

**THE ADOPTION OF TECHNOLOGY AS STRATEGIC TOOL IN  
ENHANCING TAX COMPLIANCE IN KENYA: A CASE STUDY OF  
LARGE TAXPAYERS OF KENYA REVENUE AUTHORITY**

**BY**

**STANLEY KIGURO KAMAU**

**UNITED STATES INTERNATIONAL UNIVERSITY**

**SPRING 2014**

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**STANLEY KIGURO KAMAU**

**A PROJECT REPORT SUBMITTED TO THE CHANDARIA  
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**UNITED STATES INTERNATIONAL UNIVERSITY**

**SPRING 2014**

## DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

**Signed** \_\_\_\_\_

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This project report has been presented for examination with my approval as the appointed supervisor.

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**Date:** \_\_\_\_\_

Fred Newa

**Signed:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Dean, Chandaria School of Business

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## **ACKNOWLEDGEMENT**

First and foremost, I would like to thank the almighty God for giving me the strength and the resolve to make this project a success. Secondly, I would like to thank my family for the great ideas and support as I undertook my studies. The time I spent away from you was not in vain and has borne something we can all enjoy the fruits of. Thirdly, I would also like to thank the lecturers at USIU for the vast knowledge they imparted in me that has broadened my perspective of the world. Fourthly, I would like to thank my employer Kenya Revenue Authority for according me the opportunity and financial support to pursue my MBA. Fifthly, I would like to thank my supervisor MrNewa for taking me through my project and ensuring that it met the desired criteria. Last but not least, I thank all the taxpayers that helped me in my research by contributing their highly valued opinions.

## **DEDICATION**

I dedicate this project to Catherine and Clyde for being there for me through my ups and downs. I cherish you.

## ABSTRACT

The purpose of this study was to determine the impact of adoption of technology as a strategic tool in enhancing tax compliance in Kenya. The study focused on the large taxpayers of Kenya Revenue authority and sought to answer the following questions. How has KRA implemented its Information and Communication Technology strategy in order to enhance tax compliance in Kenya by Large tax Payers? What is the impact of Information and Communication Technology on tax compliance in Kenya by Large Tax payers? Is the adoption of Information and Communication Technology sustainable in enhancing tax compliance in Kenya by Large Tax Payers?

The research used a descriptive research design. It relied mainly on primary sources of data. The sampling techniques used in the study were stratified and random sampling techniques. The population comprised of the large taxpayers of Kenya Revenue Authority. The primary data was collected using questionnaires that were administered to sixty two large taxpayers of Kenya Revenue Authority. The structured questionnaires administered to the respondents used the five likert scale (from strongly agree to strongly disagree). The data was analysed using descriptive statistics as well as inferential statistics with the help of the Statistical package for Social Scientists (SPSS).

The findings of the study were that the adoption of technology does impact on the tax compliance levels of the large taxpayers. There is a positive relationship between the adoption of technology and the tax compliance levels. The adoption of technology as a strategic tool by The Kenya Revenue Authority has led to increased compliance levels by the large taxpayers.

The study revealed that Kenya Revenue Authority has effectively implemented its Internet and Communication Technology strategy and that majority of the large taxpayers are happy with the implementation. Secondly, it has revealed that the large taxpayers feel that the technology has helped them to easily comply with the tax laws i.e. filing returns and making payments in time hence increasing their tax compliance levels. Thirdly, the large taxpayers agreed to the fact that the use of technology by Kenya

Revenue Authority is sustainable in enhancing tax compliance and that they would embrace it perpetually.

The study concludes that indeed the adoption of technology does impact on the tax compliance levels of the large taxpayers. Additionally it was concluded that the Kenya Revenue Authority has effectively implemented its Internet and Communication Technology strategy and that majority of the large taxpayers are happy with the implementation. Secondly, it can be concluded that the large taxpayers feel that the technology has helped them to easily comply with the tax laws. Finally the study concludes that technology by Kenya Revenue Authority is sustainable in enhancing tax compliance.

The study therefore recommends that there is need for Kenya Revenue Authority to involve Large Taxpayers while developing its systems to ensure that they take care of the needs of both the Authority and the Large Taxpayers. The study also recommends that Kenya Revenue Authority should sensitise the Large Taxpayers on the systems it has in place and how they will be of advantage to them in terms of increasing their compliance levels. The study recommends that there is need for Kenya Revenue Authority to keep on developing new systems and improving on the existing ones on a need to need basis. The new systems and improved existing ones will ensure that technology is sustainable and thus the compliance levels will also improve.

The researcher recommends a further study on the impact of technology on the compliance levels and the reasons why tax agencies are embracing technology. In addition further studies should be done to find out the reasons why some large Taxpayers are not willing to embrace the use of technology in enhancing tax compliance.

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## **ABBREVIATIONS**

**ETR-Electronic Tax Register**

**EFT-Electronic Funds Register**

**KRA-Kenya Revenue Authority**

**ICT-Information and Communications Technology**

**LTO-Large Taxpayers Office**

**RADDEX-Revenue Authority Digital Data Exchange**

**RRA-Rwanda Revenue Authority**

**TRA-Tanzania Revenue Authority**

**URA-Uganda Revenue Authority**

## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 Background of the Study**

A tax technology strategy is a representation of a company's plans when it comes to implementing and utilizing technology in a bid to enable tax operations, enhance efficiency in tax administration as well as increasing tax revenue for the government. In this regard therefore, there is need for the adoption of technology as a strategic tool for enhancing tax compliance to be coupled with a roadmap while taking into account short-term, mid-term, as well as long-term horizons. Technology as a strategy needs to take into account the processes, department organization and also technologies used by the tax function, as well as tax's business priorities and related dependencies. Tax authorities continue to realize that they need a prioritized plan so as to help their tax function in accomplishing its goals and move forward. Booth (2010), argues that nearly 85 percent of established tax authorities support the proposition that better technology and integration would improve their tax effectiveness.

According to Jones (2009), tax technology strategy will enable tax professionals to better focus their resources when it comes to analyzing data and creating strategies in a bid to generate revenue and cut costs, instead of spending valuable time gathering data. A tax technology strategy therefore enables the tax function to become more effective when evaluating current tax processes, identify areas for improvement, as well as leveraging the most supportive technologies at the right time. In addition, a strategy can help a company spread out costs associated with investments in licensing and implementation of technology. Having a technology strategy in place is likely to drive better and more efficient technology support for the tax function when it comes to the deployment of the company's resources in an effective manner. Finally, the underlying objective of any good tax technology is to enhance tax compliance which has three dimensions: filing, reporting, and payment compliance.

There exists a number of techniques that have been used to enhance tax compliance. One such method has been through Tax Simplification or Tax System Reform. This has been established to have dual effects on enhancing compliance, this is because it helps

taxpayers in avoiding inadvertent errors, as well as limit opportunities for tax evasion. Additionally the second method which has also been used to enhance compliance is the provision of tax authorities with additional enforcement tools. Other methods also include improved taxpayer services for instance taxpayer education, adoption of modern technology as well as efficient administration by the tax authorities (Brostek, 2007).

Technology continues to influence the way we work, play, and also interact with others. It is not surprising that indeed technology continues to affect how tax systems are designed and administered especially so in developing countries like Kenya. The use of technology to enhance the effectiveness of tax administrations, expand taxpayer services and enhance tax compliance continues to attract increasing attention both in developed and developing countries (Dowe, 2008). Governments worldwide have increasingly been demanding substantially more effective use of modern technology systems for the delivery of services to citizens.

Getting citizens to pay their taxes in painlessly without hissing continues to be the dream of all governments the task has however, never been simple, until when there was the introduction of the modern information technology. As early as the 1980s the world has been experiencing an unprecedented pace of advancement in the field of information technology. Such technological innovations are continually having a profound impact on the administration of fiscal systems as well as the way in the administration of taxation is concerned (Teltscher, 2002). Tax compliance is mainly achieved in the event that majority of taxpayers voluntarily file their tax returns and pay resultant tax liabilities as stipulated in the tax laws, without the intervention of the tax authorities through enforcement. However, if the voluntary compliance is low, then it goes without saying that enforcement measures like audit and collection are resorted to. This has been the practice in Kenya until the year 2003 when KRA embarked on serious automation and taxpayer empowerment to adopt tax online services through training, sensitization and tax clinics.

Building a high level of compliance needs a wide range of technology especially with regards to computers and the internet, as well as effectiveness of tax administration to detect and punish the people who attempt to evade taxes. The need to enhance tax

compliance has made tax departments to focus on the service they can provide to assist taxpayers in meeting their legal obligations. Such an approach, is viewed by the tax authorities view to enhance compliance given the view that taxpayers as clients rather than as potential objects of enforcement actions. As Jenkins (1996) noted, taxpayers who are well informed about their tax obligations and who are aware of the actions of the tax authorities to ensure compliance, tend to comply voluntarily. As the level of voluntary compliance goes up, the level of administrative congestions as a result of the use of informal channels to settle tax liabilities is greatly reduced. This approach ultimately reduces the total cost of tax administration.

Andarias (2006) while looking at the importance of technology established that, technology is considered as an efficient tool when properly used; otherwise it can also become a problem which needs to be solved, rather than the solution. Technology that has been widely used in tax administration comprises of computer, internet and software applications. Technology is considered to be only efficient when handled by well-trained personnel and embedded in the workflow of the organization. Good technology needs only be applied in tax administration if indeed it satisfies some basic principles which include; reducing life of tax, improving efficiency as well as reducing errors in procedures, increasing multi-tasking levels of tax officers and facilitating taxpayers in complying with tax regulations (Fu et al., 2006). The element of reducing the 'life-time of the tax', proper technology needs to ensure that indeed the time period between the date a property or service become liable for tax and the payment of this tax or rate is reduced to the minimum. All technological advances used in automation processing, mass data processing as well as elimination of administrative challenges fall in this category.

In Kenya since the inception of KRA in 1995, tax compliance has always been increasing as evidenced by increased revenue collection, more returns filed by the due dates and few cases of tax evasion reported (KRA, 2009A). The aim of tax compliance is to reduce the tax gap which is the difference between the tax amounts taxpayers pay voluntarily and on time and what they should pay under the law (Brostek, 2007). The government also benefits by meeting the target of tax to be collected while the tax administration attains efficiency and reduced costs in administering and collecting tax.

Tax compliance equally helps a taxpayer to avoid enforcement action that may be instituted by the tax authority leading to punitive penalties and accrued interest.

The taxpayers have been segmented into three major categories for ease of monitoring, namely small taxpayers, medium taxpayers and large taxpayers (KRA, 2009A). The segmentation of taxpayers has been done mainly on the basis of turnover. Small taxpayers are ones whose annual turnover ranges from Kenya shillings one to five million. These are mostly in the informal sector. Medium taxpayers have turnover of between Kenya shillings five million to seven hundred and fifty million, while Large taxpayers have a turnover of above Kenya shillings seven and fifty million. According to report by KRA's research and corporate affairs department (2009), Large taxpayers currently contribute 80% of total tax collected by KRA while small taxpayers even though the largest in number running into millions taxpayers contribute negligible tax collected by KRA. Medium taxpayers are between the Large Taxpayers and Small Taxpayers, their operations are higher in terms of turnover, administration and use of technology than the small taxpayers who are mainly in the informal sector. On the other hand Large Taxpayers constitute large companies who have appreciated the significance of technology not only in tax compliance but also in realizing efficient management.

Tax compliance in Kenya is measured in terms of number of filing cases, assessments by the authority and to some extent, registered complaints and compliments by taxpayers. A department for example Large Tax Payers Office (LTO) is considered largely compliant because most taxpayers remit taxes by due dates, file tax returns online and the tax audits conducted by KRA officers do not yield much liability on the normal tax operations except on gray and controversial arrears. Much of compliance level is directly attributed to enhanced adoption use of technology in the department. Equally, taxpayers in this department like Safaricom have heavily invested in, and appreciate the advantages associated with the use of technology. That notwithstanding, LTO only accounts for less than twenty percent of all registered taxpayers.

## **1.2 Statement of the Problem**

Kenya Revenue Authority has heavily invested in technology as strategic tool to enhance tax compliance in Kenya since the year 2003 (KRA, 2009). Despite such an investment and government support for technology, the expected outcome seems to portray contrary. For example, there are always long queues at KRA offices on due dates for taxpayers to file in paper returns. In addition, sometimes those who successfully file tax returns online still must queue to be issued with KRA official receipts, while KRA officers must always confirm with various commercial banks whether the taxes filed online were actually remitted. This therefore, begs the question as to whether technology has been effective in enhancing tax compliance in Kenya and whether there is any significant impact it has brought in tax administration in Kenya.

There has been limited research done to evaluate the contribution of technology among taxpayers with regard to their level of compliance. Failure by taxpayers to file their tax returns and pay taxes as they fall due is a great concern for any tax authority. Emerging trends in the administration of taxes are that governments seek to borrow best practices like adopting technological innovations. Grant (2005) did a study on the capabilities of a firm to adapt to new technology for enhanced tax collection. The study found that only companies with high capabilities are able to realize the impact of new technology in their endeavour to meet the objective goals. Duncan (2000) further looked at the factors that facilitate the successful adoption of technology as a tax compliance enhancement tool. In his study, he concluded that three factors must be in place to realize this objective, namely: flexible Information Technology structure, competent IT skill base and strong customer orientation.

Most of the studies which have been done on related topic as stated above, have taken place in developed countries where majority of taxpayers appreciate the need for tax compliance and efficiency. Even though a number of studies have been done in Kenya about tax compliance and the factors that contribute to it none has ever considered technology as a major factor. Most of the studies have looked at factors like political goodwill, enforcement measures by KRA and high level of awareness among taxpayers. This therefore, leaves a gap since the researcher believes that whatever success KRA has had in the last ten years should be attributed to investment in technology. The study

therefore, sought to fill this gap in knowledge by looking at the adoption of technology as strategic tool in enhancing tax compliance in Kenya.

### **1.3 Purpose of the Study**

The purpose of the study was to establish the impact of adopting Information and Communication Technology as strategic tool in enhancing tax compliance in Kenya by Large Taxpayers.

### **1.4 Research Questions**

In order to achieve the purpose of the study and to address the statement of the problem, the researcher endeavoured to answer the following specific research questions:

1.4.1 How has KRA implemented its Information and Communication Technology strategy in order to enhance tax compliance in Kenya by Large tax Payers?

1.4.2 What is the impact of Information and Communication Technology on tax compliance in Kenya by Large Tax payers?

1.4.3 Is the adoption of Information and Communication Technology sustainable in enhancing tax compliance in Kenya by Large Tax Payers?

### **1.5 Significance of the Study**

The Kenyan government relies heavily on taxes to fund its development expenditure. An increase or decline in tax revenues has a direct bearing on the economy of Kenya as a country. To this end, the study will accrue the following significance:

#### **1.5.1 KRA**

The study and recommendations made will be of great help to KRA management and Large Taxpayers Office as they will be able to know the impact of the use of technology on tax compliance.

### **1.5.2 Taxpayers**

The findings will reveal the strengths or weaknesses associated with the implementation of new technology and its benefits to taxpayers.

### **1.5.3 Government**

The study will reveal the strengths or weaknesses associated with the implementation of new technology and its benefits to other government institutions planning to embark on similar modernization programs.

### **1.5.4 Researchers**

The findings of the study will also contribute to the existing body of knowledge and may form the basis for further research in the area of technology and tax compliance in Kenya.

## **1.6 Scope of the Study**

The study focused on Kenya Revenue Authority in particular the Large Taxpayers Office. This is because the group tends to be more technology oriented and stresses on efficiency for better business performance. The population in this category is about 1,500 taxpayers. The LTO was further segmented into eight sectors: Agriculture, Banks, Insurance, Wholesalers, Excise, Manufacturers, Oil and Services. Fortunately almost all Large Taxpayers have their head offices in Nairobi. The study compared the tax compliance levels on the taxpayers on two periods; pre-KRA technology period (1992 – 2002) and post-KRA technology period (2003 – current). The data was collected between August and December 2013, and was limited to the events and happenings in this period.

In dealing with the scope, the researcher anticipates a number of limitations. First, there was no much conclusive research done in this field in Kenya. Therefore, there was lack of local literature on this field and the relevance of previous research done outside Kenya has to be evaluated in order to gain a correct insight. This challenge was addressed by carefully evaluating the existing literature before making reference to it. The study also limited itself to Large Taxpayers in Kenya on the assumption that Large Taxpayers have

already appreciated the significance of technology in enhancing tax compliance, while the compliance levels of Large Taxpayers as far as the use of technology is concerned is yet to be explored.

## **1.7 Definition of Terms**

### **1.7.1 Information and Communication Technology**

This are technologies that provide easy access to information through telecommunications. (Diebold, 2010).

### **1.7.2 Strategic tool**

This is a tool used by a firm to gain competitive advantage (Mintzberg, 1994).

### **1.7.3 Due Date**

This is the time the taxpayers must file/or remit taxes. For example due date for Pay As You Earn is 9<sup>th</sup> Day of every month (KRA, 2009A).

### **1.7.4 Large Taxpayers**

These are taxpayers whose annual turnover of above Kenya shillings seven and fifty million (KRA, 2012).

### **1.7.5 Medium Taxpayers**

These are taxpayers whose annual turnover ranges from five million to seven hundred and fifty million (KRA, 2012).

### **1.7.6 Small Taxpayers**

These are taxpayers whose annual turnover ranges from Kenya shillings one to five million. These are mostly in the informal sector (KRA, 2012).

### **1.7.7 E-filing**

For the purposes of this paper e-filing refers to the transmission of tax information directly to the tax administration using the internet. Electronic filing options include online, self-prepared return, using a personal computer and tax preparation software, or

online submission of returns using a tax professional's computer and tax preparation software. Electronic filing may take place at the taxpayer's home, a volunteer site, the library, a financial institution, the workplace, malls and stores, or a tax professional's place of business (Allink and Kommer, 2010).

### **1.7.8 E-payment**

This paper defines e-payment as the transfer of money from a person's bank account to the tax administration's bank account using the internet. E-payments can be made online, at any time (during and after banking hours), and from any place (Allink and Kommer, 2010).

### **1.7.9 Tax Compliance**

This is the timely filling and reporting of required tax information, the correct self-assessment of taxes owed, and the timely payment of those taxes without enforcement action (Allink and Kommer, 2010).

### **1.7.10 Non-compliance**

This is the failure to file returns, report income, calculate deductions properly as well as pay correctly and on time (Allink and Kommer, 2010).

### **1.7.11 Tax gap**

This is the difference between the taxes actually remitted and the amount that would be remitted if all persons filed complete and accurate tax returns and paid all taxes they owed (Allink and Kommer, 2010).

### **1.7.12 Tax Avoidance**

It is legal reduction in tax liabilities by practices that take full advantage of the tax code, such as income splitting, postponement of taxes and tax arbitrage across income that faces different tax treatment (Allink and Kommer, 2010).

## **1.8 Chapter Summary**

Chapter one has been the introductory chapter to the study. The chapter has given a funnel approach to the significance of technology as a strategic tool in enhancing tax compliance in Kenya, especially among Large Taxpayers. The chapter has also looked at the general tax compliance in Kenya and further elaborating on the role of technology in achieving this compliance. The chapter has also clearly stated the problem of the study justifying why the current one is needed. In doing this, the researcher has stated the purpose of the study which will be addressed by answering specific research questions. The researcher has also clarified jargons used in the study by assigning them elaborate contextual definitions. Finally, the chapter has presented the scope of the study together with anticipated limitations and possible solutions before concluding with the perceived significance of the study.

Having successfully introduced the subject of the impact of the technology on enhancing tax compliance among large taxpayers in Kenya, the following chapter, chapter two takes an in-depth look at the academic studies which have been done in the past in relation to the current topic of the study. In so doing, the chapter also focuses in pointing out serious gaps in knowledge from the empirical studies reviewed in order to find justification for the present study. The empirical review of literature in chapter two is guided by the study objectives and the research questions. Chapter three describes the methodology used in the study: this includes population, sample size and sampling techniques as well as data collection methods and analysis. Chapter four focuses on the results and findings as per the responses from the respondents. Finally, chapter five focuses on discussion of the findings, conclusion and the recommendations.

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 Introduction**

In this section a review of the theoretical discussion and empirical literature on impact of adopting and the use of technology as a strategic tool in enhancing tax compliance. The following research questions were explored in this study: How has KRA implemented its Information and Communication Technology strategy in order to enhance tax compliance in Kenya by Large tax Payers? What is the impact of Information and Communication Technology on tax compliance in Kenya by Large Tax payers? Is the adoption of Information and Communication Technology sustainable in enhancing tax compliance in Kenya by Large Tax Payers?

#### **2.2 Implementation of Technology by to enhance Tax Compliance**

The primary objective of taxation is to generate income for the government. In light of this objective there is need for tax systems to meet the following three criteria: they must be efficient, equitable and simple (Knoester, 2010). This study sought to look at tax from the efficiency for instance the tax administration and collection system efficient as a result of embracing technology.

##### **2.2.1 The Concept of Tax Compliance**

According to Russel (2010), improving tax compliance needs to have long-term reform efforts, that starts with strengthening the organization as well as management of the revenue agency, implementing robust collection systems notwithstanding building capacity in core tax administration functions (registration, filing and payment enforcement, debt collection, audit, taxpayer services, and processing of appeals). Gordon (2010), further argues that the technology issue for tax authorities is regarded to be different to that of their taxpayers. There indeed appears to be a general acceptance that technology is likely to play a very essential role in tax management and as such most authorities have invested heavily in the recruitment for or developing their computer audit capabilities.

There exists a number of techniques, which have been used to enhance tax compliance. One such method has been through Tax Simplification or Tax System Reform. This has been established to have a number of effects on enhancing compliance, as it helps taxpayers in avoiding inadvertent errors, while limit opportunities for tax evasion. Secondly the other technique which has also been used to enhance compliance is by through the provision of additional enforcement tools for tax authorities. Other techniques include improved taxpayer services like taxpayer education, adoption of modern technology and efficient administration by the tax authorities (Brostek, 2007).

### **2.2.2. Modes of Technology**

The past five years have seen the introduction of a number of other 'Electronic Commerce' (EC) methods, technologies, and communications channels which have been well designed in a bid to allow for electronic processing via the application of the filing and payment of taxes, that includes Telefile, Internet, and others (Duncan, 2000). These technologies have seen the expansion of opportunities, which are available to countries and have therefore enables governments to carry on with business with individuals and businesses electronically. At the same time, usage of these modes goes a long way to motivate countries to introduce such innovative approaches that are well related to business issues that are well are raised via electronics channels, for instance in the areas of authentication, acknowledgment of filings, as well as the treatment of filing intermediaries/transmitters.

Such developments are without doubt what has presented governments with an opportunity to develop new guidance requisite for tax administrators, which therefore takes into account a number of wide range of new utility, which are well available to them, as well as the need to make use of these technologies in each instance with some consideration to consistency across tax jurisdictions. These rapidly increasing pace of technological change is likely to have a significant impact, positive and also negative, direct and indirect, on tax compliance (Erard, 2002). Information technology, which encompasses telecommunications as well as computerized systems, is likely to increase tax processes substantially, with savings in time as well as money, while at the same time

affording customers a better service. On the other hand, the human element is also affected by technological changes in different ways, given that it makes jobs more important for some, while at the same time posing a threat to others. All the tax information systems including data bases need to be integrated and also have available the tools required to combat tax non-compliance; facilitate tax compliance and satisfy information requirements at the operational, managerial and internal control levels for the effective management of a modern Tax Administration (Allink and Kommer, 2000).

There exists a number of techniques that can be employed today by tax agencies in a bid to capture tax return as well as payment data electronically. In the same regard, electronic methods continue to be used for administrative functions, which include business tax registration among others (Erard, 2002). There is however the need to clearly address the distinctions among various electronic channel alternatives, so as to offer a clarification of the existence of a difference between the communications vehicle from the sender to the receiver, and the form that the data takes. This means that indeed choices made by a tax agency can go a long way in affecting the implementation strategy employed by the state, in no small part because of the varying capabilities of the targeted filer demographic. It follows therefore that these choices are without doubt likely to determine the timeliness with which the agency can make use of the application, as well as the degree of necessity of a commitment to working with other tax authorities.

According to Duncan (2010), technology that has been in use in tax administration varies widely in scope and complexity. Taxpayers also vary widely in their readiness to accept and utilize new technologies. For these reasons, 'best practices' today go a long way in recognizing that indeed there is no one single technology solution for taxing authorities. The major technological advancement used in tax administration include: Internet, E-file, especially Fed/State filing programs, Interactive Voice Response (IVR), Electronic Data Interchange (EDI) and Payment Methods.

#### **2.2.2.1 Internet**

The Internet can be used in two distinct ways. First, the Internet is a communications network connecting many different locations. It may therefore be used simply as a network to transport data files and messages between point A and point B. In this way,

the Internet offers a low-cost alternative to commercial networks. The incredible flexibility of the Internet, however, is in the second ability to create interactive applications while combining text, data, as well as graphics, connecting to background data bases as needed, and presenting an intuitive, "user friendly" interface to the taxpayer (Allink and Kommer, 2010).

According to Duncan (2010), such ability helps a taxing authority in building interactive filing programs necessary for fairly complex tax filings, as well as for administrative functions such as taxpayer registration, account maintenance, and refund status tracking. There exists two basic approaches to tax filing over the Internet: interactive filing as well as batch filing. When it comes to interactive filing, the taxpayer interacts directly with a web-based application to complete the tax filing online. Within the interactive method of Internet filing, there are two alternative technologies. In one, the taxpayer interacts directly with the web server hosted by the tax authority or a third party, with only a web browser on the taxpayer's machine. In Internet batch filing, the Internet is simply utilized as the network over which a tax filing is transmitted. The tax filing has also been created offline as a data file by use of some form of software program, either a generalized program such as a spread sheet, or a specialized tax preparation package.

### **2.2.3 Use of Technology in KRA**

In Kenya, collection as well as accounting for taxes on behalf of the government is mainly done by the semiautonomous Kenya Revenue Authority (KRA), which was established by an Act of Parliament in 1995. Kenya's tax system has undergone almost continual reforms over the last 20 years. On the policy side, these rate schedules have been rationalized and therefore simplified, VAT has also been introduced as well as external tariffs have been brought in line with those of neighbouring countries in East Africa. At the same time administrative and institutional reforms have also taken place. The KRA centralized tax collection activities, which had previously been undertaken by departments in the Ministry of, finance (Muriithi and Moyi, 2003).

According to Waweru, (2006) KRA is able to collect 95% of the total Government revenue and over the last ten years of its existence, KRA also increased revenue

collection from Kshs. 122 billion in the Financial Year 1995/1996 up to Kshs. 707 billion in Financial Year 2011/2012. This has been achieved by putting in place mechanisms to improve tax compliance when enhancing tax collection, compliance with filing of tax returns as well as bringing more taxpayers into the tax bracket via recruitment and registration of taxpayers. In a bid to enhance tax compliance, KRA has invested heavily in technology as from 2003 with the formation of the NARC government. The authority has also implemented its ICT strategy through the introduction various tax reforms and modernization programs. Some of such programs include: Modernization of CSD, KRA also rolled out the Simba 2005 System in order to automate the process of import and export. The system has also been rolled out to other remote stations and also enhanced by activating ORBUS and LEUK modules. (KRA, 2009). Additionally, a 24 hr. office was put in place in a bid to cater for centralised processing of documents. Clearing agents as well as importers now have the ability to lodge their documents at any given point in time and anywhere in the world (KRA, 2009). The agency also put in place a web-based computer system was also introduced so as to be able to manage the stock of all oil refined or imported into the country. The system has also helped largely to monitor stocks held and by individual oil marketers (KRA, 2009).

Additionally a Cargo Management Information System (CAMIS) which is considered to be as the data tracking system was put in place so as to help improve service delivery while at the same time help reduce compliance costs given that it provides a one stop centre for taxpayers (KRA, 2009). An ECT system was also brought on board to aid track movement of cargo from ports to borders so as to reduce diversion of transit cargo transported into the domestic market. (KRA, 2009).

The Authority also introduced the development as well as the implementation of the Integrated Tax Management System (ITMS). At the moment the E-registration is fully operational and cumulatively, 60,310 new taxpayers had registered online by the end of May 2009 (KRA, 2009). Additionally the Vehicle Management System (VMS) and Simba 2005 System were linked so as to allow for payment of motor vehicle registration fees with import duty. The integration process helps in a large way to enable vehicle importers to seamlessly pay for the registration along with other relevant customs duties

online through the Simba System. The VMS was also integrated with the PIN database so as to allow for PIN verification for RTD transactions(KRA, 2009). KRA has also developed an interface between KRA (SIMBA) and the KPA system (KWATOS) so as to facilitate exchanging data which therefore facilitates faster cargo clearance from the port of Kilindini (KRA, 2009).

KRA has also began the implementation of CCRS, system which has been successfully piloted with payments of transfer of motor vehicles and VAT. This seeks to ensure that there is prompt update of taxpayers' ledgers and reliability of bank reconciliation. (KRA, 2009).Through the Revenue Authority Digital Data Exchange (RADDEX), KRA has the ability to initiate real-time data exchange with Uganda Revenue Authority (URA). Additionally an avenue has been created to enable exchange of live data on exports, ex-warehouse as well as transit goods via the Simba 2005 System (KRA) and Ascyuda++ System (URA). This has gone a long way to allow cancellation of bonds and also confirmation of exports online.

### **2.3 Impact of Technology on Tax Compliance**

Holniker (2005), argues that the use of the system has brought about a significant improvement in the revenue collection time for tax payers. Revenue mobilization is considered as one of the key factors key for economic development of nations and links into national agenda on social wellbeing, poverty reduction and economic development of countries and their citizens. Kenya Revenue Authority is considered as a mandatory element when it comes to the movement of goods across borders and the procedures applied to these goods significantly influence the role of national industry in international trade and their contribution to national economy.

In the context of the international trade environment Kenya Revenue Authority plays a significant role not only in meeting the goals of the governments but also in ensuring effective controls that secure revenue compliance with national laws, ensuring security and protection of society. The efficiency and effectiveness of Kenya Revenue Authority procedures has an important influence on the economic competitiveness of nations and in the growth of international trade and the development of the global marketplace. As

government organizations that control revenue generation, Kenya Revenue Authority administrations are so much in a unique position to provide increased security to the global supply chain and to contribute to socio-economic development through revenue collection and trade facilitation.

According to Hawley (2006), modern trading practices make it essential for Kenya Revenue Authority administrations to offer simple, predictable as well as efficient procedures for the clearance of goods and movement of people while simultaneously tackling increasingly complicated national and international requirements to ensure compliance with national laws, international agreements and meeting security challenges.

Travis (2004) also indicated that in a bid to strengthen and go beyond existing programmes and practices, Kenya Revenue Authority has put in place a regime that seeks to enhance the security and facilitation of revenue collection. A Framework of Standards is indeed a regime that enhances the security and facilitation of international trade.

According to Sani (2009), automation system helps to improve revenue collection. This is because they are based on the electronic payment system via applications such as toll revenue collection, automatic fare collection, bus revenue system and parking system. Additionally by automating revenue collection, service providers are in better audit trail since all transactions captured can be detailed by time, whom and where. This prevents revenue loss through abuses as all moves are recorded electronically. Automation also provides huge transactions that need to be handled efficiently. According to him, automating revenue collection is key especially within the revenue collection agencies, which therefore requires fast and efficient output, as there will always be a trade-off between control and operational needs.

### **2.3.1. Effective Use of Technology**

Technology is considered to be an efficient tool when used properly; otherwise it is likely to become a problem that needs solving, rather than the solution. Technology is

only efficient when it is handled by well-trained personnel and embedded in the workflow of the organisation (Venkatraman, 2004). The available literature on e-taxation in the Kenya is scarce and does not fully address its influence on the cost of administration.

In relation to the impact of technology on tax revenues Musgrave (2004), argues that the literature in some cases vaguely addresses the issue, in others it is non-existent; and also for the vast majority the issue of taxation technology use is not examined. At the international level there exists vast literature on use of technology and the implication for revenue authorities. However, most literature is very much skewed in favour of developed and newly industrialised countries. In some cases the literature only offers detailed assessment of the possible implication of technology on tax revenues, in others they also make general mention of possible tax implication (Teltscher, 2002).

Andarias (2006), while commenting on the essence of technology noted that, technology is an important tool if properly used; otherwise it can as well become a problem that needs solving, rather than the solution. The technology used in tax administration entails the use of computer, internet and software applications. Technology is only regarded as efficient when handled by well-trained personnel and if embedded in the workflow of the organization. Good technology needs only to be applied in tax administration if it satisfies some basic principles which also include; reducing life of tax, improving efficiency and reducing errors in procedures, increasing multi-tasking levels of tax officers and facilitating taxpayers in complying with tax regulations. In the reduction of the 'life-time of the tax', proper technology needs to ensure that the time period between the date a property or service become liable for tax and the payment of this tax or rate is reduced to the minimum. All technological advances in automation processing, mass data processing and elimination of administrative challenges fall in this category.

Technology in tax administration needs to also aim at enhanced efficiency and also the reduction of errors in procedures, gathering of data automatically, as well as avoidance of duplication, storage of images of documents, integration of aerial photography and digital plans with identification data of property. Additionally good technology needs to increase the multitask-level of personnel, as well as the integration of all procedures in a

single information system and also the design of appropriate software enables any employee to provide all service at a 'single counter'.

Finally, technology needs to facilitate the task of taxpayers when complying with their tax obligations, as it aids in increasing accessibility to information, widening range of means of payment, reducing need for tax-payers to visit tax office, and by reduction in the time taken by taxpayers waiting for assistance. All these activities described are simply aimed at enhancing compliance.

Studies done on the operating costs of taxation, compliance costs for taxpayers as well as administrative cost for revenue authorities have flourished in recent years (Evans, 2003). Technology use is key for the tax administration activity given that large set of data must be processed. But the technology needs not be considered the objective, quite opposite it needs to be regarded as a means to gain efficiency and also cost reduction in overall tax administration. Effective tax administration is therefore desired by the tax authority and the taxpayers. For the taxpayers, it comes with numerous advantages such as less paperwork, rationalization as well as simplification of ancillary tax obligations, elimination of tax audits on companies, expedition of procedures controlled by tax administration and enhanced competitive edge with decrease in tax evasion. Jenkins (1991) also emphasizes that indeed the tax system can never work better than its tax administration, but even the best tax administration would certainly fail to turn a bad tax system into a well-operating one. He also warns that the existence of many ambitious tax reforms did not succeed because of the inefficient tax administration. In the absence of permanent reorganization of the tax administration and almost daily improvements in the methods of its management, it is not possible to expect that tax reforms will be successfully realized (Quintana, 2006). This therefore means that tax reforms has a close correlation between successful tax policy and efficient tax administration. In other words, there is no good tax policy without efficient tax administration (Jenkins, 2004).

Consequently, the focus of this study is pioneering in its attempt to address the issue of technology and its implications for tax revenue in the Kenyan context. It is nevertheless useful to examine the perspectives and arguments of the available literature. The advancement of technology and the use of the Internet (UNCTAD, 2010) as well as its'

continued growth has spawned many changes in the conduct of businesses. Like that of the industrial revolution, the use of technology has accelerated the growth rate as well as development of the world economy. Tax administration authorities have with them a responsibility to use their limited resources in the most cost effective manner.

In terms of tax compliance, exercising this responsibility requires taxpayers to have a systematic approach for managing tax compliance risks, aims to ensure that these risks are properly identified, assessed, prioritised and also treated (Webley,2004). One of the ways through which to achieve cost effectiveness in tax administration is by use of technology (Bird and Casangera de Jantscher, 2012). The use of technology not only in tax administration but also in e-government as well as e-services already have a certain amount of history, having developed from just simpler past levels to the more sophisticated levels offered today.

According to Reinganum and Wilde (2006),improved technology in tax administration alone is not entirely positive, however its benefits include features such as 24/7 access to taxation services, services from the comfort of one's home, lower services' costs, reduced burden on tax officers, as well as automated procedures. However, the most important negatives include high costs, additional communication channels to be managed, additional knowledge requirements, and the need for policies and plans. According to Erard (2002) planning the anticipated costs ine-tax administration, is often limited to the purchase costs for equipment, with many parties neglecting to consider the costs of maintaining and upgrading ICT, educational costs for users both tax officers and taxpayers alike, and costs for additional human resources, for management, and maintenance of ICT (or outsourcing costs).

## **2.4 Technology and Tax Compliance Sustainability**

### **2.4.1. Tax Administration**

The public finance literature usually assumes that the aim of the government when formulating tax policy is mainly maximization of social welfare. This however is well achieved as a result of marginal benefit of government expenditures being equal to the

marginal cost of collecting taxes, in addition to the marginal utility of income of the representative taxpayer (Kaplow, 2010). It follows therefore that maximization of societal welfare simply refers to minimization of collection costs.

A higher rate of compliance helps the government to collect the same revenue with either lower tax rates and/or a reduced tax authority budget. It means that a high response is likely result from a combination of the two, however it can be assumed that the government simply reacts to a higher than-expected compliance rate. Firstly, an increase in compliance results from a higher probability of detection (Alm, et al.,2010). A reduction in the tax authority budget on the other hand results in the probability of detection back to its original level. In the event that increase in the audit rate is the reason behind the higher likelihood of detection, the budget cut comes into play to completely restore the initial situation, with the only gain being the reduction in administrative expenses.

A higher rate of tax compliance rate can as well be explained by a shrewder selection of taxpayers for audit (Hunter and Nelson, 2006). It means therefore that improving the selection of taxpayers for audit provides help in collecting the same amount with lower administrative costs. It also minimizes the dispersions that can exist in the effective tax rate given that it focuses the audit efforts on individuals considered which most likely to evade. In the same reasoning, the effective tax rate among taxpayers with a lower probability of evading is likely to decrease.

Finally, higher rates of tax compliance can be largely explained by a rise in non-compliance costs. The tax administration can as well increase compliance in the event that it can be more responsive to taxpayers' needs (Thurman, 2010).

#### **2.4.2. Technology and the Taxpayer**

Technology needs to make it easier for taxpayers to comply with their tax obligations if it increases the accessibility level as well as the amount of information available, widening the range of payment modalities, reducing the need for taxpayers to visit the office and shortening waiting times for those taxpayers who need help. Advanced internet options, payment via electronic banking services as well as virtual telephone

have been developed to achieve these aims. The tax administration agency needs to see the taxpayer as a customer, not as someone who owes money to the Administration.

Finally it can be argued that the effective cost of tax administration, collection costs are likely to be positively related to tax compliance. Such a relationship, however, depends largely on the way compliance maximization is achieved. For instance if the only target set for the tax authority is to maximize tax compliance, it will go a long way in allocating its budget such that the last amount spent on enforcement activities offers the same tax revenue as compared to the last amount spent on improving taxpayer services. Hence, it goes without saying that the unconditional maximization of tax compliance is unlikely to reduce collection costs, as well as the additional goal of minimizing compliance costs needs to be imposed explicitly.

Technology is necessary for the tax administration activity as large sets of data needs to be processed. However technology needs not be considered given that the objective, quite the opposite needs to be regarded as a means to gain efficiency. State-of-the-art technology though expensive to purchase and maintain in some cases the results are not so brilliant from the economic point of view. In order to achieve the excellence in the tax administration activity, organisations needs to focus on the customer/taxpayer. As a consequence, the most essential concepts are “reducing the period of time between when the tax is generated and the moment it is paid”, “decreasing the number of the human errors by automating ordinary procedures”, “therefore making possible to pay the tax any time and almost anywhere”, and “therefore allowing any employee to help every customer at the office”.

Bearing these objectives in mind, it is very easy to infer that indeed technology in tax administration simply means integrated software with a one-stop-shop implementation; comprehensive work flow systems in that every document or form is included in the information system; easy-to-use internet websites that have online information and payment options; customer service network which is connected by fast lines; mobility to allow service in remote areas as well as real-time process monitoring (Andarias, 2006). Most if not all revenue bodies have taken a unique approach to the selection, development and deployment of information technology software applications to support

the operation and delivery of their business. Very little has yet been done between revenue bodies - and between revenue bodies and the software industry - to develop a shared and sharable model which revenue bodies and the software industry can use to explore and develop best practice, and – most importantly – assets, providing common solutions to common business needs.

### **2.4.3 Compliance Sustainability**

According to Hussein et al., (2011), the first introduction of the e-filing system in Malaysia in 2006 was plagued with negative reaction and debated in the mass media. The year 2007 saw 0.7 million tax assessment submission via e-filing and the figure rose to 1.18 million submissions in 2008 despite complaints about network congestion problem. With improved infrastructure the figure increased to 1.6 million submissions in 2009 with an improved overall amount of actual tax collection.

Lymer et al., (2012) argues that in the UK prior to e-filing, the electronic lodgement service (ELS) (introduced in 1997) allowed tax advisers to file Self-Assessment returns electronically on behalf of clients. ELS was however later withdrawn once confidence in the new internet-based services was established. By 5 April 2010 74 per cent of individual SA tax returns for the previous tax year were filed online which confirms that there has been a steady and impressive increase the uptake of e-filing in the UK. The extent of online filing of SA returns was indeed initially very slow and fell well short of the original targets. By 5 April 2009 66 per cent of SA returns were e-filed which represented a 23 per cent increase on the number of returns filed by 5 April 2008. The online services were the subject of a government review and the review called for significant growth in e-filing as a tool for all interactions between individual and corporate taxpayers and the UK revenue authorities (HMRC). The review's recommendations were published on 22 March 2006 when Lord Carter concluded that well-designed online services can bring benefits to taxpayers and the government.

In the United States of America, overall counting paid preparers (taxpayers who use the software for filing returns and self-preparers (taxpayers who file their returns without use of the software), there is indeed a dramatic rise in those returns which are returned over

the computer. In the year 2003 85% of taxpayers prepared their returns on a computer while in the year 1987 only 13% prepared their returns via a computer. (Guytonet al., 2005). IRS continues to invest a lot in modernizing its technology as well as those investments have paid off. According to GAO,(2006), Tax information submitted to IRS electronically aids faster, more accurate processing as well as quicker interactions between IRS and taxpayers.

Kana and Barraza (2010), conclude that indeed the real challenge is the use of technology to continuously promote compliance with tax duties, while seeking ways in ensuring at the same time that tax administration becomes more efficient and transparent. As for Brand (1996), there is the need to protect taxpayers' personal as well as financial data. In this respect, tax administration needs to tackle the problem known as the "big brother syndrome". This usability helps lower cost of communication channels (internet), the function of electronic tax processes and at the same time the increased participation of taxpayers is likely to create a socio-economic environment, which is predicted to satisfy both the tax administration and the taxpayers (Tahinakis et al., 2006).

## **2.5 Chapter Summary**

Chapter two has taken an in-depth study of related empirical studies done in the past in relation to the impact of technology on tax compliance in other jurisdictions other than Kenya. The review of literature in this chapter has been keenly guided by the three research questions and the study objective. First, the chapter has reviewed literature relating to how the use of Information and Communication Technology influences business competitive strategy. Secondly, the review of the literature has dealt with the various technologies which have been adopted in enhancing tax compliance. These include, e-filing, internet, electronic fund transfers (EFT) among others. Thirdly, the review has looked at the sustainability of technology in enhancing tax compliance in Kenya. The chapter has critically reviewed the literature with the aim of establishing gaps in knowledge with the sole purpose of justifying the current study. Once the gaps in knowledge have been identified, the researcher has then developed a conceptual framework to act as the model for the study in answering the research question. The next chapter will handle the methodology that the researcher will use to answer the research question and the study objectives.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents a description of the methods and procedures that were used to carry out the research. The research design were discussed with emphasis laid on identifying, defining and justifying the specific research design to be used in carrying out the study. The chapter included the research design, population of the study and the sampling design, where the researcher discussed the sample size and sampling technique. The chapter then moved to describe data collection, research procedures and data analysis methods and procedures.

#### **3.2 Research Design**

The research problem was solved using descriptive survey design. It involves either identifying the characteristics of an observed phenomenon or exploring possible correlations among two or more phenomena. In every case, descriptive research examines a situation as it is. It does not involve changing or modifying the situation under investigation, nor is it intended to determine cause-and-effect relationships. Strategies include sampling, making observations, interviewing take on a very different form when we want them to yield quantitative data (Copper and Schindler, 2010). According to Doyle (2004), descriptive survey design also included observation studies, correlational research, developmental designs, and survey research. All of these approaches yield quantitative information that can be summarized through statistical analyses.

Some of the main advantages of using survey designs to collect primary raw data from respondents are ability to accommodate large sample sizes' generalizability of results; ability to distinguish small differences between diverse samples groups; ease of administering and recording questions and answers; increased capabilities of using advanced statistical analysis; and abilities of tapping into latent factors and relationships. In contrast, the main disadvantages of survey research designs tends to focus on potential difficulties of developing accurate survey instruments; inaccuracies in construct and scale measurements of factors; and limits to the depth of the data structures. In addition,

researchers can lack control over long time frames and potentially low response rates, among other problems.

The researcher believed that despite the few disadvantage of this method, it is the most suitable as it enabled an analysis of the relationship between technology and levels of tax compliance in terms of on-line filing of tax returns and on-line remittance of taxes due. The independent variable was technology while the dependent variable was tax compliance.

### 3.3 Population and Sampling Design

#### 3.3.1 Population

The population forms a basis from which the sample or subjects for the study is drawn, Cooper and Schindler (2001). The population of interest for the study consisted of Large Taxpayers in Kenya who currently total 1,238. Large taxpayers as opposed to large or small taxpayers are suited for the study because of their opercula characteristics. This category of taxpayers was characterised by heavy investment in technology, some even having a fully-fledged technology department, they experience rapid business expansion, and take tax compliance matters seriously because the impact of non-compliance on them is normally very huge and devastating.

**Table 3.1: Population Distribution**

|               | <b>Sector</b>     | <b>No. of Taxpayers</b> |
|---------------|-------------------|-------------------------|
| <b>1</b>      | Agriculture       | 119                     |
| <b>2</b>      | Wholesalers       | 127                     |
| <b>3</b>      | Banks             | 93                      |
| <b>4</b>      | Insurance         | 64                      |
| <b>5</b>      | Domestic Excise   | 101                     |
| <b>6</b>      | Manufacturers     | 198                     |
| <b>7</b>      | Government Bodies | 143                     |
| <b>8</b>      | Construction      | 119                     |
| <b>9</b>      | Service           | 135                     |
| <b>10</b>     | Oil & Transport   | 139                     |
| <b>Totals</b> |                   | <b>1,238</b>            |

#### 3.3.2 Sampling Design

##### 3.3.2.1 Sampling Frame

According to Schindler and Cooper (2001), a sampling frame comprises of a list of people from which the researcher uses to obtain information about the study. The sampling frame defines a set of elements from which a researcher can select a sample of the target population. Because a researcher rarely has direct access to the entire population of interest in social science research, a researcher must rely upon a sampling frame to represent all of the elements of the population of interest. Generally, sampling frames can be divided into two types, list and non-list. Examples of list frames include a list of registered voters in a town, residents listed in a local telephone directory, or a roster of students enrolled in a course. A set of information used to identify a sample population for statistical treatment. A sampling frame includes a numerical identifier for each individual, plus other identifying information about characteristics of the individuals, to aid in analysis and allow for division into further frames for more in-depth analysis. The researcher also used a list sampling frame. This consisted of segmented taxpayers from the Large Taxpayers Office Department.

### **3.3.2.2 Sampling Technique**

Sampling techniques are considered to be the strategies used by researchers in the statistical sampling process (Cooper and Schindler, 2001). The researcher will use both stratified and random sampling techniques. First, the LTO taxpayers will be stratified into ten sectors i.e. Insurance, Banks, Wholesalers, Agriculture, Domestic Excise, Government, Construction, Oil and Transport, service and Manufacturers. After the stratification, random sampling will be used to pick a sample from each stratum. The adoption, of the sampling technique is to ensure fair and objective distribution of the population for better representation.

### **3.3.2.3 Sample Size**

The sample size for the study will be the 5% of the entire population of 1,238. According to Mugenda and Mugenda (2003), a sample size of 5% is sufficient. In order to achieve objective representation of the entire population, the percentage of each sector to the entire population will be calculated and be arrived at by randomly picking a definite number depending on the numerical strength of the sector to the population of the study. As a result, a sample size of 62 will be arrived at as shown on Table 3.2 below.

**Table 3.2. Sample Distribution**

|           | <b>Sector</b>     | <b>No. of Taxpayers</b> | <b>Percentage to the Population</b> | <b>Sample Size (62)</b> |
|-----------|-------------------|-------------------------|-------------------------------------|-------------------------|
| <b>1</b>  | Agriculture       | 119                     | 10%                                 | 6                       |
| <b>2</b>  | Wholesalers       | 127                     | 10%                                 | 7                       |
| <b>3</b>  | Banks             | 93                      | 8%                                  | 4                       |
| <b>4</b>  | Insurance         | 64                      | 5%                                  | 3                       |
| <b>5</b>  | Domestic Excise   | 101                     | 8%                                  | 5                       |
| <b>6</b>  | Manufacturers     | 198                     | 16%                                 | 10                      |
| <b>7</b>  | Government Bodies | 143                     | 12%                                 | 7                       |
| <b>8</b>  | Construction      | 119                     | 10%                                 | 6                       |
| <b>9</b>  | Service           | 135                     | 11%                                 | 7                       |
| <b>10</b> | Oil & Transport   | 139                     | 11%                                 | 7                       |
|           | <b>Totals</b>     | <b>1,238</b>            | <b>100%</b>                         | <b>62</b>               |

Source: (KRA 2013)

### **3.4 Data Collection Methods**

In data collection, the researcher should describe the major method(s) for collecting data from the subjects, Schindler and Cooper (2001). In this study the main data collection instruments were the questionnaires containing both open ended and close ended questions. Questionnaires are preferred because they are effective data collection instruments that allow respondents to give much of their opinions pertaining to the researched problem. . The questionnaires will use the five likert scale (from strongly agree to strongly disagree). The questionnaires will be administered to the personnel who handle taxes in the sampled taxpayers. Secondary data to support the growth of compliance behaviour in Kenya together with the trend will be obtained from revenue reports from the research and corporate affairs division of KRA. The questionnaires will have an introductory letter introducing the researcher to the respondents and explaining the purpose of the research. Respondents will be assured of strict confidentiality of the information they have shared with the researcher and that the information will be strictly for research purposes. This will be done in order to enhance the response rate.

### **3.5 Research Procedures**

Five respondents were pilot tested and the research questionnaire was pilot tested to remove any obstacles. These respondents were among the Large Taxpayers. They were asked to change some variables so as to ensure ease of answering the questionnaire. The researcher then confirmed that the data collected answered the research question.

The researcher then personally distributed the questionnaires and gave the respondents one week to fill and return them. Where respondents were far away, the researcher send the questionnaires via email. Once the one week lapsed, the researcher called or e-mailed the respondents in order to remind them of the due date. The researcher had to give the respondents a grace period of one more week as most claimed they were busy with other tasks in their employment.

### **3.6 Data Analysis Methods**

Once the questionnaires were collected, screened, coded and entered into SPSS and Microsoft Excel for data analysis. Appropriate descriptive statistics such as Frequencies, Central tendencies (mean, median, mode), Measures of dispersion (Std. deviation, range, and variance) and linear regression will be used in analysis. The analysed data was presented in form of tables, charts, and graphs for ease of understanding and interpretation. The tables provided summarized results of the information obtained from the questionnaires. The results were then summarized and a conclusion arrived at.

### **3.7 Chapter Summary**

Chapter has presented the research methodology that will be used to answer the research questions in order to achieve the research objectives. The chapter has presented the population of the study, sampling techniques, research design, sample size, field work procedures, data collection and data analysis procedures. These have been done in line with the research objectives and the guiding research questions.

The conclusion of chapter three introduces chapter four which presented the actual research findings. It is in this chapter that each research question were discussed in detail in relation to the responses obtained from the respondents before inferences and conclusions are arrived at. In addition, the chapter began by presenting an analysis of the

response rate and the characteristics of the respondents in relation to the various aspects which the researcher feels added value to the study findings.

## CHAPTER FOUR

### 4.0 RESULTS AND FINDINGS

#### 4.1 Introduction

This chapter comprises of the results and findings of the study with regards to the data collected from the respondents who were employees of large tax payer companies. The first section presents the background information with regards to the respondents. The second section covers results on how KRA implemented its Information and Communication Technology strategy in order to enhance tax compliance in Kenya by Large tax Payers. The third section looks at the impact of Information and Communication Technology on tax compliance in Kenya by Large Tax payers while the final section is on the relationship between loyalty programs and customer retention. A total of 62 questionnaires were issued out of which 40 were returned indicating 65 % response rate.

**Table 4.1: Response Rate**

|           | <b>Sector</b>     | <b>Sample Size (62)</b> | <b>Responses</b> |
|-----------|-------------------|-------------------------|------------------|
| <b>1</b>  | Agriculture       | 6                       | 4                |
| <b>2</b>  | Wholesalers       | 7                       | 4                |
| <b>3</b>  | Banks             | 4                       | 4                |
| <b>4</b>  | Insurance         | 3                       | 3                |
| <b>5</b>  | Domestic Excise   | 5                       | 4                |
| <b>6</b>  | Manufacturers     | 10                      | 7                |
| <b>7</b>  | Government Bodies | 7                       | 3                |
| <b>8</b>  | Construction      | 6                       | 3                |
| <b>9</b>  | Service           | 7                       | 4                |
| <b>10</b> | Oil & Transport   | 7                       | 4                |
|           | <b>Totals</b>     | <b>62</b>               | <b>40</b>        |

#### 4.2 Background of the Respondents

##### 4.2.1 Gender of Respondents

As seen in Table 4.2, majority of the respondents (62%) were male while the remaining 38% were female. This implied that indeed large taxpayers operated within the confines of the Kenyan constitution on the 30 % gender representation.

**Table 4.2: Gender of Respondents**

| Gender       | Distribution |            |
|--------------|--------------|------------|
|              | Frequency    | %          |
| Male         | 24           | 62.0       |
| Female       | 16           | 38.0       |
| <b>Total</b> | <b>40</b>    | <b>100</b> |

**4.2.2 Age of the Respondents**

As seen in the Table 4.3 33% of the respondents were aged between 18 -25 years, while 45% were aged between 26-35 years while the remaining 22% were aged between 36-45 years. This is an indication that larger taxpayers operated within the law regarding employment age in Kenya.

**Table 4.3: Age of the Respondents**

| Age          | Distribution |            |
|--------------|--------------|------------|
|              | Frequency    | %          |
| 18-25 Years  | 14           | 33         |
| 26-35 Years  | 18           | 45         |
| 36-45 Years  | 8            | 22         |
| <b>Total</b> | <b>40</b>    | <b>100</b> |

**4.2.3 Level of Education of the Respondents**

As shown in Table 4.4, majority of the respondents (60%) were undergraduate degree holders as the remaining 36% were Master's Degree holders while the remaining 4% were in the others categories which included certificate holders as well as diplomas. This was an indication that indeed most employees working for large tax payers were highly qualified and therefore well suited to serve in their respective service industry.

**Table 4.4: Level of Education**

| Level of Education | Distribution |            |
|--------------------|--------------|------------|
|                    | Frequency    | %          |
| Undergraduate      | 24           | 60         |
| Masters            | 14           | 36         |
| Others             | 2            | 4          |
| <b>Total</b>       | <b>40</b>    | <b>100</b> |

**4.2.4 Years of Work Experience of the Respondents**

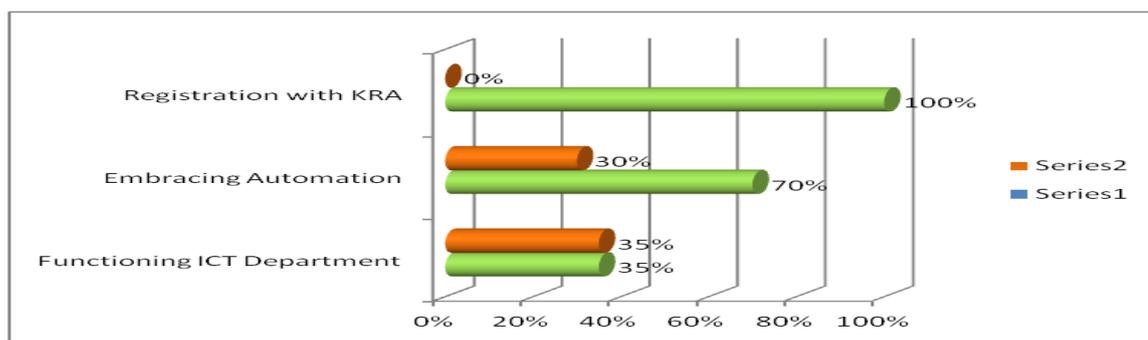
As shown, majority of the respondents had less than 8 years of work experience. Specifically 23% of the respondents had worked between 2-4 years; similarly 36% of the respondents had worked for 5-7 years. On the other hand 23% had 8-10 years of work experience 18 and above 10 years respectively. This finding indeed affirms the findings on the age of the respondents, an indication that indeed most employees in large taxpayer companies were fairly young.

**Table 4.5: Years of Work Experience**

| Years of Work Experience | Distribution |            |
|--------------------------|--------------|------------|
|                          | Frequency    | %          |
| 2-4 Years                | 9            | 23         |
| 5-7 Years                | 14           | 36         |
| 8-10 Years               | 10           | 23         |
| Above 10 Years           | 7            | 18         |
| <b>Total</b>             | <b>40</b>    | <b>100</b> |

**4.2.5 Level of Automation**

Figure 4.1, presents a summary of the findings with regard to the level of automation of the various taxpayers. As seen in the figure, majority of the large taxpayers have embraced automation, with functioning ICT departments.



**Figure 4.1, Level of Automation**

### **4.3 Implementation of Information and Communication Technology**

The study sought to establish how KRA has implemented its Information and Communication Technology strategy in order to enhance tax compliance in Kenya by Large tax Payers.

#### **4.3.1 KRA and ICT**

As seen in the table 4.6, majority of the respondents agree that KRA has introduced filling of VAT 3 return on-line with a mean of 4.1 and a coefficient of variation of 0.13, this was followed by filling of Withholding Tax Return on line, payment of PAYE Return on-line as well as modernization of CSD. Additionally majority of the respondents agree clearing agents and importers are now able to lodge their documents at any time and from any place in the world. In the same regard, it was revealed that the Customs Oil Stock Information System (COSIS) has been introduced in order to manage the stock of all refined oil. The Cargo Management Information System (CAMIS) has also been introduced to improve service delivery and minimize compliance costs. The Electronic Cargo Tracking System (ECTS), has also been introduced to track transit cargo from ports to borders to minimize diversion of transit cargo into the domestic market. Finally the Integrated Tax Management System (ITMS) has been introduced by KRA.

**Table 4.6: KRA and ICT**

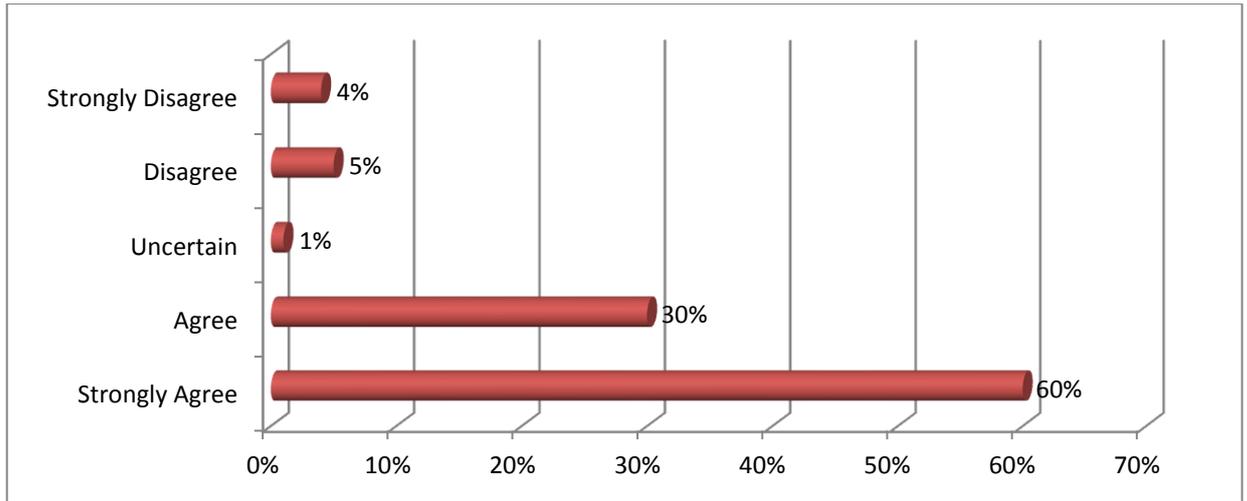
| Statement                                    | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree | Mean | Cf Var |
|--|----------------|-------|-----------|----------|-------------------|------|--------|
| Filing of VAT 3 return on-line               | 77%            | 15%   | 2%        | 2%       | 4%                | 4.15 | 0.13   |
| Online filling of Withholding Tax Return     | 77%            | 12%   | 4%        | 5%       | 2%                | 4.01 | 0.14   |
| payment of PAYE Return on-line               | 66%            | 18%   | 4%        | 5%       | 7%                | 3.97 | 0.15   |
| Modernization of CSD                         | 72%            | 5%    | 12%       | 6%       | 5%                | 3.99 | 0.18   |
| Customs Oil Stock Information System (COSIS) | 65%            | 15%   | 11%       | 4%       | 5%                | 3.86 | 0.21   |
| Cargo Management Information System (CAMIS)  | 78%            | 12%   | 2%        | 4%       | 4%                | 4.17 | 0.15   |
| The Electronic Cargo Tracking System (ECTS)  | 68%            | 15%   | 4%        | 3%       | 10%               | 3.98 | 0.22   |
| Integrated Tax Management System (ITMS)      | 81%            | 8%    | 2%        | 4%       | 5%                | 4.20 | 0.17   |

#### **4.4 Impact of Information and Communication Technology on Tax Compliance**

The study further sought to establish the impact of information and communication technology on tax compliance. This section therefore looks at what the respondents had to say with regards to how information technology has enhanced tax compliance.

##### **4.4.1 Using On-Line Payment Reduces Tax Payment Process**

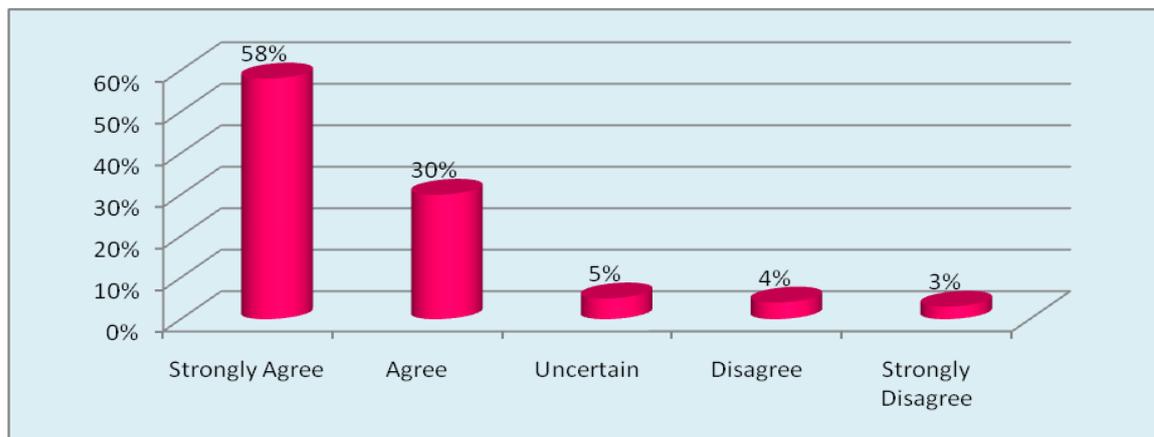
As seen in the figure 4.2, majority of the respondents (60%) strongly agree that using on-line payment reduces the tax payment process which saves on man-hour. Additionally 30 % agree, 5 % disagree, 4 % strongly disagree while the remaining 1 % is uncertain about how using on-line payment reduces the tax payment process which saves on man-hour.



**Figure 4.2: Using On-Line Payment Reduces Tax Payment Process**

#### 4.4.2 Using On-Line Payment Reduces the Receiving Process

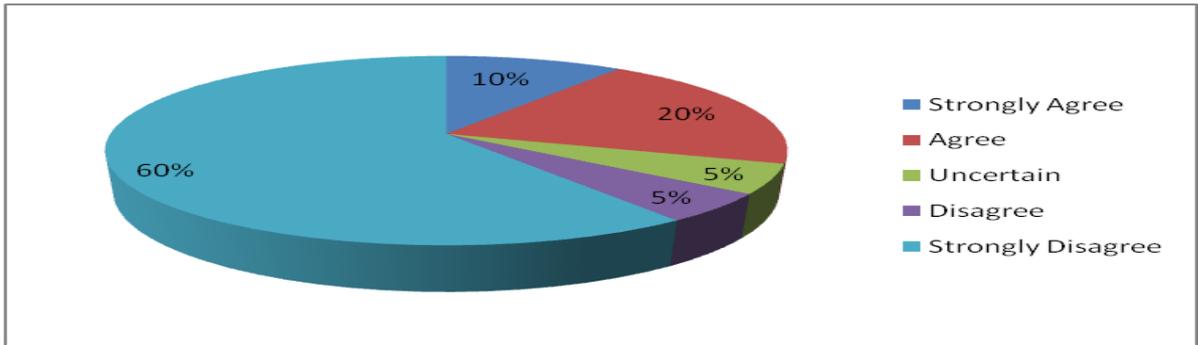
Figure 4.3 shows that 58 % of the respondents strongly agree, 30 % agree, while 5 % are uncertain on how using on-line tax payment methods reduce the receiving process at KRA. On the contrary 4 % of the respondents disagree, while 3 % strongly disagree.



**Figure 4.3: Using On-Line Payment Reduces the Receiving Process**

#### 4.4.3 On-line Payment Process Improves Efficiency in Dealing with KRA

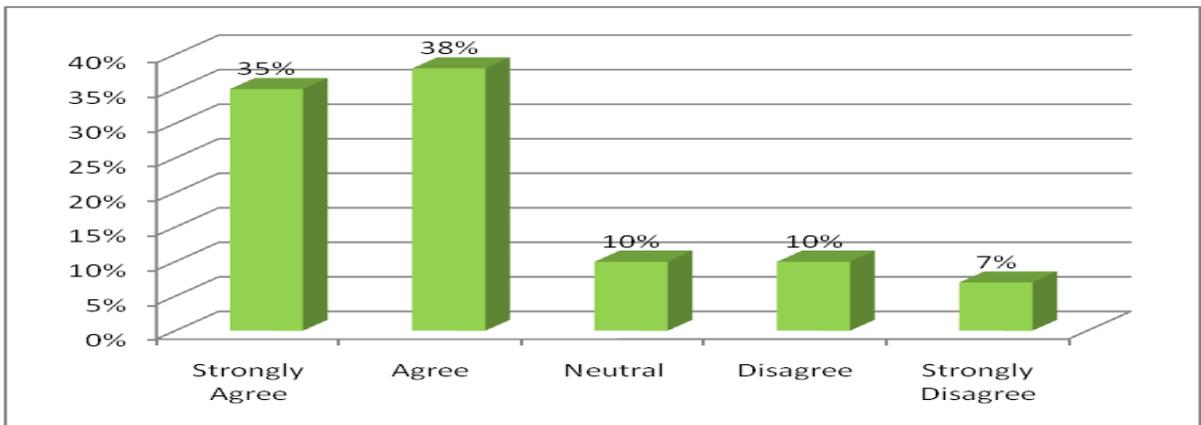
Figure 4.4, reveals that indeed 10 % of the respondents strongly agree 20 % of the respondents agree, 60 % of the respondents strongly disagree and 5 % of the respondents disagree while 13 % of the respondents are uncertain about how on-line payment process improves efficiency in dealing with KRA.



**Figure 4.4: On-line Payment Process Improves Efficiency in Dealing with KRA**

#### 4.4.4 On-line Tax Payments Has Improved Tax Compliance Levels

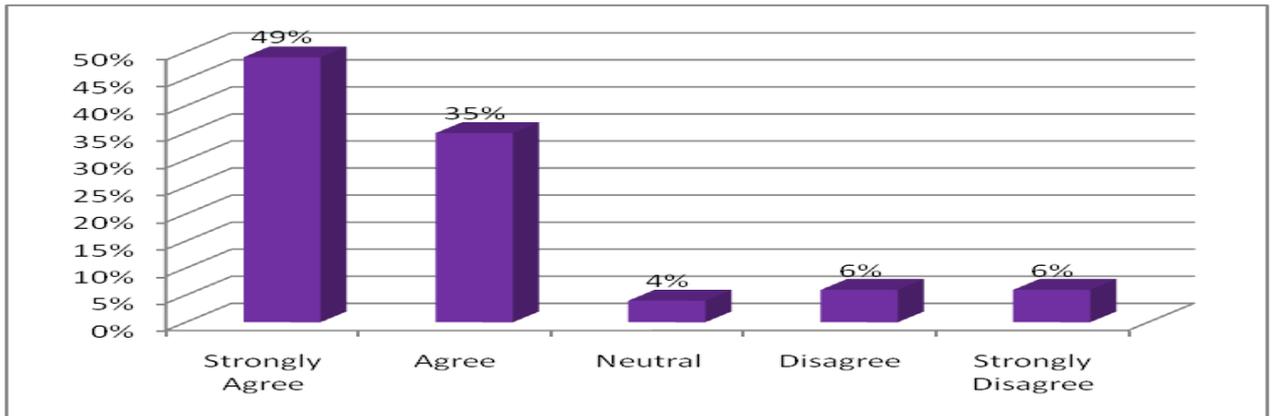
Figure 4.5 presents a summary of the findings with regards to how on-line tax payments have improved tax compliance levels. As seen in the figure, majority of the respondents (72%) agree that on-line tax payments have improved tax compliance levels. Specifically 35 % of the respondents strongly agree, 38 % agree, 10 % are neutral, 10 % disagree while 7 % strongly disagree. These findings imply that indeed on-line tax payments have improved tax compliance levels.



**Figure 4.5: On-line Tax Payments Have Improved Tax Compliance Levels**

#### 4.4.5 On-line Filing is Less Expensive than Manual Filing of the Returns

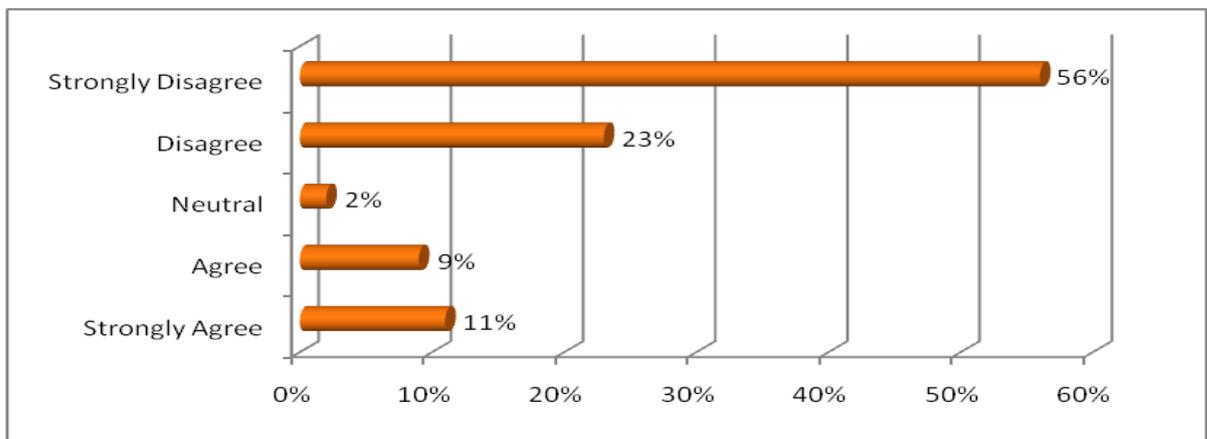
As seen in figure 4.6, majority of the respondents (49 %) strongly agree, 35 % agree, 4 % are neutral on how it is less expensive to do on-line filing than the manual filing of the returns. 6 % disagree while 6 % strongly disagree. This implies that indeed it is less expensive to do on-line filing than the manual filing of the returns



**Figure 4.6: On-line Filing is Less Expensive than Manual Filing of the Returns**

#### 4.4.6 Online Tax Payments Has Helped KRA Expand Its Revenue Base

As seen in figure 4.7, majority of the respondents (56%), agreed that online tax payments has helped KRA in expanding its revenue base. Specifically 23 % disagreed, 2 % were neutral, as 9 % agreed while 11 % strongly agreed. This implies that with the implementation of technology, KRA will be able to enhance efficiency in revenue collection and thus enhance its revenue base.

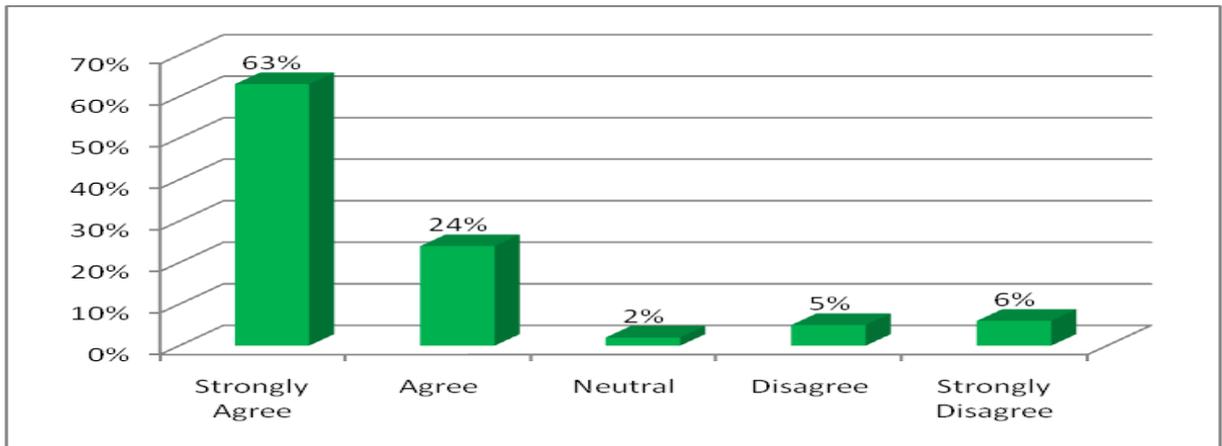


**Figure 4.7: Online Tax Payments Has Helped KRA Expand Its Revenue Base**

#### 4.4.7 Online Tax Payments helps KRA Control the Collection Process

Figure 4.8, shows that majority of the respondents (87%), were of the opinion that online tax payments has helped KRA to control of the Collection Process. Specifically 63 % of the respondents strongly agree, 24 % agree, while 2 % are neutral that online tax payments has helped KRA to control of the Collection Process, while 5 % disagree as 6 % strongly disagreed. This implies that, with the implementation of on-line tax systems,

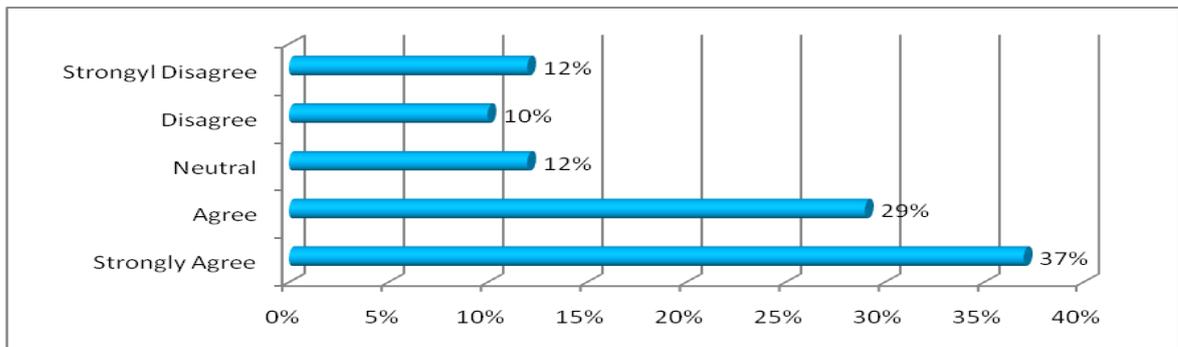
the collection process can be done from one central location, and thus enhancing control of the control process.



**Figure 4.8: Online Tax Payments helps KRA Control the Collection Process**

#### 4.4.8 Online Tax Payments Has Helped In Efficient Time Utilization

The study further sought respondent’s opinions on whether online tax payments have helped in efficient time utilization. As seen in figure 4.9 majority of the respondents agreed (66%) that online tax payments has helped in efficient time utilization. Specifically 37 % of the respondents strongly agree, 29 % agree, 12 % are neutral. On the other hand 10 % disagree, while 12 % strongly disagreed that online tax payments has helped in efficient time utilization.



**Figure 4.9: Online Tax Payments Has Helped In Efficient Time Utilization**

The regression model will be as follows:

$$Y=C+BX$$

Where:

Y=Tax Compliance

X=Information Communication and Technology

In order to test the relationship between information and communication and technology and taxpayer compliance, the following regression equation was used.

$$Y_c = C + BX_{ICT}$$

As seen in table 4.7, the  $R^2$  of the regression was 0.633, this is an indication that the included explanatory variables were explained only 63.3 percent of how Information and Communication and Technology enhances taxpayer compliance. The remaining 36.7 percent was explained by other explanatory variables not included in the model.

**Table 4.7: Model Summary**

| Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1     | .715 | .633     | .657              | .8965                      |

Predictors: (Constant),

As shown from table 4.8 that the multiple regression model equation is expressed as:

$$Y = 1.976 + 0.719 \text{ ICT}$$

**Table 4.8: Regression Results**

| Coefficients <sup>a</sup>             |            |                             |            |                           |        |      |
|---------------------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model                                 |            | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig. |
|                                       |            | B                           | Std. Error | Beta                      |        |      |
| 1                                     | (Constant) | 1.976                       | 4.638      |                           | 24.575 | .000 |
|                                       | Technology | .719                        | .005       | .578                      | 28.5   | .000 |
| a. Dependent Variable: Tax Compliance |            |                             |            |                           |        |      |

This indicates that indeed information communication and technology has a positive relationship with tax compliance. This implies that with the adoption of technology, tax compliance is likely to be enhanced.

**Table 4.9: Correlation**

|                 |                 | Tax Compliance |
|-----------------|-----------------|----------------|
|                 | N               | 40             |
| Adoption of ICT | Pearson C.      | .497           |
|                 | Sig. (2-tailed) | .401           |
|                 | N               | 40             |

\*. Correlation is significant at the 0.05 level (2-tailed).

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

As seen in the table there is a significant positive relationship between adoption of ICT and tax compliance (.497) at a significance level 0.05

#### 4.5 Sustainability of Adoption of Information and Communication Technology and Tax Compliance

Finally the study sought to establish sustainability of adoption of information and communication technology and tax compliance. The following subsection presents a summary of the findings with regards to the respondents' views on this subject matter.

##### 4.5.1 Online Tax System is Sustainable in Future

Figure 4.10 reveals that majority of the respondents agreed (72%), that the online tax system is sustainable in future. Specifically 41 % of the respondents strongly agree, 31 % agree, 10 % are uncertain. On the other hand 9 % disagree, while 9 % strongly disagreed that the online tax system is sustainable in future.

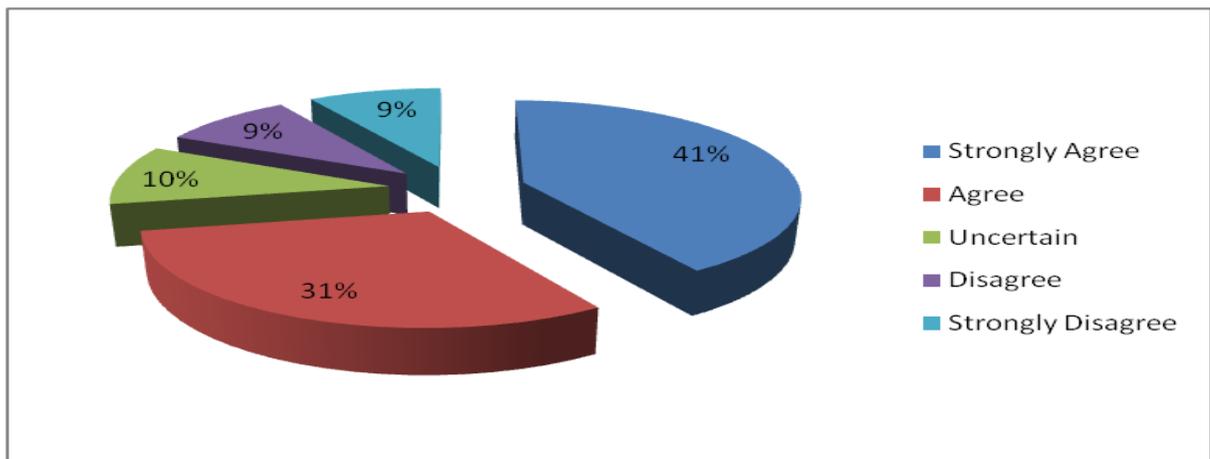
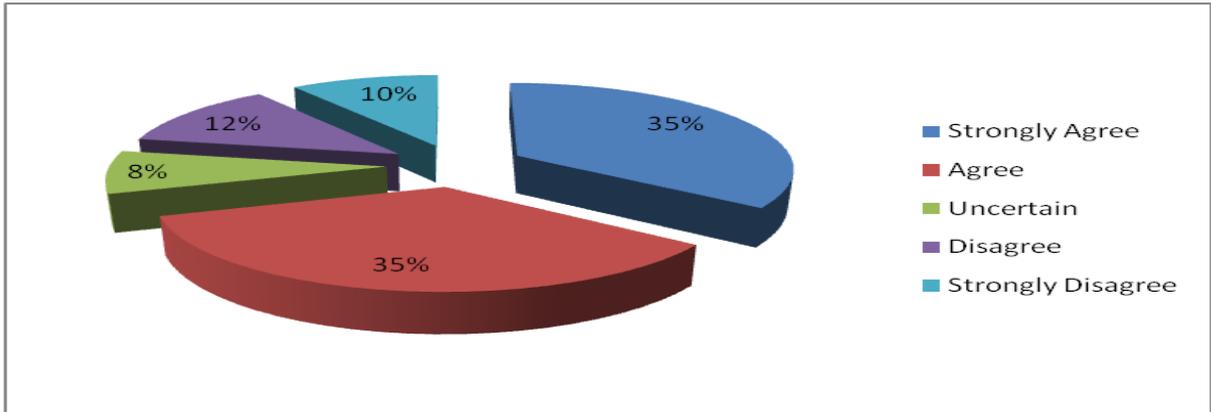


Figure 4.10: Online Tax System is Sustainable in Future

##### 4.5.2 Online Tax System Will Enhance Tax Compliance

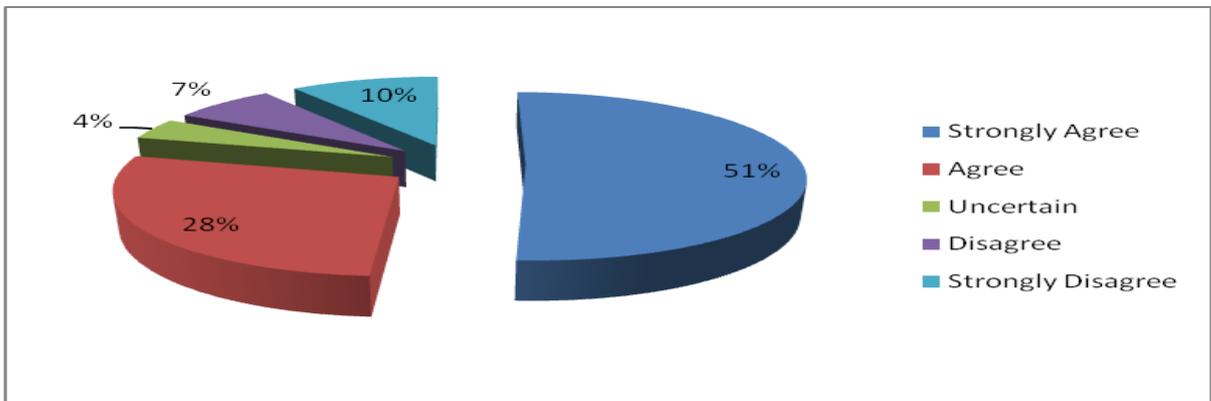
Figure 4.11 further reveals that majority of the respondents agreed (70%), that online tax system will enhance tax compliance which is sustainable. Specifically 35 % of the respondents strongly agree, 35 % agree, 8 % are uncertain. On the other hand 12 % disagree; while 10 % strongly disagreed the online tax system will enhance tax compliance which is sustainable.



**Figure 4.11: Online Tax System Will Enhance Tax Compliance**

#### 4.5.3 Technology will Enhance Sustainability of Online Tax Systems In Future

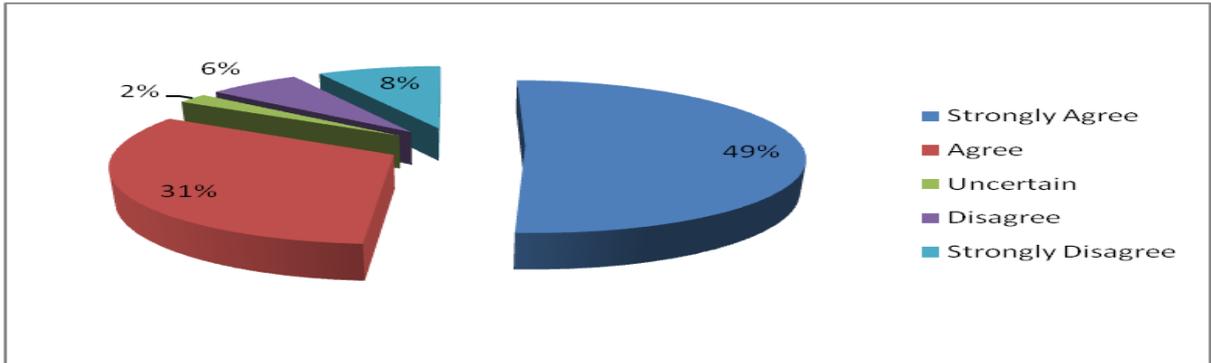
Figure 4.12, reveals that majority of the respondents agreed (79%) that the improvements in technology will enhance sustainability of online tax systems in future. Specifically 51 % of the respondents strongly agree, 28 % agree, 4 % are uncertain. On the other hand 7 % disagree, while 10 % strongly disagreed that, improvements in technology will enhance sustainability of online tax systems in future.



**Figure 4.12: Technology will Enhance Sustainability of Online Tax Systems In Future**

#### 4.5.4 In Future the Costs of Running Online Tax Systems Will Reduce

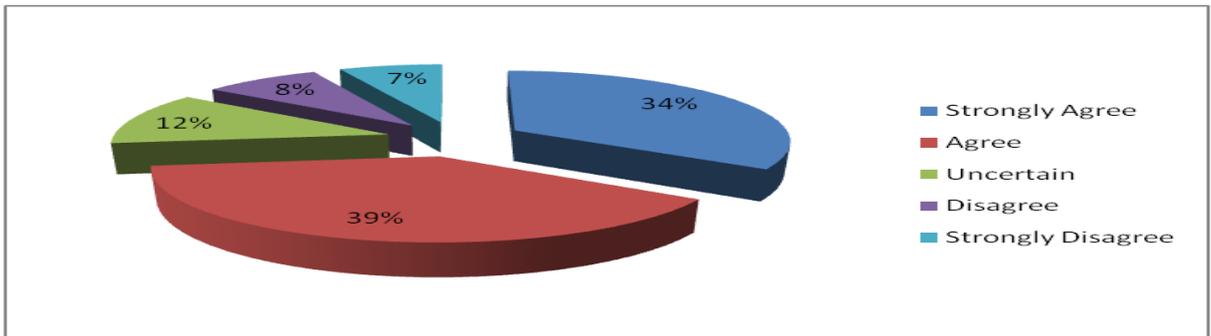
Figure 4.13 indicates that majority of the respondents agreed (80%), that in future the costs of running online tax systems will reduce and hence its sustainability. Specifically 49 % of the respondents strongly agree, 31 % agree, 2 % are uncertain. On the other hand 6 % disagree, while 8 % strongly disagreed that, in future the costs of running online tax systems will reduce and hence its sustainability.



**Figure 4.13: In Future the Costs of Running Online Tax Systems Will Reduce**

#### 4.5.5 Taxpayer Awareness is Likely To improve in Future

As seen in figure 4.14, majority of the respondents agreed (73%), which tax payer awareness is likely to improve in future as a result of new technology hence enhancing sustainability of online tax systems. Specifically 34 % of the respondents strongly agree, 39 % agree, 12 % are uncertain. On the other hand 8 % disagree, while 7 % strongly disagreed that, tax payer awareness is likely to improve in future as a result of new technology hence enhancing sustainability of online tax systems.



**Figure 4.14: Taxpayer Awareness is Likely To improve in Future**

As seen in the table there is a significant positive relationship between sustainability of adoption of ICT and tax compliance (.5112) at a significance level 0.05

**Table 4.9: Correlations**

|                                   |                 | Tax Compliance |
|-----------------------------------|-----------------|----------------|
|                                   | N               | 40             |
| Sustainability of adoption of ICT | Pearson C.      | .5112          |
|                                   | Sig. (2-tailed) | .507           |
|                                   | N               | 40             |

\*. Correlation is significant at the 0.05 level (2-tailed).

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

## **4.6 Chapter Summary**

In this chapter the researcher provides the findings with respect to the information given out by the respondents. The first section provides the study findings based on the respondent's background. This was followed by the findings on how KRA has implemented its Information and Communication Technology strategy in order to enhance tax compliance in Kenya by Large tax Payers, as well as the impact of Information and Communication Technology on tax compliance in Kenya by Large Tax payers and finally the adoption of Information and Communication Technology sustainable in enhancing tax compliance in Kenya by Large Tax Payers. The next chapter provides the conclusion, summary as well as the discussions and the recommendations.

## **CHAPTER FIVE**

### **5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter is made up of four sections, namely summary, discussion, conclusions, and recommendations following that order. The first section presents a summary of the study which includes the study objectives, methodology as well as the findings. The second subsequent section presents a discussion of the major findings of the study. The third section offers conclusions based on the specific objectives, with the help of the findings and results obtained in chapter four. The final sub-section presents the recommendations for improvement on the basis of the specific objectives. It also offers the recommendations for further studies.

#### **5.2 Summary**

The purpose of the study was to establish the impact of adopting Information and Communication Technology as strategic tool in enhancing tax compliance in Kenya by Large Taxpayers. The study was guided by the following research questions: How has KRA implemented its Information and Communication Technology strategy in order to enhance tax compliance in Kenya by Large Taxpayers? What is the impact of Information and Communication Technology on tax compliance in Kenya by Large Taxpayers? Is the adoption of Information and Communication Technology sustainable in enhancing tax compliance in Kenya by Large Taxpayers?

In order to achieve the above, the study adopted a survey research design in order to obtain the data that is necessary, which in essence facilitated the collection of the private data as a way of getting into the research objectives. The total population of interest for the study will consist of Large Taxpayers in Kenya who currently total 1,238. Large taxpayers as opposed to large or small taxpayers are suited for the study because of their opercula characteristics. The study used both stratified and random sampling techniques to obtain a sample size of 62 respondents, out of which 40 responded. The collection of the private data was done using structured questionnaires that were pilot tested in order to ensure that there was reliability as well as validity. The coding of the data was done

with the use of Microsoft Excel as well as SPSS in order to generate the descriptive statistics for instance frequencies and percentages.

Data analysis was done through descriptive, correlation and regression statistics. This included percentages, frequencies, correlation and regression tables. Data was presented in pictorial representation in the form of tables and figures. The tool that was used for analysis of data collected was Statistical Package for Social Sciences (SPSS).

The study revealed that, KRA has introduced filling of VAT 3 return on-line with a mean of 4.1 and a coefficient of variation of 0.13, this was followed by filling of Withholding Tax Return on line, payment of PAYE Return on-line as well as modernization of CSD. Additionally majority of the respondents agree clearing agents and importers are now able to lodge their documents at any time and from any place in the world. In the same regard, it was revealed that the Customs Oil Stock Information System (COSIS) has been introduced in order to manage the stock of all refined oil. The Cargo Management Information System (CAMIS) has also been introduced to improve service delivery and minimize compliance costs. The Electronic Cargo Tracking System (ECTS), has also been introduced to track transit cargo from ports to borders to minimize diversion of transit cargo into the domestic market. Finally the Integrated Tax Management System (ITMS) has been introduced by KRA.

The study further revealed that, majority of the respondents agree, that using on-line payment reduces the tax payment process which saves on man-hour. It also reveals that using on-line tax payment methods reduces the receipting process at KRA. Also on-line payment process improves efficiency in dealing with KRA and has improved tax compliance levels while reducing the calls on tax payment. It is less expensive to do on-line filing than the manual filing of the returns. Finally online tax payments have helped KRA in expanding its revenue base while also helping KRA to control of the Collection Process. The study further revealed that indeed information communication and technology has a positive relationship with tax compliance. This implies that with the adoption of technology, tax compliance is likely to be enhanced.

The study further revealed that online tax system is sustainable in future as it will enhance tax compliance which is sustainable. Additionally the improvements in technology will enhance sustainability of online tax systems in future. Similarly the costs of running online tax systems will reduce and hence its sustainability. Finally tax payer awareness is likely to improve in future as a result of new technology hence enhancing

sustainability of online tax systems. Also online tax payments has helped in efficient time utilization

### **5.3 Discussion**

#### **5.3.1 Implementation of Technology by to enhance Tax Compliance**

The study revealed that, that KRA has introduced filling of VAT 3 return on-line. Additionally majority of the respondents agree clearing agents and importers are now able to lodge their documents at any time and from any place in the world. In the same regard, it was revealed that the Customs Oil Stock Information System (COSIS) has been introduced in order to manage the stock of all refined oil. The Cargo Management Information System (CAMIS) has also been introduced to improve service delivery and minimize compliance costs. The Electronic Cargo Tracking System (ECTS), has also been introduced to track transit cargo from ports to borders to minimize diversion of transit cargo into the domestic market. Finally the Integrated Tax Management System (ITMS) has been introduced by KRA.

The findings agree with Russel (2010),who suggested that improving tax compliance needs to have long-term reform efforts, that starts with strengthening the organization as well as management of the revenue agency, implementing robust collection systems notwithstanding building capacity in core tax administration functions (registration, filing and payment enforcement, debt collection, audit, taxpayer services, and processing of appeals).Gordon (2010),further argues that the technology issue for tax authorities is regarded to be different to that of their taxpayers. There indeed appears to be a general acceptance that technology is likely to play a very essential role in tax management and as such most authorities have invested heavily in the recruitment for or developing their computer audit capabilities.

There exists a number of techniques, which have been used to enhance tax compliance. One such method has been through Tax Simplification or Tax System Reform. This has been established to have a number of effects on enhancing compliance, as it helps taxpayers in avoiding inadvertent errors, while limit opportunities for tax evasion. Secondly the other technique which has also been used to enhance compliance is by through the provision of additional enforcement tools for tax authorities. Other

techniques include improved taxpayer services like taxpayer education, adoption of modern technology and efficient administration by the tax authorities (Brostek, 2007).

The findings also affirm that indeed the past five years have seen the introduction of a number of other 'Electronic Commerce' (EC) methods, technologies, and communications channels which have been well designed in a bid to allow for electronic processing via the application of the filing and payment of taxes, that includes Telefile, Internet, and others (Duncan, 2000). These technologies have seen the expansion of opportunities, which are available to countries and have therefore enabled governments to carry on with business with individuals and businesses electronically. At the same time, usage of these modes goes a long way to motivate countries to introduce such innovative approaches that are well related to business issues that are well raised via electronics channels, for instance in the areas of authentication, acknowledgment of filings, as well as the treatment of filing intermediaries/transmitters.

Additionally the findings affirm further that such developments continually present the opportunity to develop new guidance for tax administrators, which takes into account both the wide range of new utility that are available to them, as well as the need to employ it in each instance with some consideration to consistency across tax jurisdictions. These rapidly increasing pace of technological change is likely to have a significant impact, positive and also negative, direct and indirect, on tax compliance (Erard, 2002). Information technology, which encompasses telecommunications as well as computerized systems, is likely to increase tax processes substantially, with savings in time as well as money, while at the same time affording customers a better service. On the other hand, the human element is also affected by technological changes in different ways, given that it makes jobs more important for some, while at the same time posing a threat to others. All the tax information systems including data bases need to be integrated and also have available the tools required to combat tax non-compliance; facilitate tax compliance and satisfy information requirements at the operational, managerial and internal control levels for the effective management of a modern Tax Administration (Allink and Kommer, 2000).

### **5.3.2 Impact of Technology on Tax Compliance**

The study further revealed that, majority of the respondents agree, that using on-line payment reduces the tax payment process which saves on man-hour. It also reveals that using on-line tax payment methods reduces the receipting process at KRA. The findings agree with Holniker (2005), the use of the system has resulted in a significant improvement in the revenue collection time for tax payers. Revenue mobilization is one of the key factors for economic development of nations and links into national agenda on social wellbeing, poverty reduction and economic development of countries and their citizens. Kenya Revenue Authority is a mandatory element in the movement of goods across borders and the procedures applied to these goods significantly influence the role of national industry in international trade and their contribution to national economy.

Also on-line payment process improves efficiency in dealing with KRA and has improved tax compliance levels while reducing the calls on tax payment. It is less expensive to do on-line filing than the manual filing of the returns. According to Sani (2009), automation system helps to improve revenue collection. This is because they are based on the electronic payment system via applications such as toll revenue collection, automatic fare collection, bus revenue system and parking system. Additionally by automating revenue collection, service providers are in better audit trail since all transactions captured can be detailed by time, whom and where. This prevents revenue loss through abuses as all moves are recorded electronically. Automation also provides huge transactions that need to be handled efficiently. According to him, automating revenue collection is key especially within the revenue collection agencies, which therefore requires fast and efficient output, as there will always be a trade-off between control and operational needs.

Finally online tax payments have helped KRA in expanding its revenue base while also helping KRA to control of the Collection Process. The study further revealed that indeed information communication and technology has a positive relationship with tax compliance. This implies that with the adoption of technology, tax compliance is likely to be enhanced. Andarias (2006), while commenting on the essence of technology noted that, technology is an important tool if properly used; otherwise it can as well become a problem that needs solving, rather than the solution. The technology used in tax

administration entails the use of computer, internet and software applications. Technology is only regarded as efficient when handled by well-trained personnel and if embedded in the workflow of the organization. Good technology needs only to be applied in tax administration if it satisfies some basic principles which also include; reducing life of tax, improving efficiency and reducing errors in procedures, increasing multi-tasking levels of tax officers and facilitating taxpayers in complying with tax regulations. In the reduction of the 'life-time of the tax', proper technology needs to ensure that the time period between the date a property or service become liable for tax and the payment of this tax or rate is reduced to the minimum. All technological advances in automation processing, mass data processing and elimination of administrative challenges fall in this category.

The study also agrees with studies on the operating costs of taxation, compliance costs for taxpayers and administrative cost for revenue authorities have flourished in recent years (Evans, 2003). Technology use is key for the tax administration activity given that large set of data must be processed. But the technology needs not be considered the objective, quite opposite it needs to be regarded as a means to gain efficiency and also cost reduction in overall tax administration. Effective tax administration is therefore desired by the tax authority and the taxpayers. For the taxpayers, it comes with numerous advantages such as less paperwork, rationalization as well as simplification of ancillary tax obligations, elimination of tax audits on companies, expedition of procedures controlled by tax administration and enhanced competitive edge with decrease in tax evasion. Jenkins (1991) also emphasizes that indeed the tax system can never work better than its tax administration, but even the best tax administration would certainly fail to turn a bad tax system into a well-operating one. He also warns that the existence of many ambitious tax reforms did not succeed because of the inefficient tax administration. In the absence of permanent reorganization of the tax administration and almost daily improvements in the methods of its management, it is not possible to expect that tax reforms will be successfully realized (Quintana, 2006).

### **5.3.3 Technology and Tax Compliance Sustainability**

The study further revealed that online tax system is sustainable in future as it will enhance tax compliance which is sustainable. Additionally the improvements in

technology will enhance sustainability of online tax systems in future. Similarly the costs of running online tax systems will reduce and hence its sustainability. Finally tax payer awareness is likely to improve in future as a result of new technology hence enhancing sustainability of online tax systems. Also online tax payments have helped in efficient time utilization.

The findings affirm that indeed a higherrate of compliance helps the government to collect the same revenue with either lower tax rates and/or a reduced tax authority budget. It means that a high response is likely result from a combination of the two, however it can be assumed that the government simply reacts to a higher than-expected compliance rate. Firstly, an increase in compliance results from a higher probability of detection (Alm, et al.,2010). A reduction in the tax authority budget on the other hand results in the probability of detection back to its original level. In the event that increase in the audit rate is the reason behind the higher likelihood of detection, the budget cut comes into play to completely restore the initial situation, with the only gain being the reduction in administrative expenses. A higher rate of tax compliance rate canas well be explained by a shrewder selection of taxpayers for audit (Hunter and Nelson, 2006). It means therefore that improving the selection of taxpayers for audit provides helpsin collecting the same amount with lower administrative costs. It also minimizes the dispersions that can exists in the effective tax rate given that it focuses the audit efforts on individuals considered which most likely to evade. In the same reasoning, the effective tax rate among taxpayers with a lower probability of evading is likely to decrease. Finally, higher rates of tax compliance can be largely explained by a rise in non-compliance costs. The tax administration can as well increase compliance in the event that it can be more responsive to taxpayers' needs (Thurman, 2010).

The study also agrees with Hussein et al., (2011), who argues that the first introduction of the e-filing system in Malaysia in 2006 was plagued with negative reaction and debated in the mass media. The year 2007 saw 0.7 million tax assessment submission via e-filing and the figure rose to 1.18 million submissions in 2008 despite complaints about network congestion problem. With improved infrastructure the figure increased to 1.6 million submissions in 2009 with an improved overall amount of actual tax collection.

Finally the findings also agree with Kana and Barraza (2010) who argue that the real challenge is the use of technology to continuously promote compliance with tax duties, ensuring at the same time that tax administration becomes more efficient and transparent. As for Brand (1996), he underlines the need to protect taxpayers' personal and financial data. In this respect, tax administration must tackle the problem known as the "big brother syndrome". For this reason, the critical success factors in an electronic tax administration system are – apart from top management support and internal staff training-, a taxpayer-oriented system, user education and user-friendliness (usability). This usability, the lower cost of communication channels (internet), the function of electronic tax processes and the increased participation of taxpayers will create a socio-economic environment, which is predicted to satisfy both the tax administration and the taxpayers (Tahinakis et al., 2006).

## **5.4 Conclusion**

### **5.4.1 Implementation of Technology by to enhance Tax Compliance**

The study concludes that KRA has introduced filling of VAT 3 return on-line. Additionally majority of the respondents agree clearing agents and importers are now able to lodge their documents at any time and from any place in the world. In the same regard, it was revealed that the Customs Oil Stock Information System (COSIS) has been introduced in order to manage the stock of all refined oil. The Cargo Management Information System (CAMIS) has also been introduced to improve service delivery and minimize compliance costs. The Electronic Cargo Tracking System (ECTS), has also been introduced to track transit cargo from ports to borders to minimize diversion of transit cargo into the domestic market. Finally the Integrated Tax Management System (ITMS) has been introduced by KRA.

### **5.4.2 Impact of Technology on Tax Compliance**

The study further concludes that, majority of the respondents agree that using on-line payment reduces the tax payment process which saves on man-hour. It also concludes that using on-line tax payment methods reduces the receipting process at KRA. Also on-line payment process improves efficiency in dealing with KRA and has improved tax compliance levels while reducing the calls on tax payment. It is less expensive to do on-line filing than the manual filing of the returns. Finally online tax payments have helped

KRA in expanding its revenue base while also helping KRA to control of the Collection Process. The study further concludes that indeed information communication and technology has a positive relationship with tax compliance. This implies that with the adoption of technology, tax compliance is likely to be enhanced.

#### **5.4.3 Technology and Tax Compliance Sustainability**

The study concludes that online tax system is sustainable in future as it will enhance tax compliance which is sustainable. Additionally the improvements in technology will enhance sustainability of online tax systems in future. Similarly the costs of running online tax systems will reduce and hence its sustainability. Finally tax payer awareness is likely to improve in future as a result of new technology hence enhancing sustainability of online tax systems. Also the study concludes that indeed online tax payments have helped in efficient time utilization.

#### **5.5 Recommendations**

The following were the recommendations for improvement and further studies. These recommendations were drawn from the findings.

##### **5.5.1 Recommendations for Improvement**

###### **5.5.1.1 Implementation of Technology to enhance Tax Compliance**

Kenya Revenue Authority needs to involve Large Taxpayers while developing its systems to ensure that they take care of the needs of both the Authority and the Large Taxpayers. This will also ensure that they are user friendly and are efficient i.e. create an advantage over manual systems and enhance tax compliance.

###### **5.5.1.2 Impact of Technology on Tax Compliance**

The study acknowledges the role that technology plays in enhancing tax compliance among the Large Taxpayers and recommends that Kenya Revenue Authority should sensitise the Large Taxpayers on the systems it has in place and how they will be of advantage to them in terms of increasing their compliance levels.

###### **5.5.1.3 Technology and Tax Compliance Sustainability**

Given the positive response from the Large Taxpayers that they are willing to embrace technology in the long term, there is need for Kenya Revenue Authority to keep on developing new systems and improving on the existing ones on a need to need basis. The

new systems and improved existing ones will ensure that technology is sustainable and thus the compliance levels will also improve.

### **5.5.2 Recommendations for Further Research**

There is need to do a further study on the impact of technology on the compliance levels and the reasons why tax agencies are embracing technology. There is also need to find out the reasons why some large Taxpayers are not willing to embrace the use of technology in enhancing tax compliance.

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## APPENDICES

### APPENDIX I: INTRODUCTORY LETTER

Stanley Kiguro Kamau  
United States International University  
P. O. Box 14634-00800  
Nairobi, Kenya.

Dear Respondent

**RE: RESEARCH STUDY**

I am pleased to inform you that I am a student at United States International University pursuing a degree of Masters in Business Administration (MBA). As partial fulfilment for my degree, I am conducting a research on the adoption of technology as a strategic tool in enhancing tax compliance in Kenya (A case study of the large taxpayers of the Kenya Revenue Authority)

Your participation is essential to this study and will be highly appreciated. I assure you that the information you will provide will only be used for academic purposes and will be treated with utmost confidentiality.

Should you require a summarized report please indicate your contacts on the back of the questionnaire. I will send you a report on the findings. Once again thank you for your cooperation and time.

Yours faithfully,

Stanley kiguro



.....  
 .....  
 .....  
 .....

9. Kindly state your level of agreement or disagreement with the following statements by putting a tick against that which best describes your position.  
 The scale ranges from Strongly Agree (5), Agree (4), Uncertain (3), Disagree (2) and Strongly Disagree (1)

| No. | Statement  | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| 1.  | Do you have a functioning ICT department?                        |   |   |   |   |   |
| 2.  | Has your company embraced automation as a way of doing business? |   |   |   |   |   |

**SECTION B: HOW KRA HAS IMPLEMENTED ITS INFORMATION AND COMMUNICATION TECHNOLOGY STRATEGY**

10. Kindly state your level of agreement or disagreement with the following statements by putting a tick against that which best describes your position.  
 The scale ranges from Strongly Agree (5), Agree (4), Uncertain (3), Disagree (2) and Strongly Disagree (1)

| No. | Statement   | 1 | 2 | 3 | 4 | 5 |
|-----|---|---|---|---|---|---|
| 1   | KRA has introduced online filling of VAT returns              |   |   |   |   |   |
| 2   | KRA has introduced online filling of Withholding Tax returns. |   |   |   |   |   |
| 3   | KRA has introduced online filling of Income Tax returns.      |   |   |   |   |   |
| 4   | KRA has introduced online filing of PAYE returns.             |   |   |   |   |   |
| 5   | KRA has brought about Modernisation of CSD.                   |   |   |   |   |   |

|    |   |  |  |  |  |  |
|----|---|--|--|--|--|--|
| 6  | Clearing agents and importers are now able to lodge their documents at any time and from any place in the world   |  |  |  |  |  |
| 7  | This Customs Oil Stock Information System (COSIS) has been introduced to manage the stock of all oil refined or imported into the country or for export.                      |  |  |  |  |  |
| 8  | The Cargo Management Information System (CAMIS) has been introduced to improve service delivery and reducing compliance costs by providing a one stop centre for taxpayers.   |  |  |  |  |  |
| 9  | The Electronic Cargo Tracking System (ECTS) has been introduced to track transit cargo from ports to borders to minimise diversion of transit cargo into the domestic market. |  |  |  |  |  |
| 10 | The Integrated Tax Management System (ITMS) has been introduced by KRA.   |  |  |  |  |  |

**SECTION C: THE IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON TAX COMPLIANCE**

- 11.** Kindly state your level of agreement or disagreement with the following statements by putting a tick against that which best describes your position.  
The scale ranges from Strongly Agree (5), Agree (4), Uncertain (3), Disagree (2) and Strongly Disagree (1)

| No. | Statement  | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| 1   | Using on-line payment shortens the tax payment process which saves on man-hour |   |   |   |   |   |
| 2   | Using on-line tax payment shortens the receipting                              |   |   |   |   |   |

|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
|   | process at KRA.  |  |  |  |  |  |
| 3 | On-line payment process improves efficiency in dealing with KRA          |  |  |  |  |  |
| 4 | On-line tax payment has improved tax compliance levels                   |  |  |  |  |  |
| 5 | On line tax payment has helped reduce calls to clarify payment of tax    |  |  |  |  |  |
| 6 | It is less expensive to file returns on-line than to file them manually. |  |  |  |  |  |
| 7 | Online tax payment has helped KRA in expanding its revenue base          |  |  |  |  |  |
| 8 | Online tax payment has helped KRA to control the collection process.     |  |  |  |  |  |
| 9 | Online tax payment has helped in efficient time utilization              |  |  |  |  |  |

**SECTION D: SUSTAINABILITY OF THE ADOPTION OF INFORMATION AND COMMUNICATION TECHNOLOGY AND TAX COMPLIANCE**

12. Kindly state your level of agreement or disagreement with the following statements by putting a tick against that which best describes your position.

The scale ranges from Strongly Agree (5), Agree (4), Uncertain (3), Disagree (2) and Strongly Disagree (1)

| No. | Statement   | 1 | 2 | 3 | 4 | 5 |
|-----|---|---|---|---|---|---|
| 1   | Are you satisfied with the performance of the automated system in revenue collection?                                 |   |   |   |   |   |
| 2   | Do you expect significant improvements with the automation system in the future?                                      |   |   |   |   |   |
| 3   | Do you believe that there are still outstanding issues to be addressed concerning automated system operations at KRA? |   |   |   |   |   |
| 4   | The online tax system is sustainable in future  |   |   |   |   |   |

|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| 5 | The online tax system will enhance tax compliance sustainably  |  |  |  |  |  |
| 6 | The improvements in technology will enhance sustainability of online tax systems in future   |  |  |  |  |  |
| 7 | In future the costs of running online tax systems will reduce and hence its sustainability   |  |  |  |  |  |
| 8 | Tax payer awareness is likely to improve in future as a result of new technology hence enhancing sustainability of online tax systems. |  |  |  |  |  |