

**THE ROLE OF ICT IN TAX ADMINISTRATION IN UGANDA:**

**A CASE OF UGANDA REVENUE AUTHORITY**

**By**

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**ORIGINAL CREATION STATEMENT:**

I commit to the truth of the statement below:

The dissertation is a product of my genuine research work conducted under the supervision of Dr. Karim Sessanga and Mr. Paddy Mugambe and is not published material that has been used to obtain a Master's degree or certificate at Uganda Management Institute or any other education establishment, except those that have been properly referenced.

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## APPROVAL

Upon submission of this research report by Barungi James Bob, I have done a thorough scrutiny of the dissertation entitled: The Role of ICT in Tax Administration in Uganda: A Case of Uganda Revenue Authority; I hereby submit and recommend this dissertation to the academic committee of Uganda Management Institute.

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## **DEDICATION**

I consign this piece of work to my wife Juliet Tino Barungi and Mother Joan Ndamurani because they have been a great driving force that has helped me reach this milestone in life. I couldn't be where I am without your continuous support. Thank you so much and may God richly bless you.

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## ACRONYMS

<b>ASYCUDA</b>	-	Automated System for Customs Data
<b>COTS</b>	-	Commercial Off-The-Shelf
<b>CRM</b>	-	Customer Relationship Management
<b>ERP</b>	-	Enterprise Resource Planning
<b>E-TAX</b>	-	Electronic taxation
<b>EU</b>	-	European Union
<b>ICT</b>	-	Information Communication and Technology
<b>ITD</b>	-	International Tax Dialogue
<b>MIS</b>	-	Management Information System
<b>OECD</b>	-	Organization for Economic Co-operation and Development
<b>SAD</b>	-	Single Administrative Document
<b>SMTs</b>	-	Social Media Technologies
<b>TIN</b>	-	Taxpayer Identification Number
<b>UNCTAD</b>	-	United Nations Conference on Trade and Development
<b>URA</b>	-	Uganda Revenue Authority
<b>USAID</b>	-	United States Agency for International Development
<b>UNDP</b>	-	United Nations Development Programme
<b>SAD</b>	-	Single Administrative Document

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## **ABSTRACT**

The study assessed the extent to which ICT influences Tax Administration using the Uganda Revenue Authority as a case study. The objectives of this study were; to assess the effect of general user ICTs on tax administration; to establish the effect of production integrating ICTs on tax administration and too assess the effect of market oriented ICTs on tax administration. It was a cross sectional survey study where quantitative approach was used. The statistical table of Krejcie and Morgan was used in determining the sample size of 86 from a population of 112 respondents. Simple random, purposive and stratified sampling techniques were used to select the study respondents. Questionnaire survey and documentary review methods of data collection were used in the study. It was found out that general user ICTs, production integrating ICTs and market oriented ICTs all had a significant positive influence on Tax Administration. The study therefore concludes that application of ICT plays a significant role in Tax Administration. The study further recommends that ICT use in tax administration should be encouraged and emphasized to ensure compliance; establishment of tax payer management information systems to cater for third party agents; URA should come up with other tax administration strategies that employ the accessible resources to reduce the level of non-compliance and to enhance the chances of detecting and penalize noncompliance. It was further recommended that more studies should be carried out in other departments of the URA and should emphasize assessing other factors that influence tax administration apart from ICT.



# **CHAPTER ONE**

## **INTRODUCTION**

### **1.0 Introduction**

According to the Asian Development Bank (2014), the use of ICT to administer tax is garnering growing attention from governments internationally considering its importance in raising the much needed revenues to finance development programs. Scarce manpower, rapid growth in the taxpayer base, and other related issues have presented numerous challenges to the tax administrations including limited coverage and monitoring of individual and non-individual tax payers in the taxpayer base coupled with high costs of compliance to tax obligations. Several countries have resorted to ICT adoption to address the aforementioned issues.

This chapter presented the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, hypothesis of the study, conceptual framework, significance of the study, scope of the study and operational definitions of terms and concepts.

### **1.1 Background to the Study**

This study focused on the role of ICT in tax administration in Uganda, a case of Uganda revenue authority. The presentation of the background was based on Amin (2005) which puts emphasis on discussing the historical, theoretical, conceptual and contextual background.

#### **1.1.1 Historical Background**

The 1960s ushered in the era of ICT systems in tax administration which were advanced in house, developed to support particular tax administration tasks, not coordinated throughout all the functional areas (Glenn & Jenkins, 2006). In the following years, ICT tax systems began to dominate tax administration functions and by the 1980s, the initial joined up systems appeared.

These were custom built solutions tailored to the needs of tax authorities. The development of these solutions had long difficult development cycles that required heavy expenditures (Margetts & Helen, 2009).

During the early 1990s, and 2000s, commercial off-the-shelf solutions became more common by incorporating customer relationship management and resource planning applications which received more attention from tax administrations as a solution to tax processes that were ineffective and inefficient in managing work flow (Arturo & Jacobs, 2000).

The changing technological landscape of ICT was poised to have significant influence on tax authorities through increasing productivity while saving time, money and offering customers better services. On the other side, changes in technology relegated some jobs in comparison to others (Silvani and Katherine, 2010).

The most common use of ICTs in administration of tax has been to support the critical functions of tax payer registration, filling returns and payments processing. The ICT systems were adopted to provide support for the aforementioned functions affording tax administrations the resources previously spent on the manual cumbersome processes for targeted tax payer risk management improving the facilitation of tax payers (USAID, 2014). Voluntary compliance improved by leaps and bounds through the electronic and interactive social media systems available to tax payers. Contemporary ICT systems such as the e tax system supported the core tax functions of tax payer registration, assessment & collections facilitating strategic decision making.(Richard, Bird and Jaime Vazquez-Caro, 2014).

In 2009, Uganda Revenue Authority introduced measures to improve tax compliance through a vigorous taxpayer education regime and ICT. In particular, URA introduced the new Tax Identification Numbers (TINs) to reduce the time taxpayers spend as they pay taxes and to assist

URA monitor the progress of revenue collection and compliance. Other measures include computerization of the Income tax act and URA operations in 1994, Electronic Tax system (e tax) and the introduction of small and medium taxpayers department in April 2000 (Njuba, 2002).

### **1.1.2 Theoretical Background**

The study was guided by the Van Horn and Van Meter theory (1975) and Winters Intergovernmental model (1975). In particular, winter's variables of the inter-governmental model took into consideration policy implementation and policy improvement standards like ICT adoption. Winter's intergovernmental model identified six factors that influence effective administration of tax at the URA. They include the character behind the policy formation process before the decision to be executed, the ICT, the organization communication, enforcement activity and response of the earmarked groups (Kagambirwe, 2014).

Van Meter & Van Horn (1975) further noted that effective tax administration involved the efforts by public and individuals directed to attaining set targets in policy implementation commitments. This encompasses both onetime endeavors to change decisions into working terms and ongoing attempts to reach the substantial changes mandated by policy decisions.

In line with Van Meter & Van Horn theory (1975), compliance with statutes' directives and goals leads to successful tax administration; attaining of specific success indicators for example cost of revenue collections, tax education, tax compliance and betterment in the public affairs around a program (Hill & Hupe, 2002). In this light, (Giacchino & Kakabadse (2003) asserted that successful execution of public policies depends on conclusive factors which include; decisions taken to locate political control for the initiative; existence of a robust project management team and dedication to policy decisions. These proposed theories validate earlier studies which put

emphasis on ICT implementation as a basis to ensure effective tax administration especially in developing countries.

The study was underpinned by the socio technical theory which originated from the works of Tavistock Institute, London in the 1950s and 1960s. The theory asserts that systems comprise of social and organizational elements as well as technical elements, and stresses that ICT systems require the concurrent configuration of technical, social and organizational features of the system.

The theory explained factors that lead to successful ICT adoption, implementation and deployment in tax administrations as ICT being tailored to the needs and characteristics of the users, redesigning business processes, developing a tax payer focused perspective among staff and active participation of users and clients including awareness drives of the ICT systems (ODPM, 2003).

### **1.1.3 Conceptual Background**

ICT is significant in improving the efficiency and effectiveness in revenue collection. This concurs with Won (2012)'s assertion that ICT use in tax administration supports the tax authority in improving tax collections and compliance through enabling it to reach out to taxpayers to widen the tax bracket, increase tax compliance, and enhances the efficiency of the revenue collection process resulting in to better services to taxpayers with a view to increasing voluntary compliance.

According to Roller & Waverman (2011), ICT is a crucial element for tax administration. It's an important element of the budget lines for revenue administrations, though ICT costs as a percent of total budget expenditure are comparatively low in developing countries. ICT's provide online taxpayer services, which can extra ordinarily reduce administration costs and compliance costs to the tax payer.

The electronic filing systems availability and adoption rate has increased among many tax administrations in low income countries despite the challenges that hinder their usage such as the restricted internet access for tax payers (Nyambo, 2009). It's believed that ICT usage will continue expanding to more tax heads including corporate and VAT.

The E-tax system is broadly used in tax payer registration, filling, assessment and information dissemination to tax payers (ITD, 2010). The system encompasses self-service modules and can be integrated in other organizational enterprise systems to provide clients with services such as tax account profile and refund status. The E-tax systems offer additional tax administration functionalities such as education modules, electronic registration modules, communication modules which reduce costs of compliance by tax payers (Suluo, 2003).

The Asian Development Bank report (2014) noted that electronic tax payer services can improve nearly every aspect of tax administration for example accounts control, authentication, revenue and debt collection, and internal compliance with regulations. Tax administrations are therefore moved to introduce cutting edge technologies which lead to greater use of ICT in taxpayer service delivery. Tax administrations have increasingly improved their performance through management information systems that can reconcile and analyze huge amounts of data related to tax payers. These systems foster information exchange across the different functional business units for example between arrears and audit sections, legal and enforcement sections, headquarters and other regional stations (Weigel & Waldburger, 2004).

In a bid to ensure effective tax administration, several tax authorities have confirmed how it is feasible and crucial to deploy and make good use of social media technologies (SMTs), Li & Bern off (2009) recognize and describe what they humorously discern as a regular reaction, to the concept of SMTs . They noted that SMT are usually affiliated with a few specific platforms such

as Face book, Twitter and YouTube making it easy to liken SMT to a given technology-platform. They added that, SMTs provide revenue bodies with probable value if used internally to disseminate information among staff through forums like blogs, Facebook and twitter.

#### **1.1.4 Contextual Background**

Currently, a common goal of the URA is the aspiration to increase staff and taxpayers uptake of ICT preferably in a manner that minimizes the demand on other costly channels of service delivery such as phone inquiries. In this context, the URA normally preferred the use of ICT in enhancing tax administrative performance and this has led to substantial improvements in tax administration (Tentena, 2015). The URA created an ICT usage platform in all tax operations and has recorded remarkable achievements like faster administrative processes, real time monitoring of taxpayers and their tax obligations as well as increased tax collections (Njuba, 2002). Additionally, Mugisha, (2001) confirms that ICT use in administering tax improves access to authentic tax payer information required for good planning, implementation and monitoring and evaluation key in development.

Ideally, the URA management migrated to ASYCUDA World which consists of several modules including declaration processing, accounting for payment of taxes, communication, reporting, risk management etc. which is an improvement compared to Asycuda version 2.7 which did not provide the warehousing and risk management module; to improve revenue administration , collection and provide seamless tax payer services at any time reducing costs of compliance since manual systems could not match the desired demand of its mandate (URA Corporate Plan 2011-2015). In addition the ASYCUDA speeds up customs clearance and eases procedures through computerization and reduces the work required to produce statistical information. The Government

has gained in terms of better administration, higher revenue and reliable and relevant statistical information.

URA has shown encouraging trends in the application of ICT to promote domestic revenue mobilization growth, however enormous challenges still remain (World Bank, 2002). High taxes born by largely the formal sector, which encourages tax evasion and other gaps which limit tax revenue collection. Complex tax legislation which is often misunderstood even by the educated tax payers and discretionary powers of tax officials which leads to corruption, weak administrative systems and organizational capacities. The aforementioned reasons coupled with low education levels have in the general population have exacerbated the levels of non-compliance account thus the low revenue mobilization.

On the actual note, the URA put in place a series of tax reforms to address the fiscal challenges affecting its operation. Uganda's fiscal policy center of attention has been to improve tax administration and tax revenue mobilization through ICT as core means of stimulating economic growth in the country (Njuba, 2002). This study will therefore seeks to critically examine the role of ICT in tax administration and highlight how ICT helps URA in streamlining provision of services.

## **1.2 Statement of the Problem**

The significance of ICT use in tax administration is gaining more attention from Revenue Authorities because of the role it plays in revenue mobilization to fund the countries development programs (Shekidele, 2007). Small manpower, complex legislation, corruption, weak administrative systems, limited coverage of businesses and rapid growth in taxpayer base are among the numerous challenges to the tax authorities that have led to the uptake of ICT as a solution to the aforementioned pains.

In Uganda, the adoption of ICT has featured as a key element in tax administration reforms undertaken by the URA with 90% of the business processes being reengineered to support electronic registration, assessment and payment of taxes through platforms like pay way has had a significant impact on tax administration by improving the revenue collection process and reducing tax payers visits to URA offices by 90% hence encouraging voluntary compliance (Kabafunzaki, 2010).

However, despite the efforts undertaken, the problem remains that ICT adoption, implementation and use remains very costly with limited accessibility for envisaged users. In addition, the ICT innovations are usually complex to use requiring relevant technological skills which are limited in general users of ICTs thus worsening tax compliance levels (Mugisha, 2001). Therefore, it is within this context that the study sought to examine the role of ICT in tax administration in the Uganda Revenue Authority.

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

The purpose of the study was to examine the role of ICT in tax administration in Uganda Revenue Authority.

### **1.4 Objectives of the Study**

The study sought to achieve the following objectives;

- a) To assess the effect of general user ICTs on tax administration in Uganda.
- b) To establish the effect of production integrating ICTs on tax administration in Uganda Revenue Authority.
- c) To assess the effect of market oriented ICTs on tax administration in Uganda Revenue Authority.



### **1.5 Research Questions**

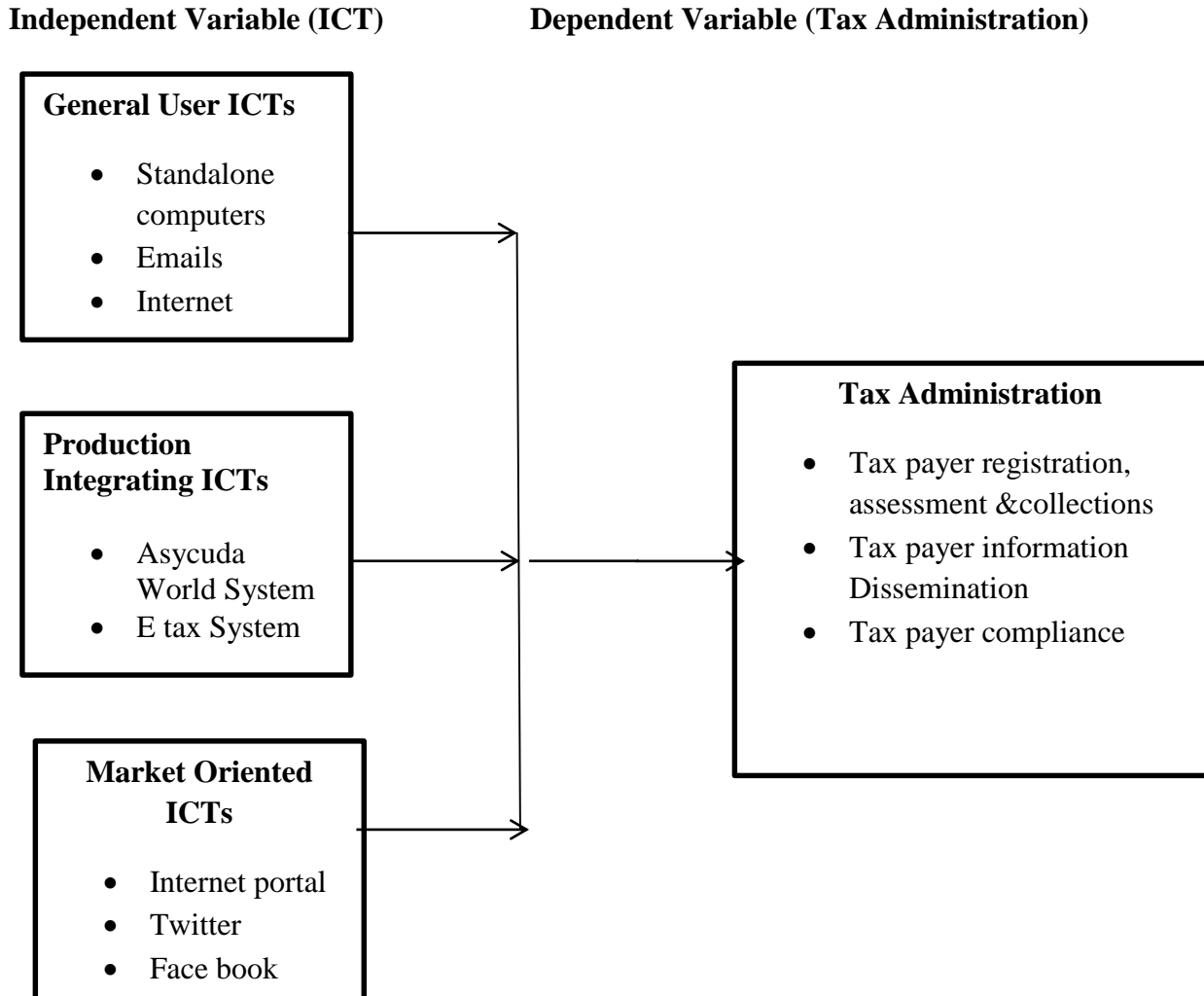
- a) What is the effect of general user ICTs on tax administration in Uganda Revenue Authority?
- b) What is the effect of production integrating ICTs on tax administration in Uganda Revenue Authority?
- c) What is the effect of market oriented ICTs on tax administration in Uganda Revenue Authority?

### **1.6 Research Hypothesis**

- a) General user ICTs have a significant effect on tax administration in Uganda Revenue Authority.
- b) Production integrating ICTs have a significant effect on tax administration in Uganda Revenue authority.
- c) Market oriented ICTs have a significant effect on tax administration in Uganda revenue authority.

## 1.7 Conceptual Framework

Figure 1: Conceptual framework showing the role of ICT in tax administration at URA.



**Source:** Adopted from literature; Huber, (2001) and Armstrong (2006); (Human resource management practices) and modified by the researcher.

In the conceptual framework above, it was stated that ICTs, within URA are the independent variables while tax administration is the dependent variable. This means that the adoption of ICT on routine basis encourages and promotes efficiency during tax administration. This whole relationship was affected by the General User ICTs, Production Integrating ICTs and Market

Oriented ICTs, since they help improve tax assessment, tax education and tax compliance thus positively influencing tax administration.

## **1.8 Scope of the Study**

### **1.8.1 Geographical Scope**

This study was undertaken in the 07 URA Divisions (i.e. Field Services, Trade, Compliance and Business analysis, Enforcement, Customs Audit, Service Management and Large Taxpayers Office). One station in Kampala was selected from every division for this research. The stations were chosen because they are representative of the entire organization.

### **1.8.2 Content Scope**

The study sought to examine the role of ICT in tax administration, a case of URA.

### **1.8.3 Time Scope**

The period under study spanned from 2006– 2016 which was representative of the journey of ICT use in the URA.

## **1.9 Significance of the Study**

The study may be significant to several stakeholders:

- a) The study may be important to the URA especially to understand the loopholes in the use of ICT and come up with related improvement strategies.
- b) The findings of this study may be handy in generating practical knowledge in ICT processes of the URA which would in turn assist policy makers and implementers in designing more meaningful intervention strategies that would enhance better use of information systems
- c) This study may act as bedrock for other government institutions to apply ICT use as this would promote quality and productivity in all sectors of the economy.

- d) Finally, the study may also help the URA to design robust ICT programmes which would enhance tax collection and compliance in Uganda

### **1.10 Operational Definition of Terms and Concepts**

**ASYCUDA;** Refers to a computerized system designed with the aim of facilitating administration of customs operations (URA Records, 2006).

**E-TAX;** Refers to a system for processing domestic taxes in URA.

**Tax;** An amount of money levied by the URA and used to run the government, country, or a municipality/ local government.

**Tax Evasion;** Refers to an act by a taxpayer to reduce their tax obligations illegally.

**Stakeholders;** Refer to anyone with interest in a country's ICT tax system.

**General User ICTs;** Refers to stand alone computers, emails and internet used to create, store and disseminate information.

**Production Integration ICTs;** It's a tax portal at the URA that makes it convenient to access account information, schedule payments, view transaction history as well as file returns electronically (URA records, 2016).

**Market Oriented ICTs;** Refers to Social media moderated tools that enable people and companies to generate, share, or exchange information in virtual networks. They include Face book, Twitter, web portal and others.

**Tax Administration;** refers to the tax payer registration, assessment & collections, information dissemination, and Tax payer compliance (Glenn & Jenkins, 2006).

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

The chapter highlighted a review of literature regarding ICT and tax administration. Mugenda and Mugenda (1999) reported that literature review involves the methodical identification, document examination to find information in relation to the research problem being investigated. Information about ICT and tax administration is extracted from different journals, online sources, textbooks, newsletters among other sources. The extracted information was related to the study that specifically sought to understand the role of ICT in tax administration.

#### **2.1 Theoretical Review**

##### **2.1.1 Van Horn and Van Meter Theory**

Van Meter & Van Horn (1975) further noted that effective tax administration involved the efforts by public and individuals directed to attaining set targets in policy implementation commitments. This encompasses both onetime endeavors to change decisions into working terms and ongoing attempts to reach the substantial changes mandated by policy decisions. The study was guided by the Van Horn and Van Meter theory (1975) and Winters Intergovernmental Model which considers policy improvement standards like ICT and its objectives. Winter's intergovernmental model pin points six factors that affect effective administration at the URA. They include the character behind the policy formation process before the decision to be executed, the ICT, the organization communication, enforcement activity and response of the earmarked groups.

Van Meter & Van Horn (1975) further note that effective tax administration involves the efforts by public and private individuals aimed at the attaining the set targets in policy implementation

commitments. This encompasses both onetime endeavors to change decisions into working terms and ongoing attempts to reach the substantial changes mandated by policy decisions.

### **2.1.2 Socio Technical Theory**

The study was also underpinned by the socio technical theory which emerged from the works of Tavistock Institute, London in the 1950s and 1960s. The theory states that systems consist of social, technical and organizational elements which require concurrent alignment for successful ICT systems operationalization.

The theory identifies elements that lead to successful ICT uptake and implementation in tax administrations such as ICT being tailored to the needs and characteristics of the users, redesigning business processes, developing a tax payer focused perspective among staff and active participation of users and clients including awareness drives of the ICT systems (ODPM, 2003).

### **2.1.3 Winter's Intergovernmental Model**

The study was also guided by intergovernmental model because it attempts to combine key variables of the study. Most importantly, winter's intergovernmental model appreciates the views of the bottom-up approach thus providing a clear analysis about implementation of tax systems at URA. This enabled the researcher focus on lower staff by looking at generally the results, views and challenges while implementing these policies.

In line with Van Meter & Van Horn theory (1975) and the Social technical theory, successful tax administration involves compliance with specific objectives and goals such as cost of revenue collections, tax education, tax compliance and improvement in the project (Hill & Hupe, 2002).

These proposed theories validate earlier studies which put emphasis on ICT implementation as a basis to ensure effective tax administration especially in developing countries.

## **2.2 Related Literature**

According to the UNCTAD (2012), ASYCUDA avails a comprehensive declaration module based on the Single Administrative Document. The SAD was advanced by the EU and is regarded an 'International Standard' by the World Customs Organization and it comprises of all customs procedures and regimes including. In recent customs practices, customs officers declare entries on behalf of the importers. They rather perform the checks for the declared entries since ASYCUDA World is accessed over a network connection. The system has been built onto a web page in Uganda. Users need to acquire connections with a minimum speed of 528 kbps and take note of firewall settings on their private networks to fit the Asycuda World access requirements.

### **2.2.1 General User ICTs and Tax Administration**

URA has a focal ICT department housed at the headquarters that gives assistance to general ICT users in the entire organization to try and realize its goal of enhancing revenue mobilization and voluntary compliance by taxpayers (Atika, 2012). General user ICTs aid the running of complex processes in a cost effective way (Hollingum, 2006). General user ICTs such as computers, emails and internet in tax administration allow information exchange, business analysis, tax computation, and production risk management reports (Moore, 1999; Holniker, 2005; Partch 1997).

Many countries believe that increased use of computers can solve supervisory and governance problems, such as organizational inefficiencies, and convey fair and efficient services to the public (Crede, 1998). Additionally, use of computers is often seen as a retort to the insufficiency in government systems for human capital, expenditure control, and general management (Sykesville, 2003).



The UNDP Human Development report (2015) estimated the number of households in developed countries with internet access at 81% in contrast to 34% in developing countries and 7% in the least developed countries. The report further argues that at least 140million new jobs can be created generating 2.2 trillion USD. If internet access increased to the level of developed countries. These arguments mirror the opportunities that internet offers in the millennial age.

General user ICTS such as internet were increasingly known as business enablers in the mid-90s. The public sector started leveraging internet and IT use to achieve unanticipated levels of efficiency in provision of services. The way people work and make changes in business has been affected by internet usage in view of the limitless knowledge that is available on the web.

According to Tentena (2015), general user ICTs facilitate bench marking from model tax regimes and tax administrations. They further note that, general user ICTs aid records keeping, real time access to the records, quick return processing which result in to efficiency in tax administration.

ICT usage in the URA proves to be a lethal approach in meeting and exceeding the departmental set revenue targets.

On the contrary, Gideon and Alouis (2013) argued that the use of ICT which includes hardware and software technologies achieves its intended objectives only if the implementation process is managed by professional staff and encompassed in the organization work processes. The research gap identified here is that if the hardware and software technology in tax administration is handled by incompetent, inexperienced staff, it may cause inefficiencies in tax administration thus more tax evasion problems.

### **2.2.2 Production Integrated ICTs and Tax Administration**

According to Nkote & Luwugge (2010), IT tax systems such as Asycuda and E tax that belong to the production integrated ICTs refer to tax administration systems that are designed to manage the core tax administration processes such as registration, assessments etc. These aim to decrease the cost of doing business, close revenue leakage gaps and remove the inefficiencies associated to tax payment. IT tax systems are part of the revenue mobilization improvements implemented by URA with an intended outcome to enhance tax mobilization and thus the gradual increase in tax revenues contributing to the development of Uganda (Gekonge and Atambo, 2016).

Production Integrated ICTs such the E-tax service aid tax mobilization initiatives that encircle record management through systems (Abanumy, Al-Badi & Mayhew, 2005). E-tax services support tax returns filling and assessment; enable payment of taxes and refund processing via internet. Electronic tax payer services are used to educate tax administration stakeholders on changes in the tax system. Therefore, the overall purpose of e-taxation is to overhaul cumbersome manual with collaborative, efficient, process-driven and secure online delivery (Bagozzi, 2007).

Mugisha, (2001) argued that the use of production integrated ICTs improves just in time access to tax information which is a crucial for management decision making as well as monitoring and evaluation of outcome of decisions taken: in line with this argument, Suluo, (2013) observes that, ICT use leads to organization growth; and yet Crede (2008) advances the argument that ICT is capable of enhancing efficiency and generating lower cost outputs with the limited inputs..

Nyambo (2009) noted that ICT use is extremely valuable to large taxpayer departments in both developed and developing countries. This is in line with (Temu, 2015) who asserted that ICT plays a critical role in keeping tax records , retrieval of such records, swift returns processing which

together improve the tax revenue mobilization by decreasing the time taken to share and exchange information with taxpayers.

In Uganda, Akello (2014) reported on challenges like unstable power supply and internet outages but says that URA has put in place measures to ensure business continuity at all times by ensuring the hosting of the E-Tax system on a central server shielding it from the power and internet outages experienced in some parts of the country. Lumu (2011) noted that the e-tax payment system is popular in large companies despite the ease and simplicity in its usage. The small enterprises are usually limited in terms of ICT infrastructure investments thus making it hard to fully systems. In the same vein, there are challenges in the interoperability of tax administration systems. Even though majority of the users are increasing valuing the electronic systems of URA, the ICT systems are still faced with challenges such as system failure, delayed user assistance for customers; minimal ICT penetration in Uganda; inadequate sensitization of taxpayers on use of online taxation systems; system downtime when faced with many transactions, limited user system trainings; a pessimistic attitude towards the ICT systems mainly by the small businesses that perceive the systems as being tailored for large business as opposed to small businesses. The above challenges have caused the slow uptake and use of electronic tax services.

### **2.2.3 Market Oriented ICTs and Tax Administration**

According to Smith & Wollan (2011) Market Oriented ICTs such are the current and customized outlook of the Internet. Their appearance and growth in the technology ushers in new cutting edge communication solutions that are vital in addressing the information disseminations gaps with the ever increasing number of tax payers. Additionally, tax administrations are expanding their reach to the young generation tax payers through social media platforms such as twitter and Facebook.

The Organization for Economic Co-operation and Development, OECD, (2011) study on Market Oriented ICTs and tax administration highlights that the use of social media platforms to administer taxes is still relatively low despite their ability to enhance conversation between the taxpayers and the tax administrations. It also highlights the benefit of the real-time interaction with tax payers to enhance the image of tax administration bodies.

Li & Bernoff (2008) asserted that the Australian taxation office uses twitter to gauge real-time community attitudes to its initiatives and policies. They add that while observing community discussions, it allows the government to go ahead and take charge of tax payers' concerns before they arise. Government administrations can use social media to conduct major employee engagement exercises to develop strategic direction for the future of the revenue collection authorities.

Greenwood et al. (2008) noted that, given the comparatively low experience of revenue administrations with social media platforms, it appears immensely positive; they argue that, social media platforms offer virtually cost free online marketing; enable consistent dialogue; aid the recruitment of users for various tax body ICT innovations; and they can provide avenues for image building to revenue administrations. On the other hand, like any recent technology innovations, there are down sides to be handled for example provision of deceptive information; even though, these appear controlled by adopting a properly harmonized strategy built on the reasoning of starting small, monitoring and evaluating all correspondences.

According to Shrawan, Suresh, Chandrakant & Baswaraj (2009) the justification for social media platform establishment is hinged on the envisaged benefits from utilizing them for the tax body news, securing support for the new tax body services and managing daily tax administration

operations. Proponents for social media technologies adoption argue that it's less costly in terms of investments required to have them operational.

#### **2.2.4 Summary of Literature Review**

The literature reviewed above, was a clear testimony that many 21<sup>st</sup> century scholars have attempted to conduct studies on subject under study. Besides, the literature reviewed seemed to lean more on the western countries and yet the researcher hoped to fill the inadequacies of the available information from African perspective. According to the literature reviewed, it has been shown that ICT use makes a significant contribution to the overall effectiveness of tax administration.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter comprises of the research design, area of study, study population, sample size and selection strategies. It also presents the procedure used in data collection, data analysis and presentation.

#### **3.1 Research Design**

The study adopted a cross sectional survey design which according to Mugenda & Mugenda (1999) is suitable for studies aimed at collecting data from the respondents without a need to make a follow up on the respondents. Data was collected using questionnaires. Closed ended questionnaires were used to generate data. A quantitative approach was also used. The quantitative analysis facilitated a statistical description of variables and testing of relationships among them, while the qualitative facilitated the establishment of casual relationships among the study variables, aiding a deeper understanding of the quantitative findings.

#### **3.2 Area of Study**

The study was undertaken in the 07 URA Divisions (i.e. Field Services, Trade, Compliance and Business analysis, Enforcement, Customs Audit, Service Management and Large Taxpayers Office). A single station with in Kampala was selected from every division for this research. The stations were chosen because they are representative of the entire URA. Emphasis was placed on the role of ICT in tax administration in URA.

### **3.3 Study Population**

The study population comprised assistant commissioners, managers, supervisors and officers in URA. This population enabled the researcher to gather enough information concerning the study objectives. URA has a total number of 1,621 staff in the whole country and 1,134 staff in Kampala (Human Resource Report, 2016). This is because over 70% of the staff establishment is based in Kampala stations. Therefore the study targeted and considered 10% (112) of the total staff population in Kampala stations.

### **3.4 Determination of Sample Size**

The sample size was determined using the statistical table of Krejcie and Morgan (1970) and this means that, basing on the target population of 112 staff in Kampala, a sample of 86 respondents was selected. These were selected using purposive and stratified sampling for the Staff and sample random sampling for managers, Supervisors and officers. This ensured authenticity and originality in data collection. The researcher used a sample of the population for this study due to large numbers, financial, logistical and geographical limitations.

**Table 1: Showing the Study Population, Sample Size and Sampling Techniques**

<b>Category</b>	<b>Study Population</b>	<b>Sample Size</b>	<b>Sampling Techniques</b>
Assistant Commissioners	03	2	Purposive sampling
Managers	11	4	Stratified random sampling
Supervisors	18	14	Simple random sampling
Officers	80	60	Simple random sampling
<b>Total</b>	<b>112</b>	<b>86</b>	

*Source: Primary Data, Human Resource report (2016) and Krejcie & Morgan (1970).*

### **3.5 Sampling Techniques and Procedure**

The study employed three sampling techniques that are simple random, Purposive and stratified sampling. Simple random sampling was used to select officers and supervisors while the assistant commissioners were selected using purposive sampling. Stratified sampling was used to select managers.

#### **3.5.1 Stratified Random Sampling**

To cater for the heterogeneous population, the study employed a stratified sampling technique to pick samples from the different managers employed in URA.

#### **3.5.2 Purposive Sampling**

The study used purposive sampling to select assistant commissioners since they possess strategic experiences on ICT adoption.



### **3.5.3 Simple Random Sampling**

The technique involved the researcher selecting a sample without bias from a target population of supervisors and officer staff category.

## **3.6 Data Collection Methods**

These refer to a number of interrelated activities aimed at gathering information to answer the research questions (Creswell, 2007). The study used a survey method of data collection through self-administered questionnaires. In addition documentary review was also used to gather data.

### **3.6.1 Questionnaires**

The researcher used a questionnaire which according to Routledge (2004) is practical, ensures collection of information from a sizeable amount of people and can be conducted by the researcher with a negligible effect to its reliability and validity. The researcher used questionnaires to collect data from the assistant commissioners, managers, supervisors, officers and other employees in URA. The method was chosen because the target population was largely literate and it also offered great anonymity. The questionnaires comprised closed ended items which according to Patton (2002) yields comprehensive responses about people's experiences and helps in collecting much data which in turn prevents the assortment of vague and 'off track' information. However, the likert scale, one of the most widely and successfully used attitudes to measure a topic (Amin, 2005) was applied. On a scale of 1-5, respondents were asked to indicate the extent to which they agree on the statements that were provided.

### **3.6.2 Documentary Review**

Documentary analysis involved reviewing existing published and unpublished information relating to the role of ICT in tax administration. The researcher made the use of the URA records, magazines and reports on the subject matter under investigation.

## **3.7 Validity and Reliability of Data Collection instruments**

### **3.7.1 Validity**

Copies of the questionnaires were reviewed by the research supervisors to ensure that the instrument measures what it is supposed to measure. Further, a content validity index (C.V.I) was used to determine the degree to which the questionnaire measured what is was supposed to measure. The number of items perceived relevant over the number of items presented informed our C.V.I. According to Amin (2005), an instrument to be acceptable as valid, the average index should be 0.7 or above.

### **3.7.2 Reliability**

Reliability refers to the consistency or dependability of measuring instrument (Leavy, 2004). The researcher pre-tested the instrument to a pilot sample of 10 respondents, to help in detecting any research methodology problems. The scores of the responses were correlated using Cronbach's alpha coefficient.

According to SPSS Statistics, Cronbach's alpha can be written as a function of the number of test items and the average inter-correlation among the items. Below, for conceptual purposes, the formula for the standardized Cronbach's alpha is shown:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

N is equal to the number of items,  $\bar{c}$  is the average inter-item covariance among the items and  $\bar{v}$  equals the average variance. The scores of the responses were correlated using Cronbach's alpha coefficient as shown in table 2 below.

**Table 2: Validity and Reliability of instruments**

<b>Variable</b>	<b>Cronbach's Alpha</b>	<b>Number of Items</b>
General user ICTs	0.84	6
Production integrating ICTs	0.752	7
Market oriented ICTs	0.752	7
Tax administration	0.77	5
Total alpha Cronbach's	3.032	
<b>Cronbach's alpha coefficient</b>	<b>Total alpha Cronbach's divided by no. of variables = <math>3.032 / 4 = 0.778</math></b>	

**Source: Primary Data (*pre-test Data*)**

The overall reliability of the instrument measured by the instruments Cronbach's alpha coefficient, the total alpha Cronbach's divided by the number of variables was 0.778, well within the range recommended by Cohen, Morrison and Manion (2009).

### **3.8 Measurement of Variables**

The variables were measured by operationally defining the concepts that is; questionnaires were designed to ask for responses about ICT use and tax administration. These were translated into observable and measurable elements so that an index of concepts is developed. A five likert scale (strongly agree, agree, not sure, disagree and strongly disagree) was used to measure both

independent (ID) and dependent (DV) variables. Mugenda and Mugenda (1999) noted that this scale is suitable for measuring perceptions, attitudes, values and behavior that relates to administration.

### **3.9 Procedure for Data Collection**

Trochim (2005) defined research procedure as the brief description of the overall sequence of steps to be followed during the study. Any procedures followed to assure that participants are protected and informed of how their confidentiality is protected. The researcher obtained an introductory letter from the Uganda Management Institute that permitted him to conduct the study. The letter was presented to URA for authorization and acceptance to undertake the research across major divisions in URA. The researcher then delivered the questionnaires with the help of research assistants after getting the authorization. The instruments were then collected and compiled for data analysis, after preliminary review of the results; the researcher updated the data collection tools to ensure clarity of questions asked and probe into areas where findings were not consistent with the study hypothesis. This was done to enable the researcher to probe deeper into some of the constructs in order to make meaningful conclusions.

### **3.10 Data Quality Control**

This refers to the measures the study institutes to eliminate bias and ensure accuracy and collection of relevant data. Data quality control lays emphasis on avoiding mistakes during research and ensuring quality of data. The researcher with the help of the supervisor validated the questions to ensure correctness.

### **3.11 Data Analysis**

According to Fisher, et al (2010), data analysis deals with sorting and shifting of the data collected in order to make sense out of it. It is a process of bringing order into data collected in ways which enabled the researcher to make sense of the data to help answer the research questions and to meet the objectives of the study.

#### **3.11.1 Analysis of Quantitative Data**

Data was coded and analyzed using Statistical Package for Social Science Program (SPSS). This method was preferred because it is modern, faster, simpler tool for analysis of data. Measures of central tendencies were used to determine the scores while correlation analysis was used to determine the nature and strength of the relationship between variables. Pearson's rank correlation coefficient was used to measure the level of association between the variables. Data was analyzed and reported in terms of frequencies and percentages for each sub dimension and was presented in tables. This enabled the researcher to make comparisons and draw conclusions regarding the relationship between ICT and tax administration in URA.

### **3.12 Ethical Considerations**

According to Hart (2005), ethics are concerned with the attempt to formulate codes and principles of moral behavior. The study was guided by the ethical consideration that confined to confidentiality, privacy, informed consent and honesty of the respondents to participate in the study.

#### **3.12.1 Confidentiality**

The researcher also safeguarded confidentiality of subjects through the protection of their identities and ensuring security of data during and after completion of the research. He also acknowledged

the aid of persons who helped in one way or another in the research process and maintain independence from possible attempts of bias.

### **3.12.2 Informed Consent**

The researcher first presented an introductory letter and an identity card to the target population requesting for maximum participation and cooperation as the study was purposely academic.

### **3.12.3 Privacy**

The researcher ensured privacy by assuring respondents that the information produced is only to be kept for academic purposes and their identity was not to be disclosed.

### **3.12.4 Honesty**

The researcher practiced intellectual honesty by acknowledging information sources that were used.

## CHAPTER FOUR

### PRESENTATION OF FINDINGS AND DISCUSSION OF RESULTS

#### 4.0 Introduction

This chapter presents detailed analysis and discussion of study findings. These are broken into three themes namely: Effect of general user ICTs on tax administration, effect of production integrating ICTs on tax administration and the effect of market oriented ICTs on tax administration in Uganda Revenue Authority.

#### 4.1 Response Rate

This shows the percentage of respondents who were able to give responses out of the total eighty six (86) respondents that were involved in the study. Out of the 86 respondents that were targeted, 67 responded to the study as shown in table 4.1 below

**Table 3: Showing the Response Rate**

<b>Category of Respondents</b>	<b>Targeted Respondents</b>	<b>Number of Respondents that Responded</b>	<b>%age of Response Rate</b>
Assistant Commissioners	2	2	2.3%
Managers	4	3	3.5%
Supervisors	14	10	11.6%
Officers	60	52	60.5%
<b>Total</b>	<b>86</b>	<b>67</b>	<b>77.9%</b>

Source: *Primary Data*

Table 3 indicates that out of eighty six (86) targeted respondents, sixty seven (67) gave their responses leading to 77.9% response rate. According to Kombo and Tromp (2009) a response rate of slightly above 52% is high enough for the research study. The high response rate of 77.9% was achieved because the researcher himself administered the questionnaires and interviewed the key respondents.

#### 4.2 Demographics of Respondents

The respondents' profile was analysed in terms of sex of the respondent, Age Group, Marital status, Education Level and sector and Working experience in URA.

**Table 4: Showing the demographics of the respondents**

Variable	Categories	Frequency	Valid Percentage
<b>Sex of the respondent</b>	Male	35	52.2
	Female	32	47.8
<b>Age Group</b>	20 - 30 yrs	27	40.3
	31-40 yrs	32	47.8
	40 yrs and above	8	11.9
<b>Marital status</b>	Single	30	44.8
	Married	36	53.7
	Divorced	1	1.5
<b>Education Level</b>	Masters	28	41.8
	Post Graduate	7	10.4
	Degree	32	47.8
	1-2 years	10	14.9



<b>Working experience in URA</b>	3-4 years	21	31.3
	5-6 years	13	19.4
	7 and above	23	34.3

**Source: *Primary Data***

#### **4.2.1 Sex of the respondent**

Out of the 67 respondents, 35 were male while 32 were female representing a fifty two percent (52%) and forty eight percent (48%) share respectively as illustrated in table 4 above. This shows that men were more in positions of authority than women in the customs department. However the findings show that the percentages of both men and women are not much varying which indicates that both participated in the study, therefore the information presented is reliable as the findings on ICT use and Tax administration were from both males and females views.

#### **4.2.2 Age Group**

47.8% of the respondents were in the age group of 31-40 years. This category was followed by respondents in the age group of 20 - 30 years who covered 40.3% and 11.9 % were in the category of 40 years and above. These results could be explained by URA's graduate trainee program that limits the age of applicants to a category of 28-38 years. In addition the representation of the respondents increased with the age of the respondents and this could have been due to the fact that the researcher focussed more on the mature and experienced people who could be equipped with enough information about the study variables.

#### **4.2.3 Marital Status**

Respondents were asked to indicate their marital status; that's whether single, married, widowed, divorced or separated or any other form of marital status they belonged too. The study results show that 54% of the respondents were married, 45% single and 1% divorced. This therefore indicates

that the researcher was able to gather information from different respondents with diverse marital status, hence helping the researcher to analyse the study on ICT use and tax administration in the customs department.

#### **4.2.4 Education Level**

Respondents were asked to indicate the highest level of education they had attained, the study results show that 42% of the respondents were master's holders, 10% post graduate and 48% were degree holders. This therefore shows that respondents that got involved in the study were literate enough which could indicate that they were able to give reliable information to this study.

#### **4.2.5 Working Experience in URA**

During data collection, the respondents were asked to tell their years of service (experience) in the organisation. As presented in table 4 above, the study results shows that 15% of the respondents had a working experience of 1-2 years, 31% had 3-4 years, 20% had 5-6 years and lastly 34% had 7 years and above working experience. Those who serve for more years end up being retained by the organization and that's why the respondents who had stayed for more than 7 years were very many.

### 4.3 General User ICTs

**Table 5: Showing Effect of General User ICTs on Tax Administration**

Variable	Categories (In Percentage)				
	strongly agree	agree	Not sure	disagree	Strongly disagree
Access to computer	79.1	16.4	0	0	4.5
Internet access to computer.	67.2	25.4	1.5	1.5	4.5
Active URA email address	83.6	11.9	0	0	4.5
I process transactions using a computer	68.7	19.4	3.0	4.5	4.5
I use internet to learn, communicate and research	52.2	37.3	1.5	1.5	7.5
I require advanced knowledge to use Computers, Email and internet	11.9	34.3	9.0	28.4	16.4

Source: *Primary Data*

#### 4.3.1 Access to Computer

The findings in table 5 above show that majority 95.5% of the respondents had access to a computer while 4.5% of the respondents did not have access to a computer. However the findings

show varying percentages between those that have access to computer and those who don't have and this means that there is a positive significant effect of general user ICTs on tax administration in the Uganda Revenue Authority.

#### **4.3.2 Internet Access to Computer**

The study results show that 93% of respondents agreed to have access to internet on their computers, 1% was not sure while 6% claimed they didn't have internet access. The highest percentage of those that have access to internet could mean that there is effectiveness, efficiency and on time service delivery in the organisation.

#### **4.3.3 Active Mail Address**

The study findings show that 96% of respondents agreed to have access to an email address and 4% said they did not have email access. This could mean that there is too much privacy and authenticity in service provision in the URA.

#### **4.3.4 Process Transactions Using a Computer**

As presented in table 5 above, 88% of the respondents agreed to processing transactions using their computers, 3% were not sure and 9% disagreed to processing transactions using their computers. The highest percentages of those that transact using computers show that there's accuracy and convenience in service delivery in the URA.

#### **4.3.5 I require advanced knowledge to use computers, emails and internet.**

The findings further revealed that 46% of the respondents agreed to requiring advanced knowledge to use computers, emails and internet, 9% were not sure while 45% disagreed to the statement.

#### **4.3.6 Testing Hypothesis: General User ICTs Has a Significant Effect on Tax Administration**

The first objective of the study was an alternative hypothesis which stated that General user ICTs has a significant effect on tax administration in Uganda Revenue Authority.

In order to establish answers to the research hypothesis, the researcher used Pearson product moment correlation coefficient and the results were presented in table 6 below.

**Table 6: Pearson Product Moment Correlation Coefficients for the Influence of General User ICTs and Tax Administration**

Correlations		General user ICTs	Tax administration
General user ICTs	Pearson Correlation	1	.611(**)
	Sig. (2-tailed)		.001
	N	67	65
Tax administration	Pearson Correlation	.611(**)	1
	Sig. (2-tailed)	.001	
	N	65	65

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

The results in table 6 above show that, there is a positive (0.611) and significant relationship between general user ICTs and tax administration. This relationship is significant at 1 percent.

According to Sarantakos (2005) the level of significance ranges from 0 to 1 and that a significant level of 0 means that there is a very high probability that the tested results are perfect with 0% risk of making a conclusion by rejecting the hypothesis that would have been accepted. This therefore means that there's only 0.1% risk of making a mistake by accepting the hypothesis that General user ICTs have a significant effect on tax administration in Uganda Revenue Authority. Therefore,

we accept the hypothesis that General user ICTs have a significant effect on tax administration in Uganda Revenue Authority.

#### 4.3.7 Regression Analysis

The research hypothesis was determined using simple linear regression model to predict the outcome variable (General user ICTs) from a predictor variable (Tax administration). With regression model, R-value is given to show the relationship between the observed and predicted values as shown in table 7 below

**Table 7: Regression Model Summary for General user ICTs**

Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	.611	.712	.712	.5379

a. Predictors (Constant), General user ICTs

The simple linear regression in table 7 show that the correlation between the observed values of general user ICTs and the predicted values of tax administration (R – value) is equal to 0.611 and the co efficiency of determination (R – square) is equal to 0.712. This implies that 71.2% of changes in tax administration is significantly influenced by general user ICTs.

#### 4.4 Production Integrating ICTs

**Table 8: Showing Effect of Production Integrating ICTs on Tax Administration**

Variable	Categories (In Percentage)				
	strongly agree	agree	Not sure	disagree	Strongly disagree
User account for ASYCUDA promotes E tax collection	68.7	14.9		4.5	11.9
Use of URA's Asycuda World or E-tax systems modernizes tax operations.	56.7	34.3	3.0	1.5	4.5
Systems improve risk assessment of tax payers	29.9	47.8	11.9	7.5	3.0
I process transactions using a computer	68.7	19.4	3.0	4.5	4.5
Use of URA's Asycuda World or E-tax systems removes inefficiencies	16.4	46.3	16.4	16.4	4.5

Use of URA's Asycuda World or E-tax systems improves accountability and transparency in URA	29.9	64.2	1.5	1.5	3.0
Use of URA's production integrated ICTs such as Asycuda World or E-tax helps to maintain consistent record keeping, timely access of such records, fast processing of returns.	33.3	59.1	3.0	0	4.5

**Source: Primary Dat**

The information presented in table 8 shows that majority of the respondents 68.7% strongly agreed that user account for ASYCUDA promotes E tax collection. Also majority of the respondents agreed 56.7% agreed that the use of URA's Asycuda World or E-tax systems modernizes tax operations. This is explained by the various functions played by respondents where some don't require direct interface with the systems.



The findings also revealed that ICT systems improve risk assessment of tax payers and this was supported by 78% of the respondents. 12% were not sure and 10% did not agree to the notion that systems improve risk assessment of tax payers. It is also mentioned by majority 63% that the use of URA's Asycuda world or E-tax systems removes inefficiencies while 21% of the respondents disagreed and 16% were not sure.

From table 8, 94% respondents agreed that the use of URA's Asycuda world or E-tax Systems improves accountability and transparency in URA. However 4% disagreed and 2% were not sure. In the same line 92% of the respondents agreed that Asycuda World and E-tax help to maintain consistent record keeping, timely access of such records and fast processing of returns while 5% disagreed and 3% were not sure.

#### **4.4.1 Testing the Hypothesis: Production Integrating ICTs have a Significant Effect on Tax Administration**

The second hypothesis was derived from the second objective of the study; it was an alternative hypothesis that stated that Production integrating ICTs have a significant effect on tax administration in Uganda Revenue authority.

The researcher tested the hypothesis using Pearson product moment correlation coefficient as presented in table 8 below.

**Table 9: Showing the Pearson Product Moment Correlation Coefficient for the Effect of Production Integrating ICTs on Tax Administration**

Correlations		TAXAD MIN	Production Integrating ICTS
TAXADMIN	Pearson	1	.739(**)
	Correlation		
	Sig. (2-tailed)		.000
	N	65	64
REGR factor	Pearson	.739(**)	1
score 1 for	Correlation		
analysis 1	Sig. (2-tailed)	.000	
	N	64	66

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

There is a positive (0.739) and significant relationship between general user ICTs and tax administration. This relationship is significant at 1 percent.

The significance level of 0.01 also shows that the results give a very high level of confidence in accepting the hypothesis that Production Integrating ICTs has a positive significant effect on tax administration in the URA.

#### 4.4.2 Regression analysis

The research hypothesis was obtained using simple linear regression model to predict the outcome variable (Production integrating ICTs) from a predictor variable (Tax administration). With regression model, R-value is given to show the relationship between the observed and predicted values as shown in table 10 below

**Table 10 Regression Model Summary for Production integrating ICTs**

Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	.739	.546	.546	.3539

a. Predictors (Constant), Production integrating ICTs

The simple linear regression in table 10 shows that the correlation between the observed values of production integrating ICTs and the predicted values of tax administration (R – value) is equal to 0.611 and the co efficiency of determination (R – square) is equal to 0.546. This implies that 54.6% of changes in tax administration is significantly influenced by production integrating ICTs.

## 4.5 Market Oriented ICTs

**Table 11: Showing the Effect of Market Oriented ICTson Tax Administration**

Variable	Categories (In Percentages)				
	strongly agree	agree	Not sure	disagree	Strongly disagree
Active work related Facebook account	9.1	18.2	6.1	34.8	31.8
Active work related Twitter account.	9.1	13.6	3.0	40.9	33.3
Use of URA's web portal platform to access and share information	34.8	47.0	3.0	10.6	4.5
The web portal, FB and twitter promote effective dialogue between URA and tax payers	15.2	40.9	25.8	9.1	9.1
To conduct major employee engagement exercises in URA	13.6	31.8	27.3	24.2	3.0

Offer free online marketing to URA	15.2	50.0	21.2	9.1	4.5
Facilitate recruitment of users for URA's services and innovation	22.7	37.9	24.2	12.1	3.0

**Source: *Primary Data***

As presented in table 11 above, 27% of the respondents agreed to have active Facebook accounts and 6% were not sure while 67% claimed not to have Facebook user accounts. This is explained by the restricted access to Facebook by the URA ICT team. In line with the research findings, 23% of the respondents agreed to having a twitter account, 3% were not sure and 74% did not an active twitter account. This can be explained by the blocking of these social media sites and staff can only access them on their personal phones/computers at their own cost.

The results also revealed that 82% of the respondents agreed to use of URA's web portal platform to access and share information while 3% were not sure and 15% disagreed to using of URA's web portal platform to access and share information. Additionally, 45% of the respondents agreed that market oriented ICTS are used to conduct major employee engagement exercises in URA, 27% were not sure and 28% disagreed. This is explained by the various internal media platforms developed to ensure continuous engagement with Employees.

In table 11 above, when the respondents were asked about whether market oriented ICTs offer free online marketing to URA, 65% of the respondents agreed, 21% were not sure and 9% disagreed. This is explained by the continuous sharing of URA products and services on the market oriented

ICTS. In relation to the findings, 61% of the respondents agreed that Market Oriented ICTS facilitate recruitment of users for URA's services and innovations, 24% were not sure and 15% disagreed.

#### **4.5.1 Testing the Hypothesis: Market oriented ICTs have a significant effect on tax Administration**

The third hypothesis was derived from the third objective of the study; it was an alternative hypothesis that stated that Market oriented ICTs has a significant effect on tax administration in Uganda revenue authority.

The researcher tested the hypothesis using Pearson product moment correlation coefficient as presented in table 12 below.

**Table 12: Showing the Pearson Product Moment Correlation Coefficient for the Influence of Market oriented ICTs on tax Administration**

<b>Correlations</b>		<b>TAXAD MIN</b>	<b>Market Oriented ICTS</b>
TAXADMIN	Pearson Correlation	1	.522(**)
	Sig. (2-tailed)		.000
	N	65	65
	Pearson Correlation	.522(**)	1

REGR factor	Sig. (2-tailed)	.000	
score 1 for	N	65	65
analysis 2			

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

There is a positive (0.522) and significant relationship between market oriented ICTs and tax administration. This relationship is significant at 1 percent.

The significance level of 0.01 also shows that the results give a very high level of confidence in accepting the hypothesis that Market oriented ICTs have a positive significant influence on tax administration in the URA. Therefore, we accept the hypothesis that Market oriented ICTs have a positive significant effect on tax administration in the URA.

#### 4.5.2 Regression analysis

The research hypothesis was further determined using simple linear regression model to predict the outcome variable (Market oriented ICTs) from a predictor variable (Tax administration). With regression model, R-value is given to show the relationship between the observed and predicted values as shown in table 13 below.

**Table 13: Regression Model Summary for Market oriented ICTs**

Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	.522	.464	.464	.3746

a. Predictors (Constant), Market oriented ICTs

The results shown in table 13 above show that the correlation between the observed values of market oriented ICTs and the predicted values of tax administration (R – value) is equal to 0.522 and the co efficiency of determination (R – square) is equal to 0.464. This implies that 46.4% of changes in tax administration is significantly influenced by market oriented ICTs.



## 4.6 Dependent Variable

**Table 14: Showing the dependent variable.**

Variable	Categories				
	strongly agree	agree	Not sure	disagree	Strongly disagree
URA has simplified and transparent processes to interact with tax payers.	29.2	60.0	3.1	6.2	1.5
URA trade facilitation initiatives have made it easier and cheaper for tax payers to comply with their tax obligations.	22.7	62.1	10.6	3.0	1.5
Processing of transactions with URA ICTs' is much faster than manual processes.	48.5	43.9	3.0	1.5	3.0

URA provides taxpayers with accurate, consistent and timely information.	19.7	60.6	10.6	7.6	1.5
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**Source: *Primary Data***

The results in table 11 indicate that 89% of the respondents agreed that URA has simplified and transparent processes to interact with tax payers, 3% were not sure and 8% disagreed. Findings further show that 85% of the respondents agreed that URA trade facilitation initiatives have made it easier and cheaper for tax payers to comply with their tax obligations, 11% were not sure and 4% disagreed.

Results from the field also show that 92% of the respondents agreed that processing of transactions with URA ICTs' is much faster than manual processes, 3% were not sure and 5% disagreed. According to the respondents, 80% agreed that URA provides taxpayers with accurate, consistent and timely information, 9% were not sure and 11% disagreed. Lastly but not the least, 71% of the respondents agreed that URA has a system for supporting honest taxpayers and deterring those that chose not to comply, 15% were not sure and 14% disagreed.

## **CHAPTER FIVE**

### **SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS**

#### **5.0 Introduction**

The chapter presents the summary, discusses the findings, the conclusion and recommendations of this study. In this chapter, presentation is based on the major objectives of the study as presented in chapter one of this study.

#### **5.1 Summary of Findings**

The study was aimed at investigating the influence of ICT on tax administration in the Customs Department of Uganda Revenue Authority. The study also set out to test the three hypotheses concerning the research objectives using the table of correlation coefficients. The summary of the findings indicate that the three objectives about ICT use has a significant relationship on tax administration in the customs department of the URA.

Also in testing the three hypotheses to establish a significant influence between ICT and tax administration indicated that the three alternative hypotheses were accepted because the level of significance was below 0.05. Also the correlation coefficients explaining the influence of ICT on tax administration in the URA show a big relationship since all tests made showed a correlation coefficient of above 0.5 which indicate that tax administration is significantly related to General User ICTs, Production Integrating ICTs and Market Oriented ICTs as recommended by Arturo & Jacobs (2000).

## **5.2 Discussion of Findings**

The section presents the discussion of the results of the research study. The discussion is based on the study objectives and relates the findings of this study with other writers' views to make conclusions for the study. The discussion of the results is presented as follows;

### **5.2.1 General User ICTs and Tax Administration**

The descriptive statistics of the study findings reveal that general user ICTs encourage and promote tax administration. Also the hypotheses testing results give a high correlation coefficient of 0.611 at 0.001 level of significance which implies that there exist a positive significant relationship between the General user ICTs and Tax administration.

The findings are therefore in agreement with the work of Hollingum (2006), Moore (1999), Holniker (2005) and Partch (1997) who advocate for the key role to be played by General user ICTs to ensure that tax administration performance is good. To them it is believed that General user ICTs such as computers, emails and internet in tax administration aid the running of complex processes in a cost effective way, allow information exchange, business analysis, tax computation, and production risk management reports.

The research findings are also in agreement with the views of Crede (1998), Sykesville (2003) who stated that increased use of computers can solve supervisory and governance problems, such as organizational inefficiencies, and convey fair and efficient services to the public. They also advocated that, use of computers is often seen as a retort to the insufficiency in government systems for human capital, expenditure control, and general management.

The research findings agree with the views of Tentena (2015) who stressed that general user ICTs facilitate bench marking from model tax regimes and tax administrations. He further noted that,

general user ICTs aid records keeping, real time access to the records, quick return processing which result in to efficiency in tax administration. He added that ICT usage in the URA proves to be a lethal approach in meeting and exceeding the departmental set revenue targets.

On the contrary note however, the research findings disagree with Gideon and Alouis (2013) who argued that the use of ICT which includes hardware and software technologies achieves its intended objectives only if the implementation process is managed by professional staff and encompassed in the organization work processes.

### **5.2.2 Production Integrating ICTs and Tax Administration**

The Pearson correlation coefficient indicates that production integrating ICTs is able to explain 0.739 of the changes in tax administration. Also descriptive statistics in table 7 also show that Production Integrating ICTs has a big influence on Tax Administration.

The above findings have been further supported by most scholars who contend that IT tax systems such as Asycuda and E tax that belong to the production integrated ICTs helps to manage the core tax administration processes such as registration, assessments etc. These aim to decrease the cost of doing business, close revenue leakage gaps and remove the inefficiencies associated tax payment. More so, IT tax systems are part of the revenue mobilization improvements implemented by URA with an intended outcome to enhance tax mobilization and thus the gradual increase in tax revenues contributing to the development of Uganda

In agreement with the research findings, Mugisha (2001) argued that the use of production integrated ICTs improves just in time access to tax information which is a crucial for management decision making as well as monitoring and evaluation of outcome of decisions taken: in line with

the findings Suluo, (2013) observed that, ICT use leads to organization growth; therefore ICT is capable of enhancing efficiency and generating lower cost outputs with the limited inputs..

It can also be argued that Production Integrated ICTs such the E-tax service aid tax mobilization initiatives that encircle record management through systems, support tax returns filling and assessment; enable payment of taxes and refund processing via internet, help to educate tax administration stakeholders on changes in the tax system. Therefore there is a need for the application and use of Production Integrated ICTs to ensure effective tax administration in the customs department of the URA.

### **5.2.3 Market oriented ICTs and Tax Administration**

The Pearson correlation coefficient indicates that market oriented ICTs are able to explain 0.522 of the changes in tax administration. Also the above findings are backed by renowned management scholars Smith & Wollan (2011) who contend that Market Oriented ICTs such are the current and customized outlook of the Internet. Their appearance and growth in the technology ushers in new cutting edge communication solutions that are vital in addressing the information disseminations gaps with the ever increasing number of tax payers. They further argue that tax administrations are expanding their reach to the young generation tax payers through social media platforms such as twitter and Facebook.

In agreement with the research findings, Greenwood et al. (2008) argued that, social media platforms offer virtually cost free online marketing; enable consistent dialogue; aid the recruitment of users for various tax body ICT innovations; and they can provide avenues for image building to revenue administrations.

Contrary to the research findings, Shrawan et al. (2009) noted that, like any recent technology innovations, there are down sides to be handled for example provision of deceptive information; even though, these appear controlled by adopting a properly harmonized strategy built on the reasoning of starting small, monitoring and evaluating all correspondences. From the above discussion, it can be said that Market oriented ICTs if properly and effectively used in the URA would promote and Tax Administration in Uganda.

### **5.3 Conclusion of the Study**

In this section, the researcher presents conclusions drawn from the findings. The conclusions made are in accordance with the study objectives as below.

#### **5.3.1 General User ICTs and Tax Administration**

The findings show that there was a positive relationship between General User ICTs and Tax Administration. This means that the implementation of the General User ICTs by URA influences tax administration in form of, efficiency, convenience, effectiveness and on time service delivery.

#### **5.3.2 Production Integrating ICTs and Tax Administration**

The research findings present that there's a significant positive relationship between Production Integrating ICTs in form of improving risk assessment of tax payers, removing inefficiencies and improving accountability on Tax Administration in the URA. This therefore means that a change in Production Integrating ICTs through the knowledge acquisition and dissemination is paramount in Tax Administration.

#### **5.3.3 Market Oriented ICTs and Tax Administration**

The results shows that Market oriented ICTs in form of simplified and transparent processes to interact with tax payers, fast transaction processes, taxpayers with accurate, consistent and

timely information have a significant relationship with Tax Administration. This means that for an organization like URA to ensure effective tax administration, market oriented ICTs should be emphasized.



#### **5.4 Recommendations of the Study**

- It is recommended that the application of ICT during tax administration be encouraged and emphasized to ensure compliance. This is because it was found out that it is critical in simplification of procedures for tax paying clients by such measures as it helps to eliminate demands for redundant information in tax returns.
- There should be increased recognition of the central role of the private sector taxpayers and third-party agents like financial institutions and employers in the taxing process. Therefore it is critically important to treat them not as potential evaders but as clients. This is because facilitating compliance involves such elements as improving services to taxpayers (and third-party agents) by providing clear instructions, understandable forms, and assistance and information as necessary.
- There should be establishment and maintenance of taxpayer current accounts and management information systems covering both ultimate taxpayers and third-party agents (such as banks) involved. This is because a good tax administration has to gather and utilize information in such a way as to collect the revenues set out in the law in the fairest and most efficient way possible.
- The study recommends that fundamental reorganization in both systems and procedures are required for successful use of IT systems in tax administration since technological improvement usually requires major (and often difficult) negotiations with present staff as well as changes in recruitment, training, and evaluation procedures. Therefore there should be real incentives for officials to utilize ICT systems properly.

- URA should come up with other tax administration strategies that employ the accessible resources to reduce the level of non-compliance and to enhance the chances of detecting and penalize noncompliance.

### **5.5 Study Limitations**

- Financial resources somehow limited the study since the funds that were used in the research were met by the researcher himself. However the researcher budgeted well for the available resources and ensured that it was well utilized by the study.
- It was evident that at times the respondents could have been biased as the key informants may have considered the research as an evaluation undertaking on the side of the researcher and his institution. In order to control this, the researcher used probing questions to get the correct responses.
- Time was a constraint on the side of the researcher as at times the workshops at UMI could occur during the busy schedule of the researcher. However, the researcher delegated some of the responsibilities to ensure that this study was given the time it deserved.
- Lastly but not the least, the study did not target other groups of people especially non URA staff who could have provided a deeper insight in respect to the study findings.

### **5.6 Areas for Further Study**

- The study was conducted in the customs department of the URA and the results may be limited by the challenges in the customs department. It would be interesting to do a similar study in other departments of the URA.

- The study was limited to the influence of ICT use on tax administration in the URA. A broader study on other factors that influence tax administration would help to unearth other factors that this study did not find.
- The study was mainly quantitative in nature; a qualitative study of the precepts would provide a deeper insight on the ICT use and tax administration in the URA.

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## APPENDICES

### Appendix A: Questionnaire for Commissioners, Managers, Supervisors and Officers

Dear Sir/ Madam,

I am Barungi James Bob, a student at Uganda Management Institute pursuing a master's degree in Management Studies (Project Planning and Management). I am carrying out a study assessing the role of ICT in tax administration in Uganda, a case of Uganda Revenue Authority. You are kindly requested to participate in the study and feel free because your information will be kept confidential.

#### Instructions:

**Please tick an option you consider the most appropriate to you.**

#### Section A: Bio Data

1) Sex of respondent

- a) Male
- b) Female

2) Age group

- a) 20-30 years
- b) 31-40 years
- c) 40 years and above

3) Your marital status

a) Single

b) Married

c) Divorced

d) Widowed

4) Level of Education

a) Masters

b) Post Graduate

c) Degree

d) Diploma

5) Level of working experience in URA.

a) 1 to 2 years

b) 3 to 4 years

c) 5 to 6 years

d) 7 years and above

**SECTION B: General User ICTs (Standalone Computers, Emails and Internet)**

Read the following statements by use of the alternatives below. Circle any one of your choice

<b>I Strongly agree</b>	<b>I Agree</b>	<b>Not sure</b>	<b>Disagree</b>	<b>I Strongly disagree</b>		
1	2	3	4	5		
<b>S.N</b>	<b>RESPONSE</b>					
1	I have access to a computer	1	2	3	4	5
2	I have internet access on my computer	1	2	3	4	5
3	I have an active URA email address	1	2	3	4	5
4	I process transactions using a computer	1	2	3	4	5
5	I use internet to learn, communicate and research.	1	2	3	4	5
6	I require advanced knowledge to use computers, emails and internet.	1	2	3	4	5



7	Computer, email and internet usage is backed up in case of system failure to support continuous service delivery to tax payers.	1	2	3	4	5
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**SECTION C: Production Integrated ICTs (Asycuda World & E-tax)**

Please select the response that most closely represents your point of view regarding the following statements: Circle any one of your choice.

<b>I Strongly agree</b>	<b>I Agree</b>	<b>Not sure</b>	<b>Disagree</b>	<b>I Strongly disagree</b>		
1	2	3	4	5		
<b>S.N</b>	<b>RESPONSE</b>					
1.	I have a user account for Asycuda World or E-tax.	1	2	3	4	5
2.	Use of URA’s Asycuda World or E-tax systems modernizes tax operations.	1	2	3	4	5
3.	Use of URA’s Asycuda World or E-tax systems improves risk assessment of tax payers.	1	2	3	4	5
4.	Use of URA’s Asycuda World or E-tax systems removes inefficiencies	1	2	3	4	5
5.	Use of URA’s Asycuda World or E-tax systems improves accountability and transparency in URA.	1	2	3	4	5

6.	Use of URA's production integrated ICTs such as Asycuda World or E-tax helps to maintain consistent record keeping, timely access of such records, fast processing of returns.	1	2	3	4	5
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**SECTION D: Market Oriented ICTs (Web portal, Twitter, Facebook)**

Read the following statements by use of the alternatives below. Circle any one of your choice

<b>I Strongly agree</b>	<b>I Agree</b>	<b>Not sure</b>	<b>1 Disagree</b>	<b>I Strongly disagree</b>		
1	2	3	4	5		
<b>S.N</b>	<b>RESPONSE</b>					
1	I have an active work related account with Facebook.	1	2	3	4	5
2	I have an active work related account with twitter.	1	2	3	4	5
3	I use URA’s web portal platform to access and share information	1	2	3	4	5
4	I use URA’s Facebook platform to access and share information.	1	2	3	4	5
5	I use URA’s twitter platform to access and share information.	1	2	3	4	5

6	The Web portal, Twitter and Facebook platforms helps promote more effective dialogue between URA and taxpayers.	1	2	3	4	5
7	The Web portal, Twitter and Facebook platforms helps to gauge real-time community attitudes to URA initiatives and policies.	1	2	3	4	5
8	The Web portal, Twitter and Facebook platforms help to conduct major employee engagement exercises in URA.	1	2	3	4	5
9	The Web portal, Twitter and Facebook platforms offer free online marketing to URA.	1	2	3	4	5
10	The Web portal, Twitter and Facebook platforms facilitate the recruitment of users for URA's services and innovation.	1	2	3	4	5

**SECTION E: Tax Administration (Tax payer registration, Assessment & Collections, Tax payer information Dissemination, Tax payer compliance)**

Read the following statements by use of the alternatives below. Circle any one of your choice

<b>I Strongly agree</b>	<b>I Agree</b>	<b>I'm Not sure</b>	<b>I Disagree</b>	<b>I Strongly disagree</b>		
1	2	3	4	5		
<b>S.N</b>	<b>RESPONSE</b>					
1	URA has simplified and transparent processes to interact with tax payers.	1	2	3	4	5
2	URA trade facilitation initiatives have made it easier and cheaper for tax payers to comply with their tax obligations.	1	2	3	4	5
3	Processing of transactions with URA ICTs' is much faster than manual processes.	1	2	3	4	5
4	URA provides taxpayers with accurate, consistent and timely information.	1	2	3	4	5
5	URA has a system for supporting honest taxpayers and deterring those that chose not to comply.	1	2	3	4	5

**Thank you very much for your cooperation**

## **APPENDIX B**

### **Document Review Check List**

1. Customs records
2. Magazines
3. Monthly reports
4. Meeting minutes
5. International journals

## APPENDIX C

### Determining Sample Size

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970