers the competence and personal relationship of the service provider. According to SERVQUAL, assurance is described as the courtesy, knowledge and the ability of service providers or employees who are tasked with provision of the services (Parasuraman et al., 1988). This perspective is viewed as the professionalism and qualifications of the staff enabling the customers to understand and know the attribute of knowledge and ability to inspire trust and confidence. This is an applicable aspect in this study because the ICT service sector has employees who should be well knowledgeable

and follow strict regulations on the services that they provide to their customers to execute tax transactions.

Empathy:

This is a factor which relates to service provider's character. It refers to provision of individualized service and attention to the customers of an institution. The description of empathy according to SERVQUAL is the caring and individual attention that a service provider gives to their customers. This measurement parameter sees the service from the welcoming nature of service providers while they are attending to their customers (Rust and Oliver, 1994). This parameter was used because ICT services involve ICT staff who provide services to their customers and ensure that they are able to understand and use the provided ICT platforms to carry out their transaction as well as getting their problems solved.

Quantification of the above described dimensions has been found very applicable in service industry such as banking systems and technologically motivated services such as automatic teller machines (ATM). In addition to the measurement variables, there are other moderator factors which affect the relationship between service quality and customer satisfaction, though little research has been done on this (moderator) aspect (McConnell, Brue & Flynn, 2011). These factors include collaboration and resources.

Collaboration:

Collaboration is the manner in which ICT services are introduced to the end users. This refers to activities such as training and sharing of information which leads to effective use of ICT services. It also refers to change management which incorporates attributes such as participatory approach in the implementation process, managerial expertise and communication. These factors affect service quality and the level of knowledge of users and hence have a bearing in the level of satisfaction of the user (McConnell, Brue & Flynn, 2011).

Resources:

Resources imply technical manpower, financial resources and facilities to support provision of ICT services. Availability of adequate resources promote establishment of state of the art technology infrastructure which would lead to enhanced services. This has a bearing in

the nature of relationship between service quality and customer satisfaction (McConnell, Brue & Flynn, 2011).

2.2.2 Hypothesis

The hypothesis for this study was developed on the basis of the various measurement parameters of quality and their contribution to customer satisfaction. The manner of relationship between the variables can be represented by the conceptual model in Figure 2.1.

The hypothesis can then be stated as follows:

H₁: Tangibility of ICT services positively contributes to service quality

H₂: Reliability of ICT services positively contributes to service quality

H₃: Responsiveness of ICT services positively contributes to service quality

H₄: Assurance of ICT services positively contributes to service quality

H₅: Empathy of ICT services positively contributes to service quality

H₆: Service quality positively contributes to customer satisfaction

H₇: Resources and collaboration are moderators of the relationship between service quality and customer satisfaction.

2.3 The Impact of ICT Service Quality on Customer Satisfaction

Service quality has become significant in a number of ways; however organizations' general view shows that organizations do not take it seriously. According to critical research done by Zemke (1990), organizations are more committed to lip service in the name of customer care instead of committing resources to marshal actions geared towards customer satisfaction.

Capodagli and Jackson (1998) further supports the claim, arguing that most organizations do not attach value to the customers as they should despite the fact that they have well laid customer care structures which bring the notion that the "Customer is always right".

There are a number of challenges which curtail the determination of the relationship between customer satisfaction and business performance as a result of service quality. The challenges include; the delay in time between the measurement of profit improvement and satisfaction of the customers, the performance of a business has other contributing variables such as price, competition and distribution and the fact that there are other causality factors such as behavioural changes (Zeithaml, Berry & Parasuraman, 1985).

Koska (1990) did a comprehensive research in a hospital setting and found out that service quality increases the profits of the institution. Fornell (1992) conducted a descriptive

study, showing that increased customer satisfaction leads to increased market share. The research also found out that customer satisfaction is linked to the willingness of the customer to purchase from a particular institution and therefore increases the loyalty of the clients.

The level of automation of business operations has increased the number of consumers of ICT services from internal users to include tax payers and tax agents. The level of automation of business operations at KRA is at 80%. The various services which have been automated include customs services, domestic taxation services and road transport services, through implementation of the Simba System, Integrated Tax Management System (ITMS), Vehicle Management System (VMS), Common Cash Receipting System (CCRS), a free open source Enterprise Resource Planning (ERP) system, and the Revenue Portal (KRAOnline), to name but a few. The ERP system has seen automation of internal processes within the Authority hence enabling efficient internal procedures execution (Abdullahai & Acosta, 2012). There are other factors which affect quality of ICT services in the Authority other than the services themselves. These include operational costs of ICT at KRA which is between 1-2.5% of the total running costs of the Authority and ICT staff complement which comprises 3.49% of the total KRA staff (KRA, 2011). The financial allocation to ICT operations has consistently been on the decline relative to the overall technology investment in the Authority, which has been on the increase annually in line with increased level of automation. ICT service provision is increasingly faced with the challenge of system unavailability due to inadequate and increasingly inefficient infrastructure (KRA, 2010 b, KRA, 2006).

Tax administrations have different levels of ICT development in comparison to best practices as defined by International Monetary Fund (IMF). The recommended best practices are measured using the following performance indicators, among others; service availability, staffing and financial investment in ICT sector. These parameters indicate the best practices which lead to the level of ICT services in tax administrations. It is recommended that the operational costs for ICT related systems and services should be about 14% of all the running costs of the institution while the recommended minimum number of staff to execute and maintain ICT related activities is 7% of the entire population of staff in the organization. The resources, both human and financial, influence the manner in which ICT services are availed to the consumer and therefore affect satisfaction levels of such services (New Zealand Inland Revenue Department, 2003).

Gallegher (2005) in his research focused on different aspects of technology as a measure of quality and satisfaction. He argued that quality ought to be measured in terms of cost of tax administration, efficiency of tax collection in relation to the potential of those particular tax avenues. He further introduced integrity and transparency of the systems put in place as some of the key aspect which improves auditing of the systems so as to ensure good quality of service. Therefore the study focuses of service quality in relation to the overall tax collected from the country vis-à-vis the overall performance of the country such as gross domestic product.

According to international technology benchmarking, ICT service delivery metrics for measuring service delivery included timeliness of specific services, service quality, customer satisfaction and trends in services. The study gave some of the best ratings for the components of this ICT aspect for the leading tax administrations which include UK, Australia and Canada. On timeliness aspect, a target of 80% was set for general and business inquiries, however, the study shows that the targets were surpassed, attaining 82% and 87% for general and business inquiries respectively in Canada. The set target of service quality in Canada was found to be at 83% in terms of accuracy and 67% in terms of ease of understanding yielding a satisfaction rate of 61%. Generally in most countries such as Netherlands, Canada, UK, Australia and New Zealand among others have ICT service quality above 75% with Australia and Netherlands leading with up to 96% in service provision. These percentages indicate the number of respondents who strongly agreed or agreed to the respective ICT quality indicators (Inland Revenue, 2003).

2.4 Customer Satisfaction

There is increased emphasis on customer satisfaction by a large percentage of managers, arguing that the customers' loyalty is boosted through quality service. Satisfied customer means increased returns and a promising future for the institution. The cost of maintaining a customer is significantly lower than that required for winning a new customer, however in the past, institutions have not focused on customer retention.

Consumers of ICT services mainly comprise of; the internal staff members who use ICT to offer services and the external users who are the recipient of the services. The recipients of the services include the tax payers and tax agents (Kekre, Krishan & Srinivan, 1995)

2.4.1 Level of Satisfaction by External Customers

The kind of relationship between customer satisfaction and service quality is a desirable and continuous debate both among the practitioners and academicians. There are a number of researches that have been done in order to determine the relationship between customer satisfaction and service quality. The general views from these studies are that service quality has significant contribution to the level of satisfaction of the customer (Bitner, 1990). However, Parsuraman et al., (1985) argue that service quality is not the only feature which results to customer satisfaction but one of the contributing factors.

Cronin and Taylor (1992) researched on, the causal relationship between service quality and customer satisfaction among other features. The study suggested that there was a controversy in the causal order of these features and therefore strongly suggested that there is need to justify the actual relationship that exists. Spreng and Mackoy (1996) in their study on customer service quality and satisfaction suggested that perceived service quality was an antecedent to satisfaction. The challenge was the manner of relationship that exists and concluded that the relationship varies from one setting to the other.

In a critical study of the banking sector by Sureshchandar et al., (2002), service quality and customer satisfaction are seen to be two distinct constructs in the perspective of the customer. The study was concerned on the effects of these constructs on the resulting profitability of the institution. Dash and Kumar (2007), in their exploration of service gap, showed that customer's expectations exceeded their perceptions, in regards to diverse dimensions of service quality. Their argument was that service quality had a bearing in behavioral changes of the customers in the future. According to Sudesh (2007), poor service quality in public sector banks is attributed to deficient tangibility, absence of empathy and responsiveness. On the other hand, private sector banks were found to be more advanced in this sector. Moreover, apart from sectorial variation in service quality, there is significant variation along demographic features. Amudha & Viyaya (2007), in their qualitative study revealed that there is need for re-evaluation of service experience because service quality perceptions seemed to have more impact as opposed to service quality expectations

2.4.2 Level of Satisfaction by Internal Customers

The staff members of any given institution, other than those directly tasked with the responsibility of offering ICT services are consumers of the services. This is a perspective that

has not been widely researched on yet it is very vital for internal users of ICT services to be satisfied for them to offer services effectively to the external customers. The quality of service along this perspective takes two main dimensions; service quality and matching quality.

i. Service Quality

This is a wide area which deals with personal relationship of the staff member which ranges from easiness to contact, having the right attitude, good knowledge; getting the right person on the right place, understanding the client and dedicated contact person. Furthermore, it involves proper arrangement for confirmation and record keeping. Gronroos (1984) argues that quality service provisions begin from the individual who is offering the service. He proposes that satisfaction emanates from a healthy relationship between the employees and the clients.

ii. Matching Quality

This is a technical quality as defined by Gronroos (1984), implying the competencies of the individuals in a certain profile. The question is whether those individuals measure up to the desired quality at that level. This therefore means meeting the desired quality by the client and thus achieving quality across the divides; internally and externally. It also refers to timely service provision.

2.6 Research Gap

This research area is still a promising research area as suggested by most of earlier researchers. Zeithaml et al. (2002) suggests that there is need to carry out research which will reflect both before and after service customer satisfaction since there is little that has been done on after sale customer satisfaction.

There is need to consider the entirety of a service, so that the overall contribution to customer satisfaction can be determined effectively. The research further suggests that user's motivation and satisfaction is as a result of perceptions of the users and the customers and hence forms the key area which should be emphasized when steering towards customer satisfaction. There is need therefore to conduct further research which will capture the heterogeneity of the target population and hence the choice of this research area (Inland Revenue, 2003).

The available literature material covers customer satisfaction due to either customer relations or the service; however, the service and the service provider are inseparable in so far as quality is concerned. This research looks into both aspects; the service provider and the service quality as well as its impacts on both internal and external consumers of the services in relation

to their satisfaction. Furthermore, it focuses on the entirety of ICT services in an institution which has been less researched. The specificity of the case study; KRA case, singles out this research study as the first research done on this particular research area. Therefore the research is valid so as to add to the large literature relating customer satisfaction and service quality. Moreover this research has introduced moderators; collaboration and resources which contribute to service quality and hence customer satisfaction.

2.7 Conceptual Framework

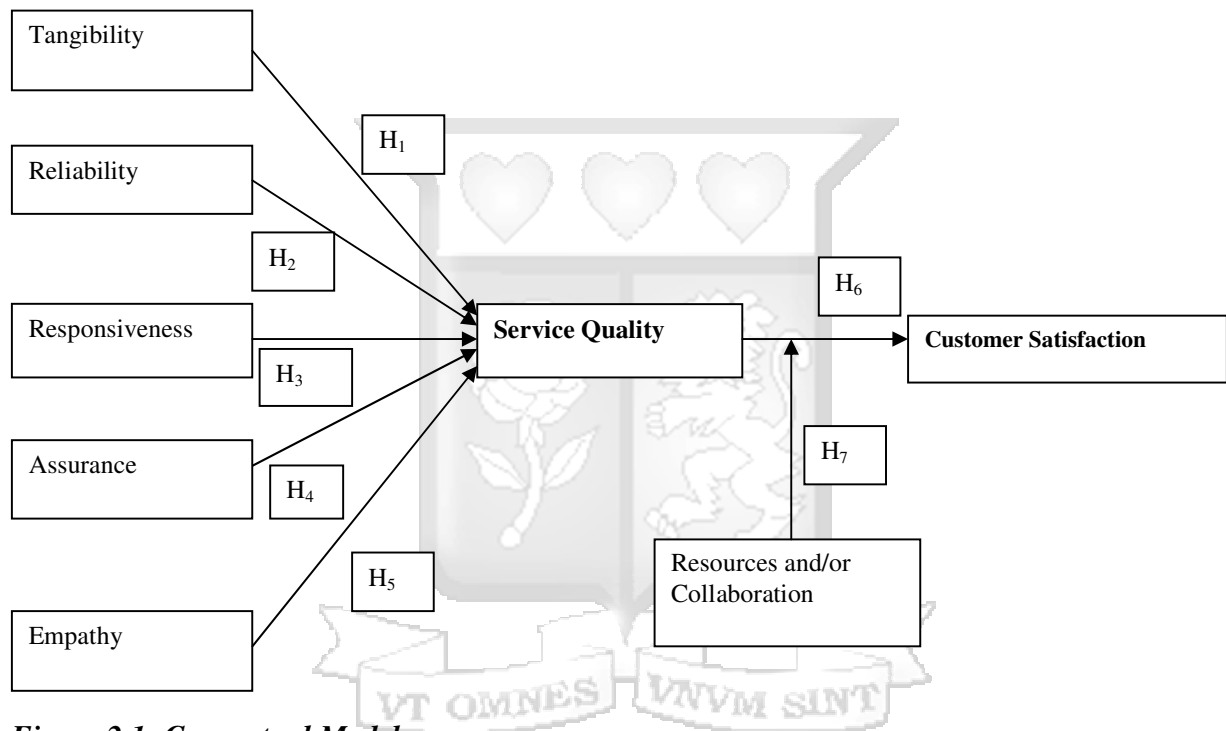


Figure 2.1: Conceptual Model

Mathematically, the conceptual model can be described as follows:

$$Customer\ Satisfaction = \beta_1(reliability) + \beta_2(tangibility) + \beta_3(responsiveness) + \beta_4(Assurance) + \beta_5(Empathy)$$

Also represented as follows:

$$y = \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_nx_n$$

Where

y is the overall satisfaction, and

β are the coefficients for the contribution of the variable represented as x.

2.8 Chapter Summary

This chapter has reviewed literature relevant to this research according to the research questions. Further, the chapter has given the research gaps which justify this study. The next chapter gives the methodology that was employed to collect data relevant for this research study.



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methods that were employed in order to ascertain the objectives of the study. The main aspects discussed in this chapter include: study design; methods of data collection; population of study; sample selection and data collection procedure. The method of analysing data is also described in this chapter.

3.2 Research Design

The arrangement and structure of survey created to ascertain solutions to research questions and meet the objectives of the study is known as research design. The design refers to entire scheme or programme of the research (Robson, 2002). Cooper and Schinder (2003) pointed out that, there are many definitions of research design but no one definition impacts the full range of important aspects. The definitions endeavour to answer the following questions:

- i. What techniques were used to gather data?
- ii. What kind of sampling was used?
- iii. How time and cost constraints were dealt with?

The study design therefore includes an outline of what the researcher did from developing hypotheses and their operational implications to the final analysis of data (Leedy, 1993). This research used quantitative methods owing to the nature of the data collected and the measurability of research questions (Taylor and Bogdan, 1998). Quantitative research was instrumental when it came to determination of growth parameters due to customer satisfaction and thus provides a platform for examination of relationship between service quality and satisfaction.

3.3 Population

The target population of this study included all individuals who interact with ICT services of KRA categorised into three groups; taxpayers, tax agents and internal users. These included 2,951 staff members who are the users of the services and the external users comprising of 122,891 tax payers registered online and 1,408 tax agents.

3.3.1 Sample

The sample for the study comprised of at least 10% of the three groups of the population to ensure that it was a representative sample. However in this case, due to size, it was not practical to get 10% of all groups and hence the major tax payers; approximately 400, internal users approximately 1000 and approximately 500 tax agents, who carry out a large number of transactions using ICT services were considered as the population thus giving the possibility of using 10% as the sample. This implied that a sample size of 190 was used in this study and was representative. Table 3.1 gives the target population considered and the sample space which was selected for the study.

Table 3.1: Population and Sample Space

Group		Population to be Considered	Sample Space
Internal users		1000	100
External users	Tax agents	500	50
	Tax Payers	400	40
Total		1,900	190

3.3.2 Sampling Technique

The most appropriate sampling technique was stratified random sampling, owing to the heterogeneity of the population. This sampling method is where the population was divided into strata such as; staff members, tax payers and tax agents. Moreover to ensure that the sample was representative geographically, the sample selection was spread across the main operational areas in the country.

3.4 Data Collection

The most appropriate tool for collecting data for this research was through the use of a questionnaire. This was because of the large size of the sample which made it difficult to use other data collection tools. The questionnaire (attached as **Appendix 3**), which had two key sections; part A and part B, contained closed questions hence allowed quantitative analysis to be carried out effectively. The major variables in part B of the questionnaire were measured using a scale of 1 to 5, where 1 is strong disagreement and 5 is excellent or strong agreement. This criterion was helpful in measuring the various aspects of quality of ICT services and hence customer satisfaction.

The questionnaires were designed using Google survey and emailed to the respondents through their email addresses. Google survey was a platform that allowed preparation of a questionnaire and emailing to the respondents and their responses, upon submission were automatically uploaded to a spread sheet which was then downloaded for analysis. This method of administering the questionnaire not only saved time but was also less costly.

3.5 Data Processing and Analysis

Data analysis was done using quantitative data analysis methods. Quantitative analysis entailed the satisfaction derived from ICT services at KRA as a result of quality ICT services.

The data was analysed using Statistical Package for Social Scientists (SPSS) which is an analytical tool that allows interpretation of results from research. Once the data collection was completed, the data was downloaded into a spread sheet, subsequently coded and thereafter transferred into an SPSS file for analysis. The analysis of data was done in three main categories namely, descriptive analysis, hypothesis testing and qualitative analysis. Descriptive analysis was ascertained using SPSS tool after successfully loading and feeding the data. Hypothesis testing was done using selective regression analysis where the beta values were used to determine the effect of quality on satisfaction of ICT services.

The pilot study gave the information which was required without pointers to any need for major changes on the data collection tool except for inclusion in the questionnaire of a question which was omitted in the pilot, on recommendations and suggestions for improving service delivery, as well as focus on the sample space to avoid biased responses along various facets of the population. The pilot study also pointed out the need to categorize the responses through modification of the questionnaire to include the section where the respondent's category would be identified. Further, it was found out that qualitative aspects of the study are cumbersome and subjective and thus was omitted in the final study, though this was carried out during pilot study.

3.6 Ethical Considerations

Participants were informed through electronic mail about the research through a cover letter that assured them that all information gathered will be kept confidential. This prepared the respondents as well as boosted their cooperation. All response data was managed in compliance with ethical practices of storage and destruction of information.

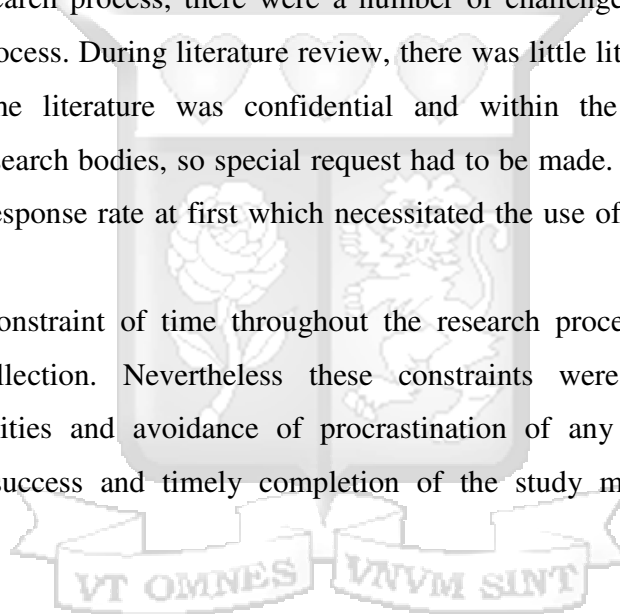
3.7 Validity and Reliability

Trustworthiness is a key feature which must be carefully examined as far as qualitative and quantitative analyses are concerned to ensure that the data is valid and reliable (Strauss and Corbin 1990). Reliability was adhered to in this study through the use of validity tests. Validity of this research was tested using divergence; a method applied by comparing the initial expectations with the findings while ensuring that the assumptions if any are adhered to. Triangulation, comparison as well as member check was also used to ensure validity of the data collected (Patton 2001).

3.8 Limitations

During the research process, there were a number of challenges which in one way or another affected the process. During literature review, there was little literature in this particular field and some of the literature was confidential and within the custody of other tax administrations and research bodies, so special request had to be made. The data collection was also affected by low response rate at first which necessitated the use of numerous reminders to the respondents.

There was a constraint of time throughout the research process, especially literature review and data collection. Nevertheless these constraints were mitigated by timely programming of activities and avoidance of procrastination of any of the activities. This therefore led to the success and timely completion of the study meeting all the research objectives and aims.



CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS

4.1: Introduction

This chapter gives the results of the analysis that were ascertained from the data collected under this research study. The first part will give a general description of the respondents in terms of category, age, gender, length of service, the region they come from and ICT services which are commonly used. The second section will give regression analysis of the hypothesis as indicated in the conceptual model in figure 2.1

4.2 Pilot Study

A pilot study was carried out on part of the sample and the data collection tool was improved accordingly in order to limit errors in the final data collection and analysis. In this research, a pilot study was carried out on 80 respondents using a questionnaire, attached as an **Annex** to this report that was administered electronically. A response rate of 32.5% (26 responses) was achieved, indicating the appropriateness of the choice of the research tool. The final analysis followed the following criteria; descriptive analysis, hypothesis testing and qualitative analysis.

4.2.1 Descriptive Analysis

This section gives the characteristics of the population being analysed in terms of age, gender and the region where they carry out their services. The section gives the results in tables and graphical representation in form of pie charts and graphs.

Age

The respondents of this pilot study constituted of 42.3% of individuals aged 45 years and above, 38.5% aged between 36 -45 years and 19.2% aged between 26-45 years. This shows that more respondents were above 45 years of age.

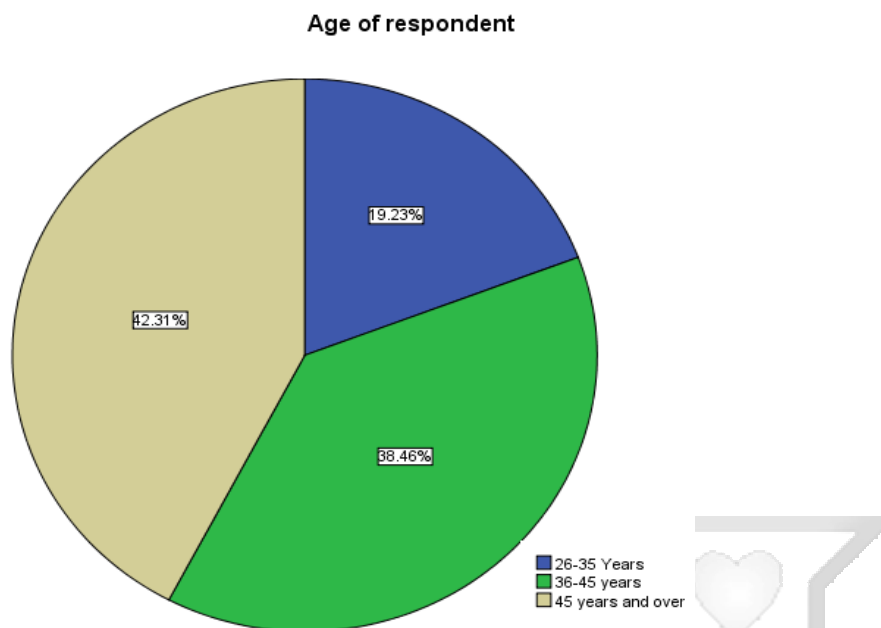


Figure 4.1: Pie Chart of Age Distribution

Gender

Table 4.1: Gender Distribution

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Female	7	26.9	26.9	26.9
Male	19	73.1	73.1	100.0
Total	26	100.0	100.0	

Majority of the respondents; 73.1% were male while 26.9% were female implying that the responses are gender biased towards the men and hence the final data collection was focused on genders in such a way that a balance between the genders is ascertained.

Region

Table 4.2: The Region of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid South	4	15.4	15.4	15.4
Central	19	73.1	73.1	88.5
Rift Valley	3	11.5	11.5	100.0
Total	26	100.0	100.0	

The distribution of the respondents across the country shows that a large number of respondents about 73.1% are from the central region while 15.4% were from southern region and 11.5% were from Rift valley. This shows that there were no response from Western and Northern regions and therefore the final data collection focused on these regions so that the research is representative region wise.

Length of Service

On the length of time that individuals have been using KRA services, figure 4.2 shows that half of the respondents have been using KRA services for more than 10 years. 34.6% have been using the services for between 6 -10 years, 11.5% for between 2 - 5 years, while only 3.8% have been using the services for less than 2 years. This is a good indication since a large number of respondents are informed of the various services and the transitions which have transpired over time. The study also shows that ICT services are being gradually embraced in provision of KRA services.

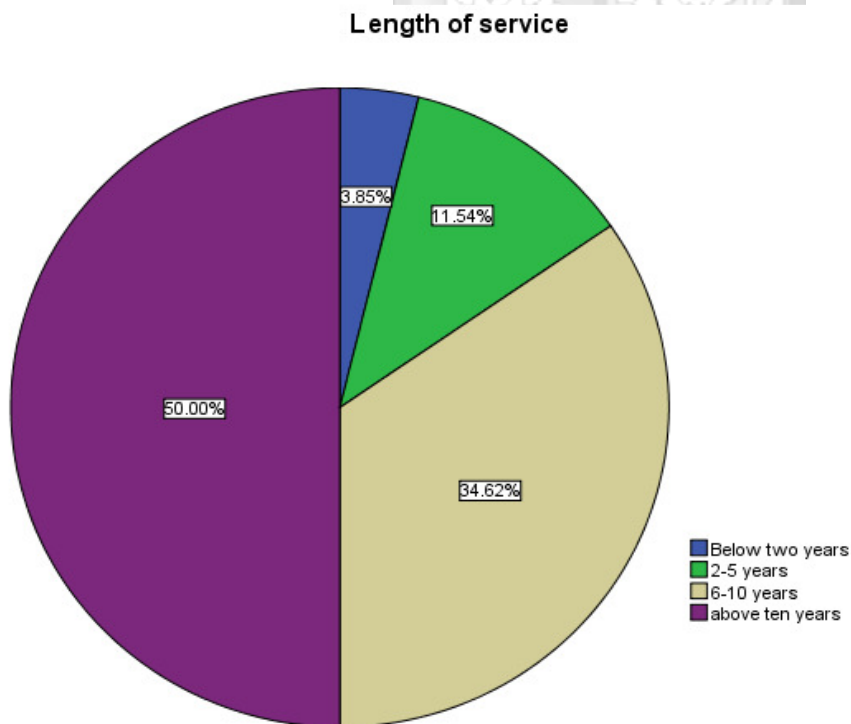


Figure 4.2: Pie Chart showing Length of Service

Service Mostly Used

The graph shown in Figure 4.3 below gives the distribution of commonly used KRA services by the respondents. Electronic filing of tax returns, cargo clearance and tax payment are the leading services which are commonly used by the respondents while online lodgement of manifest is the least used at 7.7%. This is a good indication that there is a positive uptake of internet facing services as represented by the responses gathered.

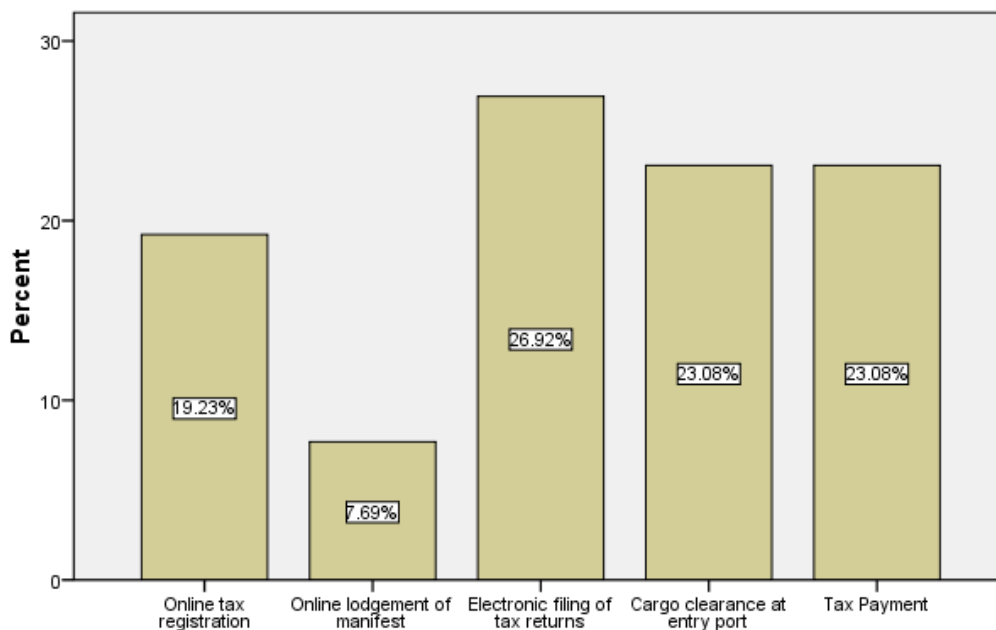


Figure 4.3: The Services most used

4.2.3 Hypothesis Testing

Analysis of the relationship between the various sub-variables and overall satisfaction of the users of ICT services was achieved using regression analysis as shown in table 4.3 below. The values of Beta represent the coefficients of the various variables when they are expressed as a subject of overall satisfaction. The values of t and sig. indicated by (.) means that they are less than 0.01 which implies that the values ascertained from the analysis are valid. The sig. value represents the probability p which in this case is compared with α value (significance level) so that a conclusion is arrived at. When $p < \alpha$ then the null hypothesis is rejected. This implies that the null hypotheses in this case are rejected. Table 4.3 showed that the research design led to successful testing of the hypothesis and consequently led to attainment of research objectives and

hence there were no modifications of this area of research tool and was therefore advanced to the final data collection and analysis

Table 4.3: Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-6.021	.000		.	.		
Problem Resolution	.053	.000	.066	.	.	.016	63.859
Competence of user on ICT service	1.073	.000	1.207	.	.	.016	61.201
Ease in using ICT application	1.133	.000	1.119	.	.	.014	69.582
Equipment used in ICT service	-1.911	.000	-2.272	.	.	.013	75.519
Rate of failure of systems	-.025	.000	-.038	.	.	.003	303.844
Competence of ICT staff	-1.078	.000	-1.171	.	.	.007	138.083
ICT equipment used	1.263	.000	1.688	.	.	.026	38.592
Timely resolution of problems by staff	1.526	.000	1.977	.	.	.014	73.697
Time taken to restore failed system	-4.023	.000	-4.525	.	.	.002	567.763
Approach to service provision	1.506	.000	1.673	.	.	.003	330.723
Transaction time on ICT platform	.408	.000	.592	.	.	.121	8.262
Willingness to accomplish tasks as a team	-1.096	.000	-1.469	.	.	.026	38.530
Response to mails and calls	-1.285	.000	-1.859	.	.	.010	96.117
Information on progress of request of ICT service	1.034	.000	1.483	.	.	.025	40.187
Information of service interruption	1.034	.000	1.434	.	.	.020	49.077
Creative measures by ICT to ensure am back when I have a problem	2.277	.000	3.078	.	.	.006	177.030
Technology implemented in KRA	-1.887	.000	-2.630	.	.	.003	333.586
Privacy and confidentiality in work performance	-2.173	.000	-2.713	.	.	.006	154.169
Contribution of ICT to promoting integrity in KRA	2.722	.000	3.185	.	.	.006	157.833
Attention and Individualized Service at KRA	.854	.000	.834	.	.	.004	275.442
Financial Resources	1.872	.000	2.501	.	.	.012	80.355
Human Resources	1.483	.000	2.127	.	.	.003	317.587
ICT facilities	-1.045	.000	-1.467	.	.	.021	47.598
Training	.346	.000	.486	.	.	.004	260.207
Change management	-.956	.000	-1.351	.	.	.006	156.539

a. Dependent Variable: Overall satisfaction of ICT Services.

b. The significance level (indicated as (.)) is less than 0.01 implying that the values from the analysis are valid.

4.2.3 Qualitative Analysis

This section gives the qualitative analysis of data gathered from the descriptive questions which covers perceived strengths and weaknesses, and suggested recommendations for ICT services of the respondents.

Perceived Weaknesses of ICT Services

The respondents echoed that there is need for more proactiveness among the KRA ICT staff in order to increase their responsiveness. There was inadequate communication and feedback system and suggested that there is need to train staff who are responsible for administering these services to the customers. The bureaucracy and lack of coordination among ICT staff as well as lack of up to date operational procedure manuals to be communicated to the users was also pointed as another weakness of ICT services.

Another concern was perceived bias against ICT in terms of resources allocation; consequently they are not in a position to acquire modern and highly efficient systems and also train their staff. Further to these, the procurement process was also seen as an impediment to technological advancement and hence does not give ICT the flexibility to acquire proper tools for administering ICT services. When new systems are introduced, they seem to take longer time than recommended and therefore affect service delivery. Bias was also cited by some of the respondents that emphasis is given to some departments at the expense of other departments.

Another major identified drawback to ICT services was the use of equipment such as computers up to obsolescence stage and poorly equipped data center thus posing a hindrance to provision of effective service. There was also concern of the technicality of the platforms through which services are offered in that there are many systems and hence the users may be confused. Moreover, there was a concern that the online applications contained many procedures which has the potential of confusing users which may lead to users being confused by the same.

Perceived Strengths of ICT Services

The strengths of ICT services as reported by the respondents include; high effort to automate services with excellent security controls and authentication processes. ICT services have been made successful through creative and innovative staffs who are highly experienced. ICT services have been made available 24 hours a day seven days a week through the KRA portal.

There is a good working relationship between the users and the service providers and thus issues arising from users are attended timely. Moreover, there is proper leadership in the service delivery department starting from the head of ICT in the Authority. The systems are being integrated together and therefore the number of integrity incidences continues to be increasingly reduced. The next section gives the analysis of the final data collected.

4.3: Descriptive Analysis from the Study

Table 4.4: Descriptive Statistics

	Category of the Respondent	The Region of the Respondent	Gender	Age of respondent	Length of service	Service mostly used
N Valid	72	72	72	74	74	72
Missing	9	9	9	7	7	9
Mean	1.54	2.12	1.31	2.81	2.93	2.58
Std. Error of Mean	.088	.119	.055	.101	.131	.168
Mode	1	2	1	2	4	2
Std. Deviation	.749	1.006	.464	.871	1.127	1.422
Variance	.562	1.012	.215	.758	1.269	2.021
Skewness	.990	1.620	.862	.126	-.573	.658
Std. Error of Skewness	.283	.283	.283	.279	.279	.283
Kurtosis	-.493	2.751	-1.293	-1.200	-1.108	-1.037
Std. Error of Kurtosis	.559	.559	.559	.552	.552	.559

Table 4.4 gives the general description of the statistics of the respondents in terms of measures of central tendencies and description of the distribution of each of the variables. From the table, it can be seen that there were a total number of 81 respondents where 9 were reported as missing, due to the data collection tool that recorded bounced mails as blank responses. This response in comparison to the sample of the study indicates 42.6% response rate which meets the 25% acceptable response rate as proposed by Cooper and Shindler (2000). The standard deviation for the variables range from 0.464 to 1.422 which is fairly low and thus shows consistency of the responses. Skewness and kurtosis values ranges from 0.126 and 1.620 and -1.835 to 2.751 respectively, indicating that the data is fairly normally distributed and parametric data analysis methods can be used comfortably. The next sub-sections give the distribution of all the respondents in this study.

4.3.1: Sample Distribution

Figure 4.4 gives a pie chart of the respondents as indicated in table 4.4 which shows the composition of the sample in terms of the various categories of the respondents. In the table it can be seen that 61.1% of respondents which represent 44 respondents were internal users, 23.6% of the respondents were tax payers making up 17 respondents and lastly the tax agents were 11 in number representing 15.3% of the respondents. These values are in tandem with the trends of the target population as set out in chapter three, table 3.1,

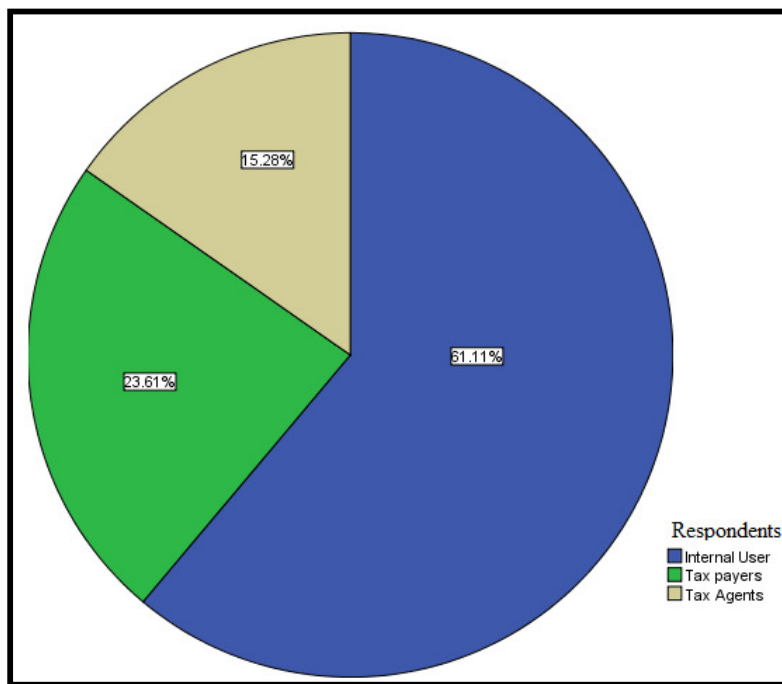


Figure 4.4: Pie Chart of the Respondents

Table 4.5: Table of Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Internal User	44	54.3	61.1	61.1
	Tax payers	17	21.0	23.6	84.7
	Tax Agents	11	13.6	15.3	100.0
	Total	72	88.9	100.0	
Missing	System	9	11.1		
Total		81	100.0		

4.3.2: Gender

In figure 4.5 below, the number of males is higher than the number of female respondents with male representing 61.73% of the respondents while the female were 27.16%. This is synonymous to the entirety of the population ratio despite the variation in the percentages and therefore this can be termed as representative of the population.

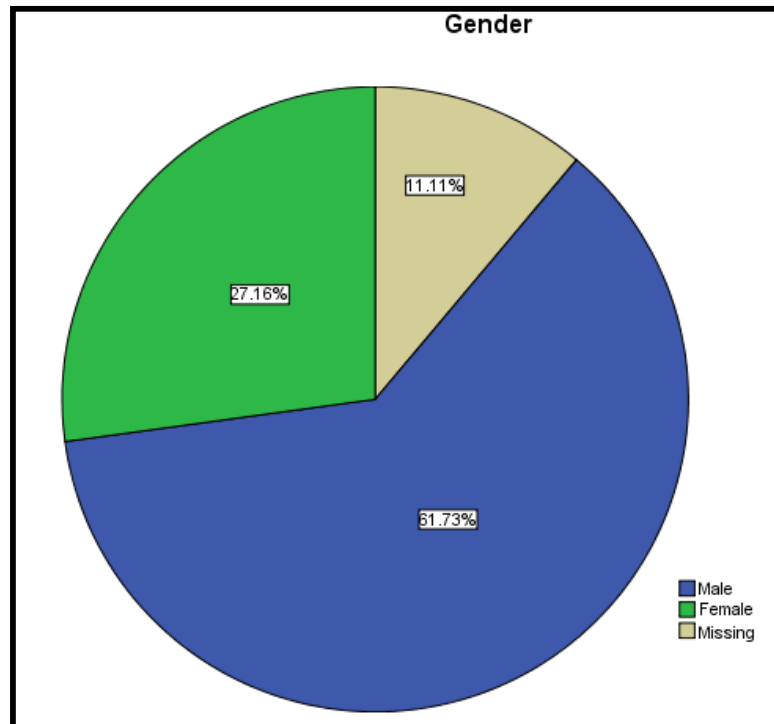


Figure 4.5: Pie Chart of Gender of the Respondents

4.3.3: Age

Figure 4.6 gives a bar graph of age distribution of the respondents, where most of the respondents are aged between 26-35years old at 40.54% while those aged between 20-25 years registered the least percentage of 2.70%. The implication of this is that most of the respondents are aged between 26 and 45 years, which is consistent with the prime age of the Kenya working population.

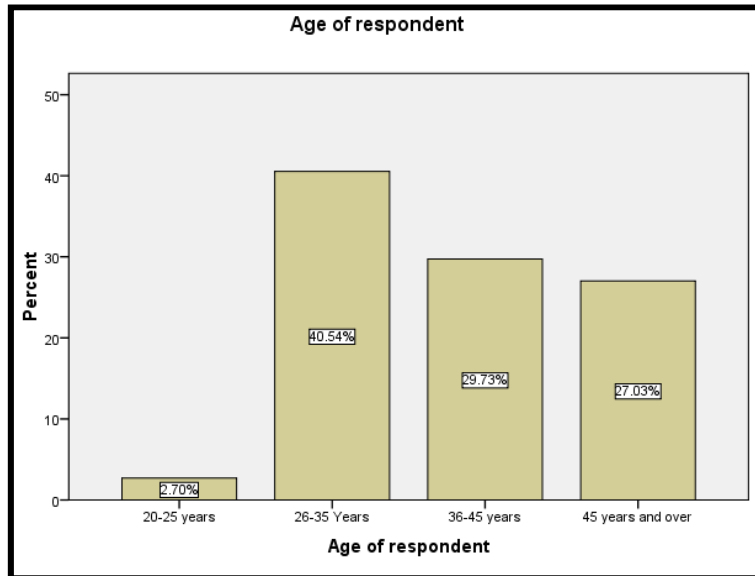


Figure 4.6: Bar Graph of Age of the Respondents

4.3.4 Region

On regional distribution of the sample, 62.50% of the respondents were from the central region which encompasses the headquarters. This large percentage can be explained by the large number of people attended to and those seeking the services of KRA within Nairobi and its environs which forms the largest clientele base of the Authority.

Southern region which involves the busy port of Mombasa was the second largest represented region with 20.83 % due to the activities that are conducted at the port during clearance of cargo into and out of the country. The other regions were also fairly represented in this study as shown in the bar graph in figure 4.7

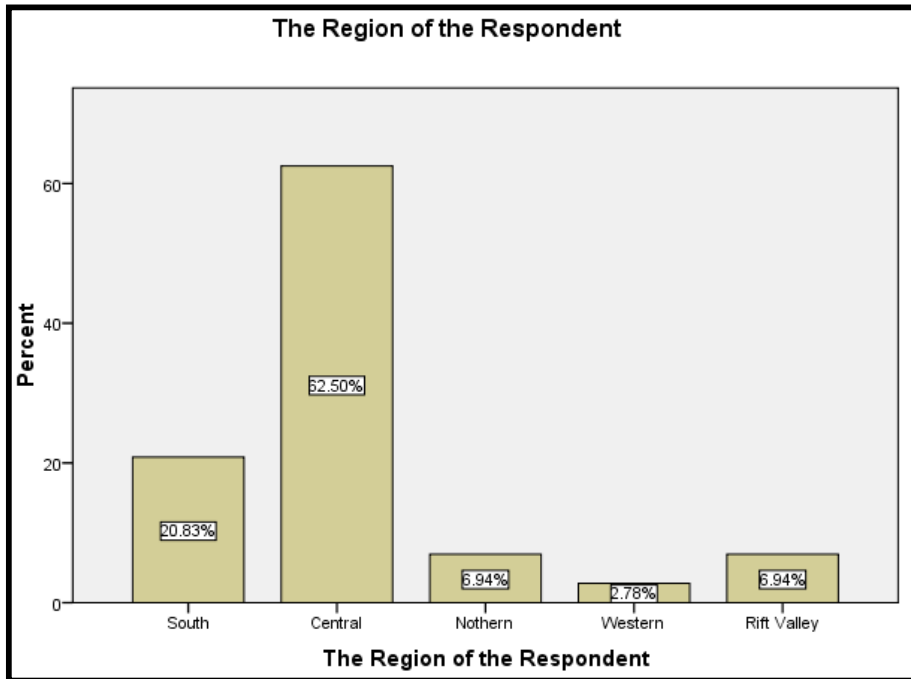


Figure 4.7: Bar Graph of Regional distribution of the Respondents

4.3.5 Length of Service

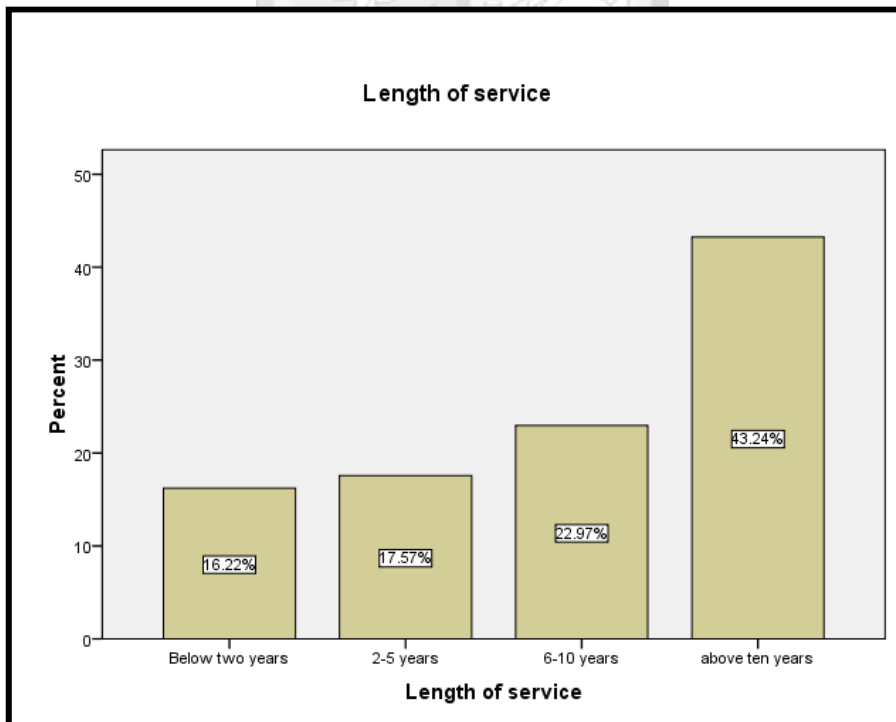


Figure 4.8: Bar Graph of Length of Service of Respondents

On the length of service, it can be seen from figure 4.8 that, a large number of respondents 43.24% have been using KRA services for over 10 years which implies that they have experience in the use of ICT systems and services since inception. This increases the validity and credibility of the information gathered from the respondents. Further, there is an increasing trend in the number of respondents proportionately to their length of service which ensures a fair representation of all individuals who interact with ICT services.

4.3.6 Services Mostly Used

The bar graph in figure 4.6 below gives services which are mainly used as platforms for business operations at KRA. From the graph, it shows that 45.83% of the respondents use online lodgement services followed by online tax registration at 22.22%. Generally all the services listed for the purpose of this study which form the centre of business processes through ICT platforms are represented.

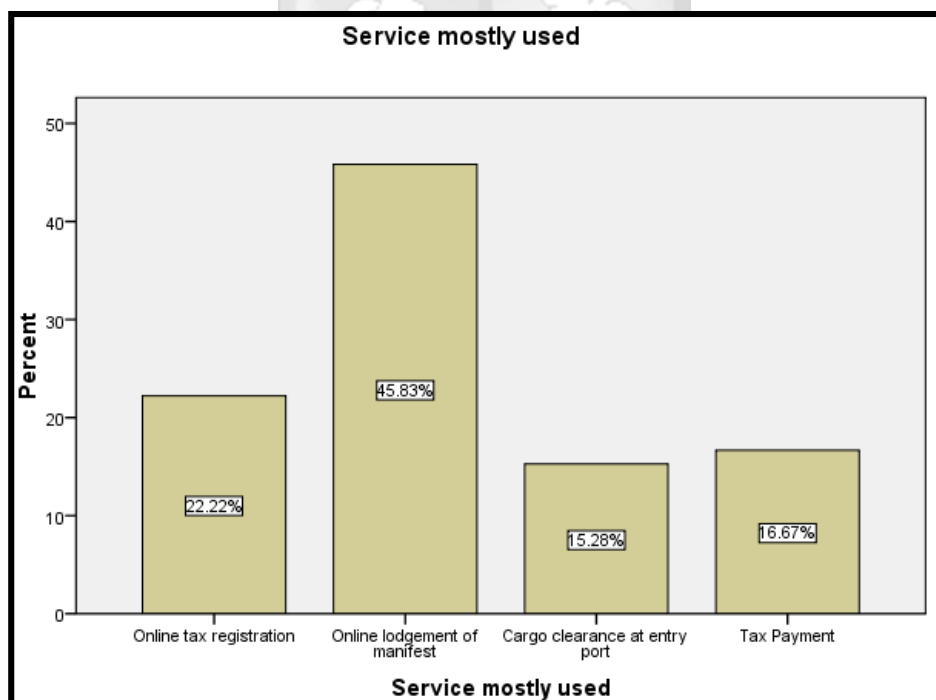


Figure 4.9: Bar Graph Representation of Services Mostly Used

4.4 Hypothesis Testing

In this study, there were a number of sub-variables under each of the major variable categories which were Empathy, Reliability, Tangibility, Assurance, Responsiveness and

Collaboration. The hypothesis testing was done in three main sections; the first section addressed the individual variables and their contribution to the overall satisfaction. The second section integrated all the sub-variables and consequently tested the model for the major areas with the overall satisfaction derived from ICT services. The third case scenario was where collaboration and resources were used as a moderator in the model as indicated in figure 2.1.

4.4.1: General Model

The hypothesis testing sought to answer the research questions through the use of the various parameters of quality aspects. The regression model took into consideration all the quality aspects as independent variables and overall satisfaction of ICT services as the independent variable. In order to test this model, new variables were formed by integrating the various sub variables. The result from this regression model is as given in table 4.6 and table 4.7 shown below.

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.776 ^a	.602	.572	.525	.602	19.941	5	66	.000	2.225

a. Predictors: (Constant), Empathy, Reliability, Tangibility, Assurance, Responsiveness

b. Dependent Variable: Overall satisfaction of ICT Services

The regression model being tested in this model can be given by:

$$\text{satisfaction} = K + \beta_1 \text{Empathy} + \beta_2 \text{Reliability} + \beta_3 \text{Tangibility} + \beta_4 \text{Assurance} + \beta_5 \text{Responsiveness}$$

Where K is a constant and β is the coefficient for each of the variables. From the analysis represented in table 4.7, the equation becomes:

$$\text{satisfaction} = 0.356 + 0.041 \text{Empathy} + 0.025 \text{Reliability} + 0.07 \text{Tangibility} + 0.04 \text{Assurance} + 0.042 \text{Responsiveness}$$

From table 4.6 above the value of R-square is 0.602 which shows that 60.2% of the dependent variable can be explained by the five independent variables. The R2 value was

interpreted to mean the model provides a good fit. Furthermore, the p-value is 0.00 which indicates that the analysis is statistically significant and therefore can be used in making statistical inference.

Table 4.7: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.356	.351		1.012	.015		
Tangibility	.070	.032	.268	2.202	.011	.408	2.449
Reliability	.025	.025	.099	1.014	.014	.631	1.586
Responsiveness	.042	.028	.227	1.495	.010	.261	3.825
Assurance	.040	.026	.203	1.549	.016	.351	2.850
Empathy	.041	.042	.119	.979	.001	.406	2.463

a. Dependent Variable: Overall satisfaction of ICT Services

4.4.3: Moderated Model

The difference between this model and the earlier model is that this model uses collaboration as a moderator and the results were found to differ from the previous model as shown in tables 4.8 and 4.9 below:

Table 4.8: Model Summary with Collaboration as a Moderator

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.831 ^a	.690	.667	1.235	.690	29.434	5	66	.000	2.102

a. Predictors: (Constant), Empathy, Reliability, Tangibility, Assurance , Responsiveness

b. Dependent Variable: Overall satisfaction of ICT Services

c. Weighted Least Squares Regression - Weighted by Collaboration

When collaboration was used as a moderator in the model, the model is improved as shown above. The value of R-square is 0.69 compared to the previous model which had R-squared value of 0.602. This implies that this is a better model since 69% of the dependent variable can now be explained using the predictor variables also known as independent variables. The value of Durbin Watson is 2.102 which is closer to 2 and hence the cases of autocorrelation are significantly fewer. The p-value is 0.00 which indicates that the results from the analysis are statistically significant and consequently can be used for making statistical inference.

Table 4.9: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.353	.281		1.256	.014
	Tangibility	.082	.029	.342	2.862	.006
	Reliability	.031	.025	.135	1.274	.007
	Responsiveness	.010	.028	.056	.367	.004
	Assurance	.021	.025	.111	.828	.011
	Empathy	.101	.044	.296	2.302	.024

- a. Dependent Variable: Overall satisfaction of ICT Services
- b. Weighted Least Squares Regression - Weighted by Collaboration

From table 4.9, the model shows that all the independent variables significantly influence the dependent variable as shown by the coefficients which are greater than zero in all cases. This model can be described mathematically as shown below:

$$\text{satisfaction} = K + \beta_1 \text{Empathy} + \beta_2 \text{Reliability} + \beta_3 \text{Tangibility} + \beta_4 \text{Assurance} + \beta_5 \text{Responsiveness}$$

Replacing the constant and beta values from table 4.6, the given equation gives:

$$\text{satisfaction} = 0.353 + 0.101 \text{Empathy} + 0.031 \text{Reliability} + 0.082 \text{Tangibility} + 0.021 \text{Assurance} + 0.010 \text{Responsiveness}$$

When Resources is used as a moderator in the given model, the model summary is as shown in table 4.10 below;

Table 4.10: Model Summary with Resources as a Moderator

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.814 ^a	.663	.638	1.484	.663	26.011	5	66	.000	2.202

- a. Predictors: (Constant), Empathy, Reliability, Tangibility, Assurance, Responsiveness
- b. Dependent Variable: Overall satisfaction of ICT Services
- c. Weighted Least Squares Regression - Weighted by Resource

The model yielded the coefficients as shown in table 4.11, giving the equation:

$$\text{satisfaction} = 0.310 + 0.042 \text{Empathy} + 0.023 \text{Reliability} + 0.076 \text{Tangibility} + 0.035 \text{Assurance} + 0.047 \text{Responsiveness}$$

Table 4.11: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.310	.318		.976	.013
	Tangibility	.076	.030	.292	2.521	.004
	Reliability	.023	.023	.091	.979	.001
	Responsiveness	.047	.027	.255	1.777	.000
	Assurance	.035	.026	.178	1.349	.002
	Empathy	.042	.040	.121	1.049	.008

a. Dependent Variable: Overall satisfaction of ICT Services

b. Weighted Least Squares Regression - Weighted by Resource

This analysis can then be applied to the individual hypothesis stated in chapter two as follows:

H1: Tangibility of ICT services positively contributes to service quality

From the analysis, Tangibility, one of the quality aspects of ICT services has a standardized coefficient of 0.342 from table 4.9, which is positive and the largest among all the other independent variables. The positive sign of the coefficients implies that the independent variables positively impact on the dependent variable. The significance value = 0.000, which forms the rationale for rejection of the null hypothesis and adoption of alternative hypothesis that: Tangibility of ICT services positively contributes to service quality.

The other hypotheses examine whether reliability, responsiveness, assurance and empathy positively impact on the overall ICT satisfaction. The contribution of reliability, responsiveness, assurance and empathy from the standardized coefficients are 0.135, 0.056, 0.111 and 0.044 respectively. All the variables have positive coefficients and consequently, the following alternative hypothesis can be adopted and their respective null hypothesis rejected.

H₂: Reliability of ICT services positively contributes to service quality

H₃: Responsiveness of ICT services positively contributes to service quality

H₄: Assurance of ICT services positively contributes to service quality

H₅: Empathy of ICT services positively contributes to service quality

On the relationship between service quality and customer satisfaction, all the aspects of quality of ICT services were integrated into one variable and a regression model described by the mathematical model below was used:

$$\text{satisfaction} = K + \beta \text{quality}$$

Table 4.12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.819 ^a	.670	.666	1.237	.670	142.392	1	70	.000	2.169

a. Predictors: (Constant), Quality

b. Dependent Variable: Overall satisfaction of ICT Services

c. Weighted Least Squares Regression - Weighted by Collaboration

The regression results in table 4.9 indicates that 67% satisfaction of ICT services can be explained by quality aspects of ICT as indicated by the 0.67 value of R-square, an indication of a good model fit. The p-value for the study is also 0.00 which denotes significant statistical analysis which can be used to make statistical decision since it is less than 0.05 confidence level. Further to this, the coefficients for the model is as shown in table 4.13 below which indicates that the regression model can be rewritten as:

$$\text{satisfaction} = 0.543 + 0.041 \text{quality}$$

The standardized value of beta is 0.819 which is large and positive. The significance value = 0.000, and consequently the null hypothesis is rejected in favour of the alternative hypothesis that Service quality positively contributes to customer satisfaction.

H₆: Service quality positively contributes to customer satisfaction

Table 4.13: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.543	.259		2.097	.040
	Quality	.041	.003	.819	11.933	.000

a. Dependent Variable: Overall satisfaction of ICT Services

b. Weighted Least Squares Regression - Weighted by Collaboration

Further, collaboration and resources were aggregated into one variable dubbed Moderator and used as a moderator and yielded table 4.14 below:

Table 4.14: Model Summary with both Collaboration and Resources

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.819 ^a	.671	.646	1.374	.671	26.905	5	66	.000	2.167

a. Predictors: (Constant), Empathy, Reliability, Tangibility, Assurance, Responsiveness

b. Dependent Variable: Overall satisfaction of ICT Services

c. Weighted Least Squares Regression - Weighted by Moderator

The role of collaborator and resource as a moderator can be explained by the fact that the model is stronger by inclusion of the moderator. This can be explained by improved value of R-squared for the case where the moderator was included Vis-a-Vis the case when it was excluded. When no moderator is used, the value of R-squared is 0.602, while when collaboration is used it yields 0.67, whereas when resources was used it gave 0.663 and when all the variables were jointly used it yielded 0.671. This implies that the Resource and Collaboration which were used jointly as moderators in this case are appropriate in the model and consequently the alternative hypothesis that Resources and Collaboration are moderators of the relationship between service quality and customer satisfaction is adopted.

H₇: Resources and collaboration are moderators of the relationship between service quality and customer

The table of coefficients for this model is as shown in table 4.15 giving the equation:

$$\text{satisfaction} = 0.431 + 0.043\text{quality}$$

Table 4.15: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.431	.272		1.584	.118
Quality	.043	.004	.812	11.656	.000

a. Dependent Variable: Overall satisfaction of ICT Services

b. Weighted Least Squares Regression - Weighted by Moderator

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter covers the discussion of the results achieved from the previous chapter. The discussion first looks at the quality of ICT services, satisfaction levels from ICT services and the relationship between quality of ICT services and the level of customer satisfaction. In addition, this chapter makes a comparison of the findings of this study vis-à-vis those of other tax administrations. This chapter further gives the recommendations that can be made from the findings to the various stakeholders involved in this research. The conclusion gives way to recommendations from the findings of this research and the experience involved throughout the process from proposal to data collection and finally data analysis and presentation.

5.2 Quality of ICT Services at KRA

The rating of ICT services at KRA under the various aspects is given in table 5.1, where the mean score of each of the categories of quality has been given as reported by the respondents and the total value expected using the ratings developed.

Table 5.1: Rating of Quality of ICT Services

	Tangibility	Reliability	Responsiveness	Collaboration	Assurance	Empathy	Resource	satisfaction
Mean Scale								
Internal User	13.7273	11.3182	17.7500	5.4773	17.0682	11.0909	8.2045	3.50
Tax Payer	12.9412	12.5294	16.2941	9.2941	16.4118	10.8824	9.6471	3.41
Tax Agent	13.8182	13.0909	15.4545	7.6364	14.0000	9.6364	10.4545	3.18
All the respondents	13.4730	11.7568	17.0135	6.6081	16.3784	10.7027	8.9189	3.43
Percentage								
Internal User	68.6365	56.591	71	36.51533	68.2728	73.93933	54.69667	70
Tax Payer	64.706	62.647	65.1764	61.96067	65.6472	72.54933	64.314	68.2
Tax Agent	69.091	65.4545	61.818	50.90933	56	64.24267	69.69667	63.6
All the respondents	67.365	58.784	68.054	44.054	65.5136	71.35133	59.45933	68.6

According to the respondents, ICT performs well in Empathy features of quality which entail ethics in the performance of work (especially privacy and confidentiality of data), Contribution of ICT to the improvement of integrity at KRA as well as Attention and

individualized service from ICT which was rated at 71.4%. Tangibility aspect which is made up of Procedure of issue/problem resolution, Competence of the business user on ICT service, Ease of use of ICT services such as web applications and transaction systems and ICT equipment used in transactions scored 67.4%, while Responsiveness comprising of Timely resolution of problems by staff, Time taken to restore failed system, Approach to service provision, Transaction time on ICT platform and Willingness to accomplish tasks as a team was rated at 68.1%. Reliability aspect and Assurance scored 58.8% and 65.5%, respectively. The Resources availed for ICT at KRA was rated at 59.5 which include financial resources, Human resources and ICT facilities.

This is an indicator that the quality of ICT services is above average in most of the aspects; however a lot needs to be done in order to improve the quality of ICT services. In particular, Collaboration aspect, which includes Timely resolution of problems by staff, Time taken to restore failed system, Approach to service provision, Transaction time on ICT platform and Willingness to accomplish tasks as a team registered the lowest score of 44.1%.

The ratings of the above services can be graded such that the performance of those services rated excellent should be maintained, those which are doing good imply that there is room for improvement and those which are fair and poor mean that action should be undertaken to turn around the services. This is as shown in table 5.2 below:

Table 5.2: Grading of the ICT Services

Rating	Grading	Services under that grade
Below 50%	Poor	Collaboration
50-<65%	Fair	Reliability and Resources
65% -<75%	Good	Responsiveness, Assurance, Tangibility and Empathy
75% and above	Excellent	None

From table 5.2, there are small variations in the ratings of the various quality aspects of ICT among the different categories. However, some aspects such as collaboration and assurance were found to have a high variation; this can be further tested to establish whether there was a significant variation as shown in the next section.

5.2.1 Consistency of Responses

When the analysis of variance (ANOVA) was conducted for the ratings of quality aspects of ICT services for the various categories; internal users, tax payers, tax agents and all the

respondents, the results were as represented in table 5.3 below. When the p-value is more than 0.05, it indicates that there are no statistically significant differences between values in the rows as indicated by a p-value of 0.651 which is more than 0.05. On the other hand, the results indicate that there is statistically significant difference between the various columns as indicated by a p-value of 0.000843 which is less than the alpha value of 0.05. This indicates that there is a difference in the rating of the various aspects of quality of ICT services but there is no significant difference in the rating of individual aspect by the different categories of respondents. This therefore affirms the consistency of the results ascertained from this study.

Table 5.3: ANOVA Test of the Results

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Rows	54.74419	3	18.24806	0.554597	0.650735	3.072467
Columns	1316.383	7	188.0547	5.715375	0.000843	2.487578
Error	690.9691	21	32.90329			
Total	2062.096	31				

5.3 Satisfaction of ICT Services as a Result of Quality

The satisfaction of ICT services varied among the various groups of respondents, where internal users registered the highest percentage rating of 70% followed by tax payers at 68.2% and lastly the tax agents at 63.6%. The overall weighted rating of ICT services was found to be 68.6% for all the respondents. The fluctuation in satisfaction levels among the groups can be attributed to the different levels of interaction with ICT services and the fact that they access different systems.

Table 5.4: Overall Satisfaction of ICT Services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not satisfied	10	12.3	13.9	13.9
	satisfied	25	30.9	34.7	48.6
	very satisfied	33	40.7	45.8	94.4
	Excellent	4	4.9	5.6	100.0
	Total	72	88.9	100.0	
Missing	System	9	11.1		
Total		81	100.0		

From table 5.4 and figure 5.1 it can be seen that the consumers of ICT services are satisfied with 45.8% and 5.6% of the respondents being very satisfied and excellent,

respectively. This makes up more than half of the respondents and consequently it can be concluded that ICT services of KRA are highly rated.



Figure 5.1: Customer Satisfaction

The level of overall satisfaction is closely related to the quality aspects of ICT services; however it is seen to be higher than the quality levels of most of the individual aspects. This could be because the study did not entirely cover all the features which may lead to satisfaction of a consumer of ICT services.

5.4 Relationship between Quality and Satisfaction of ICT Services

The quality of ICT services at KRA has improved over time in tandem with improved technology in the country and as a result, dependence on ICT services for running business processes has immensely increased. This therefore implies that, quality of ICT services is essential in effective service provision through winning of the user's satisfaction and consequently complying with the set standards.

According to Laudon and Laudon (2010), complementary assets form the primary foundation for effective realization of the impacts of information technology investments. The complementary aspects that they cited include organizational assets, managerial assets and social assets. They argue that when complementary assets are harnessed effectively, the organization will experience efficient business processes, properly instituted teamwork and collaboration of

all the available skills as well as adherence to set internal standards. Tangibility, which is one of the aspects of ICT services studied in this research compares closely with complementary assets.

This study has shown that all the quality aspects of the study are of significance in meeting the overall quality and as a result contribute to the level of satisfaction of all the stakeholders involved. Tangibility, being one of the great aspects of quality was found to be the strongest variable in terms of influence on service quality because it recorded the highest coefficient across all the models. This finding affirms the argument Laudon and Laudon (2010) that a complementary asset which is synonymous with tangibility is the leading factor affecting ICT service provision. Nevertheless, the other quality aspects had significant coefficients and thus qualify for inclusion in the model.

Most Tax administrations across the world have been working towards attainment of a complete automated service platform and consequently ICT is one of the fundamental tools towards attainment of this core objective. Many studies have been done on quality of ICT services and consequently the levels of satisfaction that accrue from the services through the use of previous benchmark studies.

The study, Inland Revenue (2003), which was conducted to bench mark ICT services among tax administration, rated the best tax bodies in the world in terms of some given parameters. From the study, timeliness was one of the aspects which were used as a quality measure indicating that Canada is performing well at between 83 and 87% for the various business operations. This can be compared to responsiveness of ICT services for KRA which was rated at 68.05% by the respondents in this study, indicating that there is a great difference between the two tax administrations, a clear indication that there is need to address these aspects of ICT services in KRA. On accuracy of ICT services, 83% of the respondents in that study either strongly agreed or agreed that the ICT systems and services were accurate. Further 67% of the respondents either strongly agreed or agreed to the fact that the available ICT systems were easy to use. These aspects compares with reliability and assurance aspects in this study which were rated at 58.784% and 65.5136%, respectively. Again the values are much lower in comparison to the Canadian case and hence there is need for improvement of these aspects. The level of satisfaction in Canada was reported as 61% of the respondents agreeing or strongly agreeing to the fact that ICT services were satisfactory. In this study, the satisfaction from ICT services was found to be at 70% which is higher than that of Canada, the reason for this could be

due to the subjective nature of the questionnaires and the comparison between KRA and other institutions of the same calibre in the region while in Canada, the technology exhibited in other areas may be higher and thus the respondents will have a lower rating for the tax administration.

In other leading tax agencies such as Australia, Netherlands and UK, the rating of quality and consequently satisfaction from ICT services is rated between 75 and 96% with these institutions setting targets in the range of 90% for the various ICT aspects (Inland Revenue, 2003). It is clear therefore that, KRA still has a task in improving the level of ICT services to its customers so as to be comparable to leading tax administrations.

5.5 Conclusion

The study whose main aim included assessment of quality of ICT services, customer satisfaction and the relationship between them was successful.

The research found out those collaborations, reliability and resources are lowly rated as perceived by the respondents. Responsiveness, assurance, tangibility and empathy are perceived to be good. On customer satisfaction it was found out that the majority (51%) of the respondents perceived the ICT services as excellent or were very satisfied while 35% were satisfied. On the other hand 14% of the respondents were not satisfied.

The research found out that ICT services quality was related to the level of satisfaction of the consumers of the services. ICT service quality and ICT service satisfaction was found to be lower than the best tax administrators such as UK, Canada, Australia and Netherlands. The study raised an alarm in some aspects of ICT services such as collaboration, while it indicated that there is room for improvement in most of the aspects.

5.6 Recommendations

In this study, there were numerous lessons learnt as well as crucial information gathered which would go a long way in improving the state of affairs in this field of research. The quality aspects of ICT services affect a number of stakeholders; however, the greatest beneficiaries of this report are the management team who make decisions towards provision of these services to the consumers. Further the consumers of ICT services should be informed of the current status of the ICT platforms so as to put in place appropriate proposals to improve service provision. The Kenyan public sector will also benefit from this study in many ways.

5.6.1 KRA Management

KRA management, being the decision making organ in the Authority can find the findings from this study useful in a number of ways. First, the study points out that the quality of ICT services directly influence the level of satisfaction of the users. This is an important aspect since it is synonymous to compliance to the set standards and boosts the morale of both tax payers and internal users and consequently leading to increased output.

Secondly, the research has indicated the various areas of ICT service provision and their rating by the stakeholders, pointing out the performance of the various quality aspects that need to trigger appropriate actions. From the results, it is clear that there is need for action as far as collaboration, reliability and resources are concerned as seen from table 5.2. Further, Responsiveness, Assurance, Tangibility and Empathy have room for improvement and should consequently be improved. The KRA management should therefore put in place measures so as to improve those areas. The research send an alarm to the management to take a quick action on collaboration aspects of ICT services since it was rated the lowest. Lastly, the research gives information which is vital in the running of ICT services which is fundamental in making decisions, particularly on budgetary allocation and balancing of ICT service performance across the board.

5.6.2 Consumers of ICT services

Consumers of ICT services are also some of the stakeholders who benefit from this study in the sense that they can see the state of affairs of ICT services. This helps them to understand the areas that they need to input their suggestions and make proposals for overall improvement of ICT services. The users can also help the ICT service providers both within and without to ensure that they perform their best in provision of ICT services and as a result they will contribute to the improvement of the standard of ICT services.

5.6.3 The Public Sector

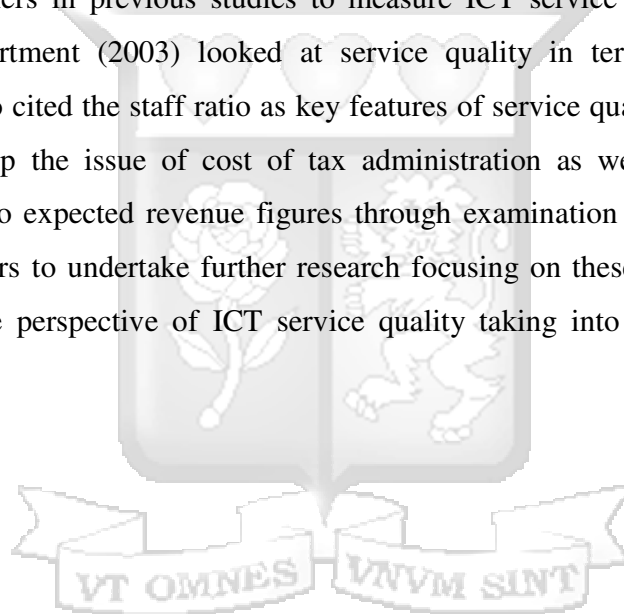
KRA being one of the public institutions has been leading in the sector as far as application of technology is concerned. This study highlights the pain areas involved in adoption of technology in serving the public in a non-profit government agency which could apply across the sector. Most government institutions have almost similar operations which require use of ICT services and as a result they could benefit from this study. Further to these, the institutions can

conduct a separate research in their own institutions on these areas, complimentary to this study, and as a result they improve ICT service provision in the public sector.

5.7 Areas for Further Research

This research topic was one of the less researched areas of research and this study provided the much needed literature and methodology in this area of research. The world of academia can apply similar models in other areas and institutions; especially in the field of public sector which have different operations in as far as acquisition and provision of ICT services are concerned.

From the literature review it was found that there are various other perspectives which have been used by researchers in previous studies to measure ICT service quality. New Zealand Inland Revenue Department (2003) looked at service quality in terms of the cost of tax administration and also cited the staff ratio as key features of service quality. Further, Gallegher (2005) also brought up the issue of cost of tax administration as well as efficiency of tax collection in relation to expected revenue figures through examination of GDP. There is need therefore for researchers to undertake further research focusing on these aspects of research to establish a wholesome perspective of ICT service quality taking into consideration all these parameters.



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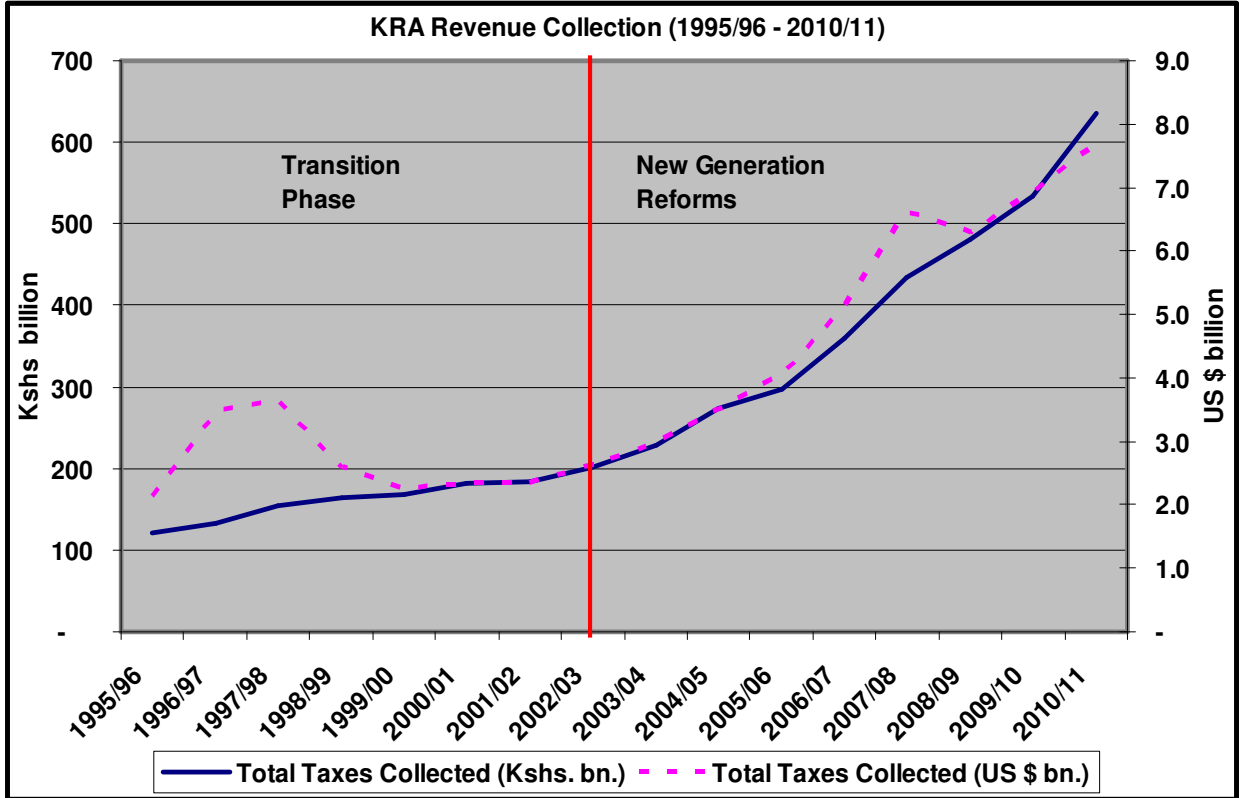
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APPENDICES

APPENDIX 1: KRA REVENUE PERFORMANCE 1995/96-2010/11



VT OMNES VNVM SINT

APPENDIX 2: COVER LETTER

Dear Respondent,

My name is Ezekiel Saina, a student at Strathmore Business School, pursuing an MBA degree programme.

I am conducting a research on '**Quality of ICT Services and its Impact on Customer Satisfaction: A Case Study of KRA**'. This research is significant as it will highlight the level of satisfaction emanating from the use of ICT services in KRA and hence help in informing recommendations to improve service quality to taxpayers and other stakeholders.

This study focuses on both the staff and the esteemed clients of KRA who interact with ICT services in their day to day dealings. The results of this study will provide management and other researchers with the critical information on the needs which should be addressed in order to improve ICT service provision in KRA and hence act as a benchmark for other institutions.

This is an academic research and confidentiality will be strictly observed, and your name will not appear anywhere in the report. Kindly spare about 15 minutes of your time to complete the attached online questionnaire and submit.

Thank you in advance,

Yours sincerely,

Ezekiel Saina

APPENDIX 3: QUESTIONNAIRE

Part A: General Information

1. Name (Optional): _____

2. Name of Department/Institution: _____

3. Under which of the following categories do you belong?

Internal User

Tax Payer

Tax Agent

4. Gender:

a) Male

b) Female

5. Age of respondent

a) 20 – 25 Years

b) 26 – 35 Years

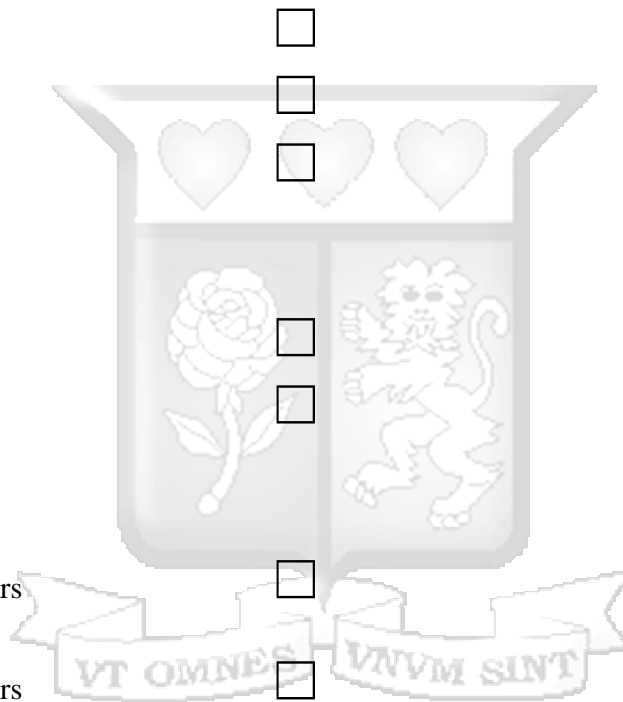
c) 35 – 45 Years

d) 45 years and Over

6. How long have you been using KRA services?

a) Below two years

b) 2 to 5 years



c) 5 to 10 years

d) Above 10 years

7. Which of the following ICT services do you use most?

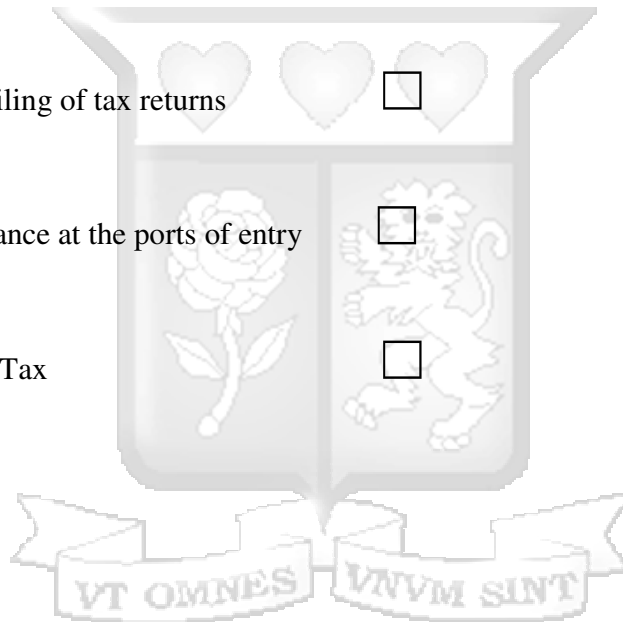
a) Online Tax Registration

b) Online lodgement of manifest

c) Electronic filing of tax returns

d) Cargo clearance at the ports of entry

e) Payment of Tax



Part B: Level of Satisfaction

Please tick on the appropriate column to indicate the level of satisfaction of ICT services in a scale of 1 to 5, where 1 represents lowest rating (poor), while 5 represents the highest rating (Excellent).

NO	ATTRIBUTES	1	2	3	4	5
1.0	Tangible					
1.1	Procedure of Issue/problem Resolution	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Competence of the business user on ICT service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	The ease of use of ICT services such as web applications and transaction systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	The ICT equipment used in transactions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.0	Reliability					
2.1	The rate of failure of ICT Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	The competence of ICT staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	The ICT equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Compliance to regulatory provisions					
3.0	Responsiveness					
3.1	Timely resolution of incidences by ICT staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	The time it takes for a failed system to resume to normalcy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Effectiveness of ICT Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	The time spent to carry out transaction using ICT platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	willingness of ICT to accomplish objectives through teamwork and /or other effective means	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.0	Assurance					
4.1	My calls and emails for support are promptly responded to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Information on the progress of request for ICT services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NO	ATTRIBUTES	1	2	3	4	5
4.3	Information on service interruption, if there is planned service disruption or service resumption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Creative measures employed by ICT to ensure am back whenever I have a problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	Technology implemented in KRA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.0	Empathy					
5.1	ethics in the performance of work (especially privacy & confidentiality of data)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Contribution of ICT to the improving integrity at KRA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Attention and individualized Service from ICT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.0	Resources					
6.1	Financial Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Human Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	ICT Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.0	Collaboration					
7.1	Training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Change management (Communication, Participatory approach, Skilled manpower)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Team Work Spirit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Your overall level of satisfaction with the overall ICT services :((Tick one)

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank You for Your Time

ANNEX

[+ Add item](#) Theme: Blue [Share](#) [Email this form](#) [See responses](#) [More actions](#) [Save](#)

Quality of ICT Services and its Impact on Customer Satisfaction: A Case Study of KRA

Dear Respondent,

My name is Ezekiel Saina, a student at Strathmore Business School, pursuing an MBA degree programme.

I am conducting a research on 'Quality of ICT Services and its Impact on Customer Satisfaction: A Case Study of KRA'. This research is significant as it will highlight the level of satisfaction emanating from the use of ICT services in KRA and hence help in informing recommendations to improve service quality to taxpayers and other stakeholders.

This study focuses on both the staff and the esteemed clients of KRA who interact with ICT services in their day to day dealings. The results of this study will provide management and other researchers with the critical information on the needs which should be addressed in order to improve ICT service provision in KRA and hence act as a benchmark for other institutions.

This is an academic research and confidentiality will be strictly observed, and your name will not appear anywhere in the report. Kindly spare about 15 minutes of your time to complete the attached online questionnaire and submit.

Thank you in advance,

Yours sincerely,

Ezekiel Saina

Page 2 After page 1 [Go to page 2](#)

PART A: GENERAL INFORMATION

1. Name (Optional)
What is your Name?

You can view the published form here: <https://docs.google.com/spreadsheets/viewform?formkey=dFFGUJjvSG9tWUJ4ZXh1MTIPWHBiYUE6MQ>

+ Add item

Theme: Blue

Share

Email this form

See responses

More actions

Save

PART A: GENERAL INFORMATION

1. Name (Optional)

What is your Name?

2. Department/Institution *

What is the name of your Department/Institution?

3. Region *

In which region do you carry out your transactions in or with KRA?

- South Region
- Central Region
- Northern Region
- Western Region
- Rift Valley Region

4. Category *

Under Which of the following categories do you belong ?

- Internal User
- Tax payer
- Tax Agent

5. Gender *

What is your gender?

- Male

You can view the published form here: <https://docs.google.com/spreadsheets/viewform?formkey=dFFGUjJySG9tWUI4Zxh1MTIPWHBiYUE6MQ>

+ Add item

Theme: Blue

Share

Email this form

See responses

More actions

Saved

5. Gender *

What is your gender?

- Male
- Female

6. Age *

In what range is your age?

- 20 -< 25 Years
- 26 - <35 Years
- 35 -< 45 Years
- 45 years and Over

7. Duration of service with/by KRA *

How long have you been using KRA services?

- Below 2 years
- 2 -< 5 years
- 5 -< 10 years
- Above 10 years.

8. ICT Services Mostly Used *

Which of the following ICT services do you use most?

- Online Tax Registration
- Online lodgement of Manifest
- Electronic filing of Tax Returns
- Cargo clearance at the ports of Entry
- Payment of Tax

You can view the published form here: <https://docs.google.com/spreadsheets/viewform?formkey=dFFGUjySG9tWUI4ZXh1MTIPWHBiYUE6MQ>

PART B: LEVEL OF SATISFACTION (on ICT Services You Use Most)

For questions 9 to 16, rate the satisfaction derived from the ICT services in a scale of 1 to 5, where 1 represents the lowest rating (poor) while 5 represents the highest rating (Excellent)

9. Tangibility (Effectiveness of Service, Physical Nature of Facilities and Appearance of Personnel) *

	1	2	3	4	5
Procedure of Issue/problem Resolution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competence of business user(s) of the ICT service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ease of use (user friendliness) of IT systems used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ICT equipment used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Reliability (Accuracy and Dependability of Service) *

	1	2	3	4	5
Frequency of failure of ICT Systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competence of ICT support staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reliability of ICT equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compliance to Regulatory Provisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

+ Add item

Theme: Blue

Share

Email this form

See responses

More actions

Saved

11. Responsiveness (Willingness of Staff to Promptly Serve Customers) *

	1	2	3	4	5
Timely resolution of reported incidents by ICT staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time it takes to restore a failed ICT services to normalcy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effectiveness of ICT services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time taken to carry out transaction using ICT platform	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Willingness of ICT staff to perform their mandate thru teamwork and/or other effective means	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page 4

After page 3

Continue to next page

12. Assurance (Ability of ICT Staff to Satisfactorily Serve Customers) *

	1	2	3	4	5
My calls and emails for support are promptly responded to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feedback on progress of request for ICT support/services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication on planned service interruption, or service resumption	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creative measures employed by ICT to ensure am back in operation whenever I have a problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technology implemented in KRA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

You can view the published form here: <https://docs.google.com/spreadsheets/viewform?formkey=dFFGUJySG9tWUj4Zxh1MTIPWHBiYUE6MQ>

13. Empathy (Level of Ethical Practices, Individualized Service and Attention to Customers) *

	1	2	3	4	5
Ethical practices in the performance of work (especially privacy & confidentiality of data)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contribution of ICT to improvement of integrity in KRA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prompt attention and individualized support from ICT Staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page 6

After page 5 Continue to next page

14. Adequacy of Resources (Allocated for facilitation and improvement of ICT services) *

	1	2	3	4	5
Financial Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Human Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ICT Facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page 7

After page 6 Continue to next page

15. Collaboration (Manner in which ICT Services are Introduced, i.e. Training and Change Management Approaches) *

You can view the published form here: <https://docs.google.com/spreadsheet/viewform?formkey=dFFGUJySG9tWUI4ZXh1MTIPWHBiYUE6MQ>



Human Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ICT Facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page 7 After page 6

15. Collaboration (Manner in which ICT Services are Introduced, i.e. Training and Change Management Approaches) *

	1	2	3	4	5
Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Change Management (Communication, Participatory Approach, Manpower Skills)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teamwork Spirit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page 8 After page 7

16. Overall Performance of ICT Services *
 Your overall level of satisfaction with the overall ICT services

1
 2
 3
 4
 5

You can view the published form here: <https://docs.google.com/spreadsheets/viewform?formkey=dFFGUJvSG9tWUI4ZXh1MTIPWHBiYUE6MQ>

