

**Efficiency of Cyber Café Operators in Issuance of Kenya Revenue  
Authority Personal Identification Numbers in Nyeri Town, Kenya**

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## DECLARATION

I declare that contained herein is my personal work and have not been presented to any other examination body.

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May the most Gracious God almighty bless you abundantly and exceedingly.

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## ACRONYMS AND ABBREVIATIONS

|         |   |                                  |
|---------|---|----------------------------------|
| PIN     | - | Personal Identification Number   |
| KRA     | - | Kenya Revenue Authority          |
| I T M S | - | Integrated Tax Management System |
| IDF     | - | Import Declaration Form          |
| VAT     | - | Value added Tax                  |

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## **ABSTRACT**

Many approaches have been established by businesses and government alike towards efficient service delivery and one of them includes electronic administration. Electronic administration involves development of such applications where by the customers are able to access services by aid of electronic means instead of walking to the physical location of the business. There are many arguments for this including reducing corruption, eliminating bureaucracy, increasing openness and trust in government.

Kenya Revenue Authority (KRA) in 2010 introduced a Integrated Tax Management System (ITMS) whose function was to issue Personal Identification Numbers (PIN). The issuance of PIN in KRA was then completely stopped and any application was to be done online and predominantly in profit oriented commercial cyber café's. Cyber cafés in Kenya are mostly small scale businesses with labour turnover exceeding 30% and government has a perception of poor service. This formed the basis of this research which sought to determine the effectiveness of cyber café's in issuance of Kenya Revenue Authority PIN.

The study used DeLone and McLean model of information systems success and found out that the cyber café attendants complained about the quality of information that was available to the attendants and the public at large. The portal was found to have incompatibility problems and the attendants though they did not approve quality they were getting from the portal appreciated that Kenya Revenue Authority no longer issued PIN and this brought more customers and greater incomes. The study thus recommends that Kenya Revenue Authority provides adequate information to both the attendant and the public and carries out periodic audit of the cyber café to ensure quality of service.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background

In a world increasingly driven by customer, competition and change, companies are on the lookout for new solutions for their business problems (Muthu, Whitman, & Hossein, 1999). Thus organizations are continually improving their processes in order to achieve their goals in an efficient manner. In this endeavor, management information systems have provided limitless viable options in which organizations can be both efficient and effective (Harmon, 2003), and thus business have introduced similar facilities to ensure that they serve the public in an efficient manner.

According to Rockart& Morton (1984) many applications are developed daily in an attempt to improve the firm's productivity. If proper assessments on the impact of these applications are not carried out, the firms run at a greater danger of finding themselves in the productivity paradox (Brynjolfsson, 1993) where a lot of investments have been initiated without proper returns attributable to them. To avoid this, studies need to be carried out before commencement of such projects to serve as an indicator of the likely outcomes. This calls for a careful need analysis.

There are different approaches that organizations may use while implementing these applications. O'Brien &Maraka (2010) says that this will depend with different types of customers and business processes. This is in efforts of the organization keeping abreast with new technologies and avoiding the risk of obsolescence. Successful implementation of these programmes mean better streamlined operations for every business.

One of the areas that management information System have come to help is making tax administration simple efficient and convenient (Gupta, 2006). Easing the tax administration is one of the principles of good tax management and thus it's important for every tax collecting agency to observe that. As such many projects have been implemented towards this end and their progress needs to be closely monitored so as to eliminate recurring challenges thus maintain their efficiency.

### **1.1.1 The Concept of Electronic Administration Services**

Many approaches have been established by businesses towards efficient delivery of services and one of them include the establishment of electronic administration. Electronic administration involves development of such applications where by the customers are able to receive services by aid of electronic means instead of walking to the physical location of the business. Although these models differ in the numbers and names of stages most of them have similar characteristics for each stage (Wimmer & Tambouris, 2002). One of the most used, is Gartner Group model that classified electronic administration services offered online into four evolutionary phases: publishing (web presence), interacting, transacting and transforming (Wimmer & Tambouris, 2002)

Publishing is the earliest stage where static information about the agency mission, services, phone numbers and agency address are provided for further communication. Interacting enhances the site's features with search capabilities and intentions-based programmes. One characteristic of this stage is that the site contains many pages. In addition, citizens or firms can download forms to complete and return the forms to government organization e.g. by post, yet are unable to do an online submission. Also, there is no link in any significant way to the agency's back-office systems (Abanumy & Mayhew, 2005).

Transacting is reached when users can personalize, in a useful way, how the site works for them via effective search tools. In addition, the website links to a number of back-office systems (Dunleavy & Margetts, 2002). It represents a full-featured online service that allows users to conduct and complete entire tasks online. Transforming is considered to be the long-term goal of almost all businesses. In this stage all information systems are integrated and services can be obtained at one virtual centre (Baum & DiMaio, 2000).

### **1.1.2 Adoption of Electronic Administration Services**

In the past few decades, IS acceptance issues have been extensively studied. More recent studies focus on theory-based models to investigate the factors that could explain individual's reactions to computers. These theories include: Task Technology Fit model (Goodhue, 1995) Diffusion Theory (Mao, 2002 ) Information Systems Success: The Quest for the Dependent Variable, (DeLone & McLean, 1992) among others. These theories have been acknowledged in the IS research because they enable researchers to gain a useful insight into the reaction of people towards computers and factors enabling the reactions.

According to Gilbert & Balestrini, (2004) adoption is the intent to use, that is willingness to use electronic administration services. Both willingness and intention to use could be considered as basic measure of adoption. At the outset, adoption is a simple decision of using, or not using, online services. Lau (2003) argues that the overall success of the electronic administration will depend on the technological tools available, the level of access that citizens and business will have, their overall trust in electronic channels and their expectations of the types of services that should be delivered and how they should be delivered. Many revenue bodies have adopted both a business model that recognizes the different factors that influence taxpayers' compliance and different strategies to achieve

improved voluntary compliance while calculating paying and reporting tax obligation. Uses of electronic administration have been on the forefront of most organizations seeking to improve service delivery. In particular Kenya Revenue Authority have been keen in implementing this.

### **1.1.3 Kenya Revenue Authority**

Kenya Revenue Authority have been given the responsibility of revenue collection. The Kenya Revenue Authority (KRA) was established by an Act of Parliament, Chapter 469 of the laws of Kenya, which became effective on 1st July 1995. The Authority is charged with the responsibility of collecting revenue on behalf of the Government of Kenya and brings under one roof all the revenue departments of the Ministry of Finance. The authority is incorporated under an Act of Parliament and is therefore not be a Government department. The income tax department, value added tax and the Customs & Excise Department fall under its jurisdiction. In addition, KRA is also responsible for the administration and collection of airport tax, motor vehicle registration & licensing. (Kenya Revenue Authority, 2009)

Kenya's taxation system is burdensome in terms of time taken to prepare and file tax returns. This is the most time consuming part of the process of compliance. This is especially the case in Africa and Kenya is no exception. In effort to streamline its efforts and under the Revenue Administration Reform and Modernization Programme (RARMP), whose goal was to transform "KRA into a modern, fully integrated and client-focused organization", and which was launched in financial year 2004/05 (Kenya Revenue Authority, 2010), the authority launched an ICT-driven strategy for the modernisation of the tax administration. The main focus was on the Integrated Tax Management System for domestic revenue.

The system was first piloted in December 2008, initially enabled registered taxpayers to file their tax returns for VAT and PAYE online – subsequently; the system has been extended to cover the filing of corporate income tax returns. These transactions can be carried out by downloading of special software that guides one through the process or by filling an online form. These applications have the ability to validating data, calculate totals, and detect fields which have not been filled or wrongly filed among others. It has developed to include application of personal identification number (pin), import declaration and also filing of income tax return forms (Moyi & Ronge, 2006). By March 2011, E-filing cases have increased with VAT 3 e-filing increasing from 13,000 in July 2010 to 19,548 in March 2011 and PAYE e-filings increasing from 2,000 in July 2010 to 4,100 in March 2011.

Among other areas with successes in computerization include Computerization of cash receipting through the Computerized Cash Receipting System (CCRS), Taxpayer Segmentation, integration of Custom Services Department Simba 2005 System with the Road Transport Department's Vehicle Management System (VMS); and acquisition of and Electronic Cargo Tracking System (ECTs) (Kenya Revenue authority, 2010)

However it is not without challenges, there have been reports in the media documenting how corrupt Kenya Revenue Authority officers shut down the servers to enable them engage in corrupt activities (Marete, 2011) and how various electronic tax filing service points become increasingly slow towards deadline of the tax filing day.

In particular taxpayer registration involves issuance of Personal Identification Number (PIN). PIN is a compulsory unique number that identifies the user when making a transaction, runs a business or carries out an economic transaction in Kenya. It is strictly done online and

therefore one has to look for somewhere to access the internet in order to register. Each year thousands of Kenyans apply for PIN numbers either for their businesses or their own use.

Since many people in Kenya do not have fixed phone lines, computers, or electricity, internet shops, known as cyber cafes, provide access to internet and email hence those without prior experience on how to obtain the PIN or due to challenges on access to internet find the cyber option attractive. Cyber café operators have taken this opportunity to widen their revenue stream by drawing more customers, who are expected to start using the services in efforts to reduce travel costs and enjoy better services. Cyber cafés offering assistance are not supposed to charge any extra fees. Actually Kenya Revenue Authority had not prescribed any fees to be paid by cyber café for accessing KRA online services, adding the businesses would be expected to stick to their regular rates and one is supposed to pay.

Kenya Revenue Authority put in place an elaborate plan to train cyber cafes in an endeavor to build their capacity to handle online services. The first training programmes brought together participants from across the country representing over 400 cyber cafes from all over the country was held on Tuesday the 9th of March, 2010. According to [www.kra.go.ke](http://www.kra.go.ke) Since KRA launched its online services in December 2008, 724,575 online service users have been registered. Out of this number 408,898 are newly registered taxpayers. It is therefore evident that since online services were introduced more new taxpayers are voluntarily registering. The number of newly registered taxpayers is increasing continuously. Currently average of 30,000 new taxpayers are registered monthly. In the months of December, January and February 2011, 36,429, 39,204, and 40,344 new taxpayers were registered respectively. In addition average of 8,200 existing taxpayers have been registering monthly as online users over the last 14 months.

#### **1.1.4 Challenges Acquiring PIN**

When the Kenya Revenue Authority launched its online system, there was much fanfare about the saved queues, greater efficiency and complete transparency. Instead of the long, winding queues that sometimes stretched outside Times Tower, members of the public would just walk in a cyber café and in a matter of minutes register for a Personal Identification Number (PIN) or file tax returns online, businesses could enter their employee records, register for VAT, and cumulatively eliminate hours in traffic and KRA offices.

Towards the issuance of PIN Kenya Revenue Authority established links on its website to allow people to register. According to Macharia (2011) Users have complained that the online registration process is complicated and tedious making it unusable for a first timer who wants to acquire PIN to successfully do it alone. Some of the complaints include the interface used, dead links, lack of step by step instructions on registering for the PIN, lack of search function, the system returns error messages, even after keying in all the necessary details and slow service (Karambu, 2012). Unfortunately, KRA ceased issuing certificates at their offices immediately they went online thus necessitating brokers who are doing booming business by charging users to register online. It was hoped that by going online, the brokers would be eliminated, but it seems KRA has facilitated brokers also going online. While Kenya Revenue Authority emphasizes that no extra charges to be levied on PIN applicants, a preliminary review by the researcher found out that cyber café are charging a range of 100 - 200 Kes for this service.

For more sophisticated users, the taxpayer software is available for download but this is also limited to those who own personal computers and those who need repeat services a characteristic not common with PIN applicants. Kachwana, (2010) argues KRA should not

have scraped the manual registration of PIN certificates before the online system was fully tested by the public for some time.

## **1.2 Research Problem**

A study by Wang, (2002) in Taiwan which used the technology acceptance model found out that perceived ease of use, perceived credibility and perceived usefulness were significant antecedents of the intention to use an electronic tax-filing system. While Fu, Farn, & Cha, (2006) notes that understanding adoption factors can extend their knowledge of taxpayers' decision making and lead to better strategies. When the intended consumers of the service fail to adopt them and retain old manual system the system remains underutilized. The attitude of the consumers in turn becomes negative due to frustrations thus lowering the degree of usage and the impact of these systems (Baccarini, 1999).

Kenya Revenue Authority has been implementing various online portals since 2005 some of which were resisted openly through strikes and street demonstrations. PIN issuing system have had its own share of problems. To begin with for a cybercafé to offer these services it needs to register with Kenya Revenue Authority for accreditation after meeting minimum requirement as specified. Further a research by Somoni, Lumuba, & Kebabe, (2010) customer preference on cyber café identified that out of 60 management staff interviewed 82% will have left by the third year. Lack of proper user interface, high staff turnover the accreditation requirements bring into question the ability of cyber café and the effectiveness of their partnership with Kenya Revenue Authority in providing this all important service. The charging of money by the cyber operators against the direction of Kenya Revenue Authority is a sure indicator of an ineffective PIN issuing system.

The challenges that are faced by partners in offering these services are important for consideration to ensure maximum utility to customers. One must understand the challenges affecting the consumers so as to understand the adoption patterns. Despite the significance of these services there have been no studies conducted in the area of the partnership between Kenya Revenue Authority and cyber operators in providing tax related services to the people. This study sought to extend the understanding of the effectiveness of cyber operators in issuance of personal identification numbers. In particular sought to find out the extent to which cyber cafes are facilitating the issuance of PIN, the challenges faced by cyber cafe operators in issuance of personal identification numbers and the effectiveness of those cyber cafés that participate in the issuance of PIN.

### **1.3 Objective of the Study**

This study therefore, sought to indentify challenges facing cyber cafe operators in issuance of personal identification numbers, specifically to:

- (a) Determine the extent to which cyber cafes are facilitating the issuance of PIN.
- (b) Establish challenges faced by cyber cafe operators in issuance of personal identification numbers.
- (c) Determine the effectiveness of the participating cyber cafés in the issuance of PIN in Nyeri town.

### **1.4 Value of the Study**

By the year 2030 Kenya intends to have become a middle income economy for this to be achieved there is need for close monitoring and evaluation of all the efforts that are put in

place. There is need to gather, analyze and distribute information so as to contribute to the knowledge base.

This study is important to taxpayers, partners and the service provider in expounding the issues surrounding electronic administration. It addresses how electronic administration has performed since its incorporation and the factors affecting its adoption. Similarly it scrutinizes the role of cyber café on issuance of PIN.

In achieving this, the study provides a platform to provide an understanding on the current state of affairs of issuance of PIN and also offer a comprehensive analysis of the electronic tax filing services and how it has affected the taxpayers and the service providers. It is understood that the information generated from this research will be useful to all the stakeholders in this industry to make informed decisions.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

Technology has influenced the way we work, play, and interact with others. It is not surprising that technology has also affected how tax systems are designed and administered (Bird, 2008). Advances in technology have seen the introduction of electronic administration and increased partnerships between organizations as a way to improve efficiency and effectiveness (Hadler, 2000).

### **2.2 Electronic Administration Services**

Electronic Administration is an emerging model for the provision of public services to citizens that has aroused considerable interest for a number of reasons, which include its capacity to deal with administrative and public service management processes with a great deal of efficiency, thereby reducing marginal costs in the activities of Public Administrations. According to (Carmona, 2009) electronic Administration proves especially suited to those public services that are highly standardized and aimed at extremely large groups of citizens. It refers to the integration of public services from a customer of public services' point of view. It allows citizens, businesses and other authorities to have 24 hours access to public services from their home, their offices or even on the move using different access media and devices. The concept requires that all public authorities are interconnected and that the citizen is able to access public services by a single point even if these services are actually provided by different departments or authorities.

Wimmer (2002) defines different phases of those who require to access electronic administration services provided through governmental portals which include; Information and intention building phase, where the user searches for information regarding possible

intended public services. One can read information about the service itself, how to apply for it, and about which documents s/he has to provide. Despite of the one-way information consumption, the customer can get in contact with an authority in order to acquire further information regarding the procedure to apply for a specific public service. The contracting phase assumes that the user already knows what to do. One fills in the online application form or downloads the corresponding form from the server and fills it in and submits. This can be done by means of an online transaction, in written form electronically or via ordinary mail or personally at the administration counter.

In case an electronic medium is used, attention has to be paid to the authenticity. With this action, the customer activates an administrative process, where, at first hand, the public authority proves the completeness and correctness of the application. The processes to complete the service are performed; the results are conveyed to the customer. Possible results can be issuing a document, transferring information, etc. Finally is the aftercare phase, where aspects of customer relationship management and complaints management are addressed. Furthermore, aspects of filing and information delivery for statistical purposes within the net of public authorities have to be supported.

To succeed with electronic administration, the specific needs of the different user groups need to be investigated and addressed properly. The ISO standards 13407 and 9241 (1999) have been the basis for specifying the user requirements within e-government. The standard defines usability as the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specific context of use. In this respect, effectiveness refers to the accuracy and completeness with which users achieve specific goals; efficiency puts the resources expended in relation to the accuracy and

completeness with which users achieve goals; and satisfaction describes the freedom from discomfort and positive attitudes to the use of the product.

Nielsen, (1993) defines further influencing criteria for usability to include learnability this is the extent to which the user can rapidly start getting some work done. Memorability, as the extent to which the system is easy to remember, so that the casual user is able to return to the system after some period of not having used it, without having to learn everything all over again. Error rate, the system should have a low error rate, so that users make few errors during the use of the system, and so that if they do make errors they can easily recover from them. Further, catastrophic errors must not occur. The navigation concept must be designed in a way that the user knows; where s/he is at the moment, what s/he can do at this point, where s/he can go next, how s/he can get there and how to get back at any time when s/he is working with the system.

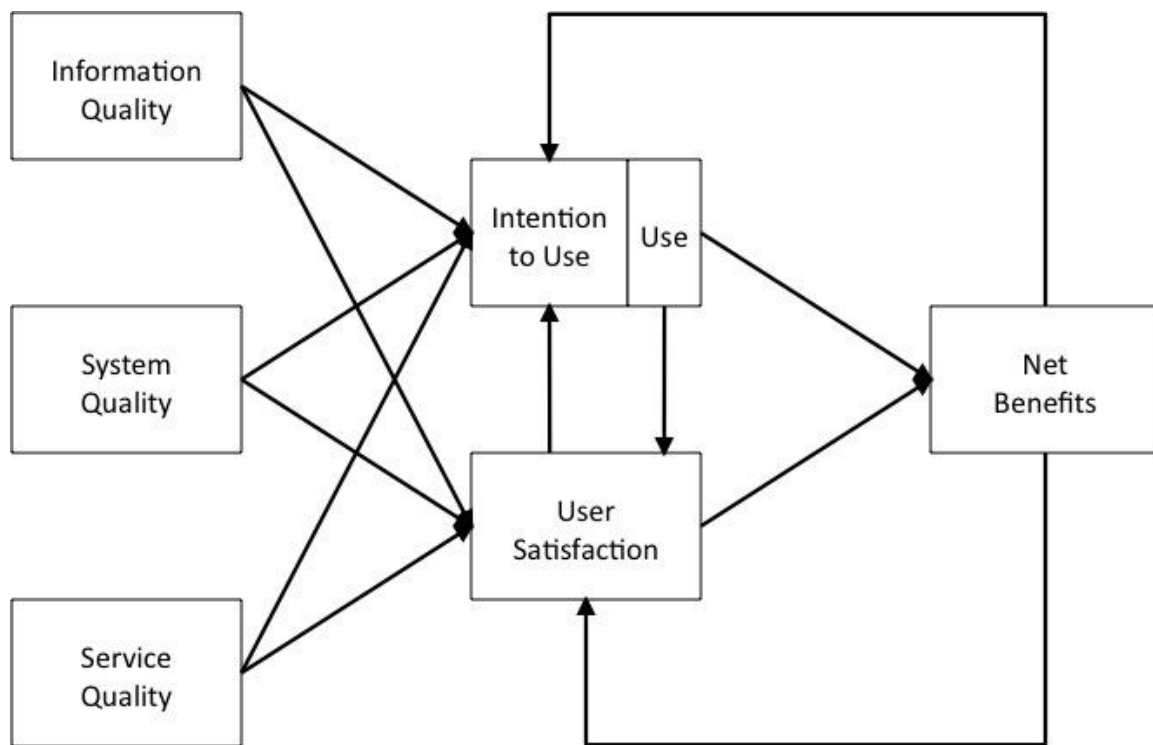
### **2.3 DeLone and McLean Model of Information Systems Success**

DeLone and McLean reviewed the existing definitions of IS success and their corresponding measures, and classified them into six major categories. Thus, they created a multidimensional measuring model with interdependencies between the different success categories (DeLone & McLean 1992). Many researchers have attempted to extend or respectively the original model. Ten years after the publication of their first model and based on the evaluation of the many contributions to it, DeLone and McLean proposed an updated IS success model (DeLone & McLean 2002, 2003).

The updated model consists of six interrelated dimensions of IS success: information, system and service quality, (intention to) use, user satisfaction, and net benefits. The arrows demonstrate proposed associations between the success dimensions. The model can be

interpreted as follows: A system can be evaluated in terms of information, system, and service quality; these characteristics affect the subsequent use or intention to use and user satisfaction. As a result of using the system, certain benefits will be achieved. The net benefits will (positively or negatively) influence user satisfaction and the further use of the information system

**Figure 1: DeLone and McLean Information Systems Success model**



Source (DeLone & McLean, 2003)

### 2.3.1 Information Quality

"Information quality" is a measure of the value which the information provides to the user of that information. "Quality" is often perceived as subjective and the quality of information can then vary among users and among uses of the information. Nevertheless, a high degree of quality increases its objectivity or at least the inter subjectivity Accuracy can be seen as just

one element of Information quality but, depending upon how it is defined, can also be seen as encompassing many other dimensions of quality. If not, it is perceived that often there is a trade-off between accuracy and other dimensions, aspects or elements of the information determining its suitability for any given tasks (Mao,2002).

The dimensions or elements used in assessing subjective Information Quality are intrinsic information quality in regard to accuracy, objectivity, believability, and reputation; contextual information quality in regard to relevancy, value-added, timeliness, completeness, amount of information; representational information quality: interpretability, ease of understanding, concise representation and consistent representation. In an attempt to deal with this natural phenomenon, qualified professionals, primarily representing the researchers' guild, have at one point or another identified particular metrics for information quality. They could also be described as 'quality traits' of information, since they're not so easily quantified, but rather subjectively identified on an individual basis.

Authority refers to the expertise or recognized official status of a source and verifiability refers to the ability of a reader to verify the validity of the information irrespective of how authoritative the source is (DeLone & McLean, 2003). Scope of coverage refers to the extent to which a source explores a topic. Consider time periods, geography or jurisdiction and coverage of related or narrower topics. Composition and Organization has to do with the ability of the information source to present it's particular message in a coherent, logically sequential manner.

Harmon, (2003) refers objectivity is the bias or opinion expressed when a writer interprets or analyze facts. Consider the use of persuasive language, the source's presentation of other viewpoints, its reason for providing the information and advertising. Adherence to moral and

ethical principles includes soundness of moral character and the state of being whole, entire, or undiminished. Validity of some information has to do with the degree of obvious truthfulness which the information carries.

As much as uniqueness of a given piece of information is intuitive in meaning, it also significantly implies not only the originating point of the information but also the manner in which it is presented and thus the perception which it conjures. The essence of any piece of information we process consists to a large extent of those two elements. Timeliness refers to information that is current at the time of publication. Consider publication, creation and revision dates. Beware of Web site scripting that automatically reflects the current day's date on a page. While reproducibility ensures that documented methods are capable of being used on the same data set to achieve a consistent result (DeLone & McLean, 2003).

### **2.3.2 System Quality**

Measures of System Quality typically focus on performance characteristics of the system under study. Some research has looked at resource utilization and investment utilization, hardware utilization efficiency, reliability, response time, ease of terminal use, content of the database, aggregation of details, human factors, and system accuracy. Hamilton and Chervany's list of system quality measures is probably the most well known: data currency, response time, turnaround time, data accuracy, reliability, completeness, system flexibility and ease of use. More recently, Seddon & Yip, (1992) considers system quality to be concerned with "bugs" in the system (system reliability), user interface consistency, ease of use, documentation quality, and quality and maintainability of the program code

### **2.3.3 Service Quality**

Service quality involves a comparison of expectations with performance. According to (Wang, 2002) service quality is a measure of how well a delivered service matches the customer's expectations. Generally the customer is requesting a service at the service interface where the service encounter is being realized, and then the service is being provided by the provider and in the same time delivered to or consumed by the customer. The main reason to focus on quality is to meet customer needs while remaining economically competitive in the same time. This means satisfying customer needs is very important for the enterprises to survive. The outcome of using quality practices is: Understanding and improving of operational processes, identifying problems quickly and systematically, establishing valid and reliable service performance measures and measuring customer satisfaction and other performance outcomes

Objective service quality is the concrete measurable conformity of a working result with the previous defined benefit; since the measurability is remarkable dependent on the definition's accuracy, a measurable quality criterion easily can turn out as a subjective one. Subjective service quality is the customers perceived conformity of the working result with the expected benefit; this perception is overlaid with the customer's original imagination of the service and the service provider's talent to present his performance as a good one (Seddon & Yip, 1992). Service quality can be related to service potential, service process or service result.

In this way for example, potential quality can be understood as the co-workers qualification, process quality as the speed of the generated service and result quality as how much the performance matched the customer's wishes.

## **2.4 DeLone and McLean Model Summary**

The DeLone and McLean model (1992) has four aspects which make it appropriate for incorporation into a project success model these include; the simplicity aspect of this model is achieved by the reduction of numerous success dimensions of Information Systems to only six. Acceptability, the original DeLone and McLean model has been cited in 285 refereed papers (DeLone & McLean 2003). Similarity of intention: in the title of the DeLone and McLean (1992) article the authors state their intention as ‘The Quest for the dependent Variable’. Project success is currently undergoing a similar quest for a dependent variable and finally reusability various authors acknowledge that incorporating a product success component into the definition of project success is essential. To meet this acknowledged deficiency, this paper will use the inclusion of the DeLone and McLean model as the product segment of a project success model.

## **2.5 Contextual Framework**

In order to empirically analyze DeLone and McLean's model, all variables in the model must be operationalized. Existing measures of information system success that have acceptable psychometric qualities were used. DeLone and McLean (DeLone & McLean, 2003) recommend the use of tested and proven measures from existing research and that is what we do in our research. Items from (Bailey & Pearson, 1983) were used to operationalize System Quality and Information Quality. System quality is "concern with whether or not there are bugs in the systems, the consistency of the user interface, ease of use, response rates in interactive systems, documentation, and, sometimes, quality and maintainability of the program code" . Information Quality this is the “concern with such issues as timeliness, accuracy, relevance, and format of information generated by an information system” Nine

items were used to operationalize the Information Quality dimension. Bailey and Pearson's 1983 instrument is widely accepted, has been tested for reliability and validity by several researchers and has become a standard instrument in the MIS field.

**Table 1 : Dimension of IS Effectiveness**

| Concept          | Dimension           | Measures                                                                                                                                                          |
|------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS effectiveness | Information quality | Information accuracy<br>Information preciseness<br>Information completeness<br>Information timeliness<br>Information compatibility<br>Information under stability |
|                  | System quality      | Ease of system use<br>Time of response<br>Changeability in the system conditions<br>Prevention from program interruption                                          |
|                  | Service Quality     | Job performance improvement<br>Goal achievement<br>Ease of doing task in the system<br>Clear and understand interaction with the system                           |

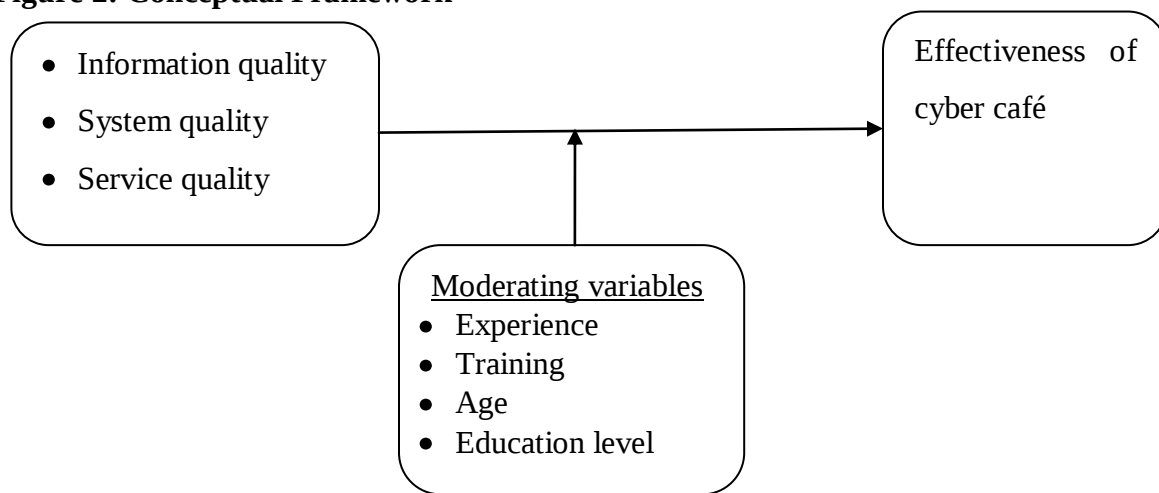
Source: Researcher 2012

System usage is studied in (Doll & Torkzadeh, 1988) and it examines the actual use of information systems, the extent of use of information systems in the users' jobs, and the numbers of information system packages used in the users' jobs. Four areas were developed to measure this variable, and the instrument has been proven reliable and valid. This instrument is used to operationalize System as in the table above.

User Satisfaction examines the successful interaction between the information system itself and its users. The User Satisfaction variable was operationalized using the instrument in (Seddon & Yip, 1992). The instrument consists of four questions. In our case the customer has no option on whether to use the online system or not as Kenya Revenue Authority no

longer issues the numbers and further the person has no option as the number is compulsory when doing business getting important papers like passport gaining employment e.t.c thus when a person needs it he must get it. The IS model is thus modified to remove the intention to use and hence the resultant contextual model with information quality, system quality and service as independent variables effectiveness of the cyber café as the dependent variable and characteristics of the cyber and the attendant as the moderating variable.

**Figure 2: Conceptual Framework**



Source: Researcher 2012

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Research Design**

This was descriptive study of a survey type. Descriptive study designs are used in preliminary and exploratory studies to allow researchers to gather information, summarize, present and interpret for the purpose of clarification (Orodho, 2004)

### **3.2 Population**

The unit of analysis was the cyber café and as such data was collected from one attendant per cyber café in Nyeri. Nyeri town has been chosen because it was convenient to the researcher and it also has a lucrative business town with both rural and urban population. It is understood that each cyber has at least one attendant. Records from the Nyeri Municipal council indicate that there are 37 registered cyber café operators in the town all of whom will be part of the population census (attached appendix 2)

### **3.3 Data Collection Method**

In this study primary data was collected by the researcher by use of questionnaires. The questionnaire was structured; open ended and closed ended which were administered by the researcher or the assistance to increase the response rate. Primary data was coded and tested for completeness. This method have been used effectively by other researchers like Lumuba et al (2010)while measuring the Effectiveness of Electronic Tax Registers in Processing of Value Added Tax Returns Perspectives From Registered VAT Taxpayers in Kisii Town, Kenya

### 3.4 Data Analysis

Data collected was mainly descriptive and was analyzed using descriptive statistics and a regression model. The questionnaire was divided into five sections each measuring a specific variable. Section 1 and 2 were mainly analyzed using descriptive data and measures of central tendency while sections 3,4 and 5 used inferential statistics.

Objective number one on the extent to which cyber café are facilitating the issuance of PIN was analyzed using descriptive statistics frequency will be computed to compare the cyber issuing and those not issuing PIN's. the second objective on the challenges faced by cyber café on issuance of PIN will use descriptive statistics while the third objective will be analyzed using the estimating model will be as follows;

$$Y = a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 + e$$

Where Y = Effectiveness of the cyber

X<sub>1</sub> = Information quality (section 3 of the questionnaire)

X<sub>2</sub> = System quality (section 4 of the questionnaire)

X<sub>3</sub> = Service quality (section 5 of the questionnaire)

X<sub>4</sub> = Characteristics of the attendant (section 1 of the questionnaire)

E = Other factors

## CHAPTER FOUR: DATA ANALYSIS

### 4.1 Background Information

The study interviewed 35 cyber within Nyeri town and its environs. The average number of computers per cyber was 8. The participation on issuance of PIN was as follows 82.9% (29) cyber participated in issuing PIN numbers while 17.1% did not issue PIN .

**Table 2: Issuing of PIN**

|              |              | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------|--------------|-----------|---------|---------------|--------------------|
| <b>Valid</b> | <b>Yes</b>   | 29        | 82.9    | 82.9          | 82.9               |
|              | <b>No</b>    | 6         | 17.1    | 17.1          | 100.0              |
|              | <b>Total</b> | 35        | 100.0   | 100.0         |                    |

The reasons for not issuing PIN for the six cyber were as indicated below. This shows that of the six cybers, five 83% felt that they needed training and also that the website was complicated hence they did not issue pin only one out of the six felt that needed accreditation.

**Table 3: Reasons for not Issuing PIN**

|                                       | Included |         | Excluded |         | Total |         |
|---------------------------------------|----------|---------|----------|---------|-------|---------|
|                                       | N        | Percent | N        | Percent | N     | Percent |
| <b>lack of accreditation</b>          | 1        | 2.9%    | 34       | 97.1%   | 35    | 100.0%  |
| <b>lack of training</b>               | 5        | 14.3%   | 30       | 85.7%   | 35    | 100.0%  |
| <b>complicated website</b> <b>KRA</b> | 5        | 14.3%   | 30       | 85.7%   | 35    | 100.0%  |

The mean time that attendants were serving in these cyber was 17.26 months while the mean time that these attendants were issuing PIN was 17.02 months. This shows that these attendants started issuing pin almost immediately they were recruited and thus had hardly any form of training. Further it shows that the attendants were serving on the cyber an average of two years and five months before moving on to other engagements.

**Table 4: Time Serving as an Attendant**

|                           | N  | Minimum | Maximum | Mean  | Std. Deviation |
|---------------------------|----|---------|---------|-------|----------------|
| Time as an attendant      | 35 | 1       | 60      | 17.26 | 14.991         |
| Time issuing PIN (months) | 29 | 2       | 42      | 17.02 | 11.975         |

The education level of the attendants and their ages are as tabulated below. Its noted that there are none university graduates who are past the age of 28 this is to imply that a cyber occupation is a waiting place as one awaits movement to other careers or as a place to pass time not as a serious occupation. Further 80% of the cyber attendants had post-secondary level of education. 82.8% of the cyber attendants were aged between 18 years to 28years.

**Table 5: Age and Education Level Cross Tabulation**

|              | Education level |                      |            | Total |
|--------------|-----------------|----------------------|------------|-------|
|              | Secondary       | Mid level<br>College | University |       |
| Age of 18-23 | 4               | 1                    | 8          | 13    |
| 23 - 28      | 1               | 9                    | 6          | 16    |
| 28 - 33      | 2               | 3                    | 0          | 5     |
| 33 - 38      | 0               | 1                    | 0          | 1     |
| <b>Total</b> | 7               | 14                   | 14         | 35    |

## 4.2 Effectiveness and Challenges

The average number of customers per month served is 38.97 of these customers an average of 12.72 of the customers were not successful on their first trial that is to say 31.5% of the times the customers were not successful on their first trial. Meaning for every three customers served one will be unsuccessful on the first trial whether the cause of the failure is the attendant or the PIN issuing system as shown on the table number 6 below.

**Table 6: No. of Customers and Failure Rate**

|                               | <b>N</b> | <b>Minimum</b> | <b>Maximum</b> | <b>Mean</b> | <b>Std. Deviation</b> |
|-------------------------------|----------|----------------|----------------|-------------|-----------------------|
| Number of customers per month | 29       | 3              | 250            | 38.97       | 56.354                |
| Failure rate at first trial   | 29       | 1              | 50             | 12.72       | 10.254                |

This research considered cyber attendants that succeeded in issuing PIN numbers successfully on first attempt 85% of the time as effective and considering the number of PIN issued and the first time success rate, only 69% of the cyber attendants were able to achieve 85% effective rate meaning 31% of the cyber attendants were not achieving 85% effectiveness.

**Table 7: Cyber with Less than 85% Success Rate**

|                |                  | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
|----------------|------------------|------------------|----------------|----------------------|---------------------------|
| <b>Valid</b>   | <b>&gt;= 85%</b> | 20               | 57.1           | 69.0                 | 69.0                      |
|                | <b>&lt; 85%</b>  | 9                | 25.7           | 31.0                 | 100.0                     |
|                | <b>Total</b>     | 29               | 82.9           | 100.0                |                           |
| <b>Missing</b> | <b>System</b>    | 6                | 17.1           |                      |                           |
| <b>Total</b>   |                  | 35               | 100.0          |                      |                           |

Of the respondents 62% of the cyber issuing KRA PIN number were satisfied with the system while 28% were dissatisfied and indifferent. Its worth noting that only 3.4% were completely satisfied and another 3.4% very satisfied. 27.6% of the respondents were dissatisfied as shown on table 8 below. The cyber attendants who did not receive any training were dissatisfied under stably due to their lack of understanding of the system and the frustrations that come with it. This shows there was actually something significantly important with the system that untrained staff did not understand and that would be solved by training the staff.

**Table 8: Satisfaction Levels**

|                      | Frequency | Percent | Cumulative Percent |
|----------------------|-----------|---------|--------------------|
| Completely Satisfied | 1         | 3.4     | 3.4                |
| Very satisfied       | 1         | 3.4     | 6.9                |
| Satisfied            | 18        | 62.1    | 69.0               |
| In different         | 1         | 3.4     | 72.4               |
| Dissatisfied         | 8         | 27.6    | 100.0              |
| Total                | 29        | 100.0   |                    |

Of the respondents 76% of the cyber reported the system the system has improved over time while with 52% said there was a dedicated Helpdesk to attend to their queries. Only 62% of the cyber has had some formal of training on how to issue KRA PIN numbers (either by Kenya Revenue Authority officers or colleagues). Thus 38% who were participating in issuance of PIN numbers were never trained. Of these 62% who had had some formal training on KRA only 21% were trained by KRA point person while 79% were trained by their colleagues. The training by KRA point person was done either monthly or quarterly. The research reveals that 97% of the cyber reported there is system downtime though 68% reported the down time was not very often. Some of the reported reasons for downtime ate

**Table 9: Major Areas of Concern**

|                   | Frequency | Percent |
|-------------------|-----------|---------|
| Peak time         | 22        | 78%     |
| Network           | 15        | 52%     |
| User error        | 9         | 31%     |
| lack of auto save | 9         | 31%     |
| rejecting emails  | 8         | 28%     |

The study realized that 59% of the cyber café attendants reported that the KRA PIN issuing system was easy to use though 35% reported it was hard for them to use the system. The cyber café attendants who reported that there is need for external help on training on how to

use the KRA PIN issuing system were 72%. They reported major challenges facing the KRA PIN issuing system are

**Table 10: Other Problematic Areas**

|                             | <b>Very frequent</b> | <b>Frequent</b> | <b>sometimes</b> | <b>rarely</b> | <b>Very rarely</b> |
|-----------------------------|----------------------|-----------------|------------------|---------------|--------------------|
| <b>Slow system</b>          | 4 (13.8)             | 5 (17.2)        | 10 (34.5)        | 6 (20.7)      | 4 (13.8)           |
| <b>Lack of training</b>     | 9 (32.1)             | 7 (25.0)        | 6 (21.4)         | 5 (17.9)      | 1 (3.6)            |
| <b>Lack of helpdesk</b>     | 7 (25.0)             | 8 (28.6)        | 4 (14.3)         | 7 (25.0)      | 2 (7.1)            |
| <b>System errors</b>        | 7(25.0)              | 3 (10.7)        | 4 (14.3)         | 9 (32.1)      | 5 (17.9)           |
| <b>Lack of past records</b> | 9 (32.1)             | 3 (10.7)        | 8 (28.6)         | 4 (14.3)      | 4 (14.3)           |

### 4.3 Univariate Analysis

The univariate analysis was conducted to obtain the fisher's exact which the researcher used to test the significance. It is useful when testing one influencing factor and its impact on the outcome. For the analysis, the success rate was the outcome and the cyber café's with less than 85% success rate in using KRA PIN numbers, had low success rate. A univariate analysis was done to determine factors that influenced the outcome (success rate) as conceptualized in the contextual framework and the subsequent individual questions that were used to measure these variables (influencing factors). The table below shows some of the factors that were considered.

**Table 11: Univariate Analysis Detailed**

|                                                              | If the success rate are $\geq 85\%$ | Fisher's Exact Test | Estimate      | asymptotically 90% Confidence Interval |
|--------------------------------------------------------------|-------------------------------------|---------------------|---------------|----------------------------------------|
| <b>INFORMATION QUALITY</b>                                   |                                     |                     |               |                                        |
| Easy to find information I need                              | 12 (52.2%)                          | 0.361               | 2.182         | ( 0.332 - 14.360 )                     |
| <u>Information provided by website is easy to understand</u> | <u>11 (50.0%)</u>                   | <u>0.042</u>        | <u>1.333</u>  | <u>(0.240 - 7.405)</u>                 |
| Effective information to complete tasks                      | 8 (40.0%)                           | 0.177               | 0.333         | (.064 - 1.735)                         |
| <u>Website meets expectations</u>                            | <u>9 (81.8%)</u>                    | <u>0.007</u>        | <u>11.700</u> | <u>(1.845 - 74.186)</u>                |
| Clear information                                            | 13 (50.0%)                          | 0.527               | 2.000         | (0.161 - 24.871)                       |
| sufficient information                                       | 10 (45.5%)                          | 0.458               | 0.625         | (0.112 - 3.477)                        |
| <u>up-to-date information</u>                                | <u>8 (72.7%)</u>                    | <u>0.039</u>        | <u>5.333</u>  | <u>(1.025 - 27.758)</u>                |
| <b>SYSTEM QUALITY</b>                                        |                                     |                     |               |                                        |
| <u>Mistake recovery</u>                                      | <u>9 (75.0%)</u>                    | <u>0.020</u>        | <u>7.200</u>  | <u>(1.353 - 38.326)</u>                |
| <u>Interface pleasant</u>                                    | <u>11(78.6%)</u>                    | <u>0.020</u>        | <u>14.667</u> | <u>(2.431 - 88.490)</u>                |
| <u>Software stable</u>                                       | <u>8 (66.7%)</u>                    | <u>0.099</u>        | <u>3.667</u>  | <u>(0.771 - 17.429)</u>                |
| website fast                                                 | 8 (57.1%)                           | 0.291               | 2.000         | (0.456 - 8.777)                        |
| Website contains sufficient hyperlinks                       | 10 (52.6%)                          | 0.400               | 1.667         | (0.353 - 7.875)                        |
| <b>SERVICE QUALITY</b>                                       |                                     |                     |               |                                        |
| <u>Website is simple to use</u>                              | <u>7 (77.8%)</u>                    | <u>0.041</u>        | <u>6.500</u>  | <u>(1.053 - 40.132)</u>                |
| <u>Overall effectiveness</u>                                 | <u>11 (84.6%)</u>                   | <u>0.001</u>        | <u>23.833</u> | <u>(3.353 - 169.388)</u>               |
| <b>CHARACTERISTICS OF ATTENDANT</b>                          |                                     |                     |               |                                        |
| <u>The attendant is well trained</u>                         | <u>8 (72.7%)</u>                    | <u>0.093</u>        | <u>5.333</u>  | <u>(1.025 - 27.758)</u>                |
| Age                                                          | 10 (45.5%)                          | 0.458               | 0.625         | (0.112 - 3.477)                        |

At 90% significance level the following variables were found to be statistically significant in determining the success rate of the cyber cafés ; Simplicity to use meaning that the portal was not simple to use, the interface was not considered pleasant; there were problems in mistake

recovery, the website did not meet expectations, the attendants were not well trained and that the software was not stable

**Table 12: Univariate Analysis Summary**

|                                         | If the success rate are $\geq 85\%$ | Fisher's Exact Test | Estimate      | asymptotically 90% Confidence Interval |
|-----------------------------------------|-------------------------------------|---------------------|---------------|----------------------------------------|
| <u>Information quality</u>              | <u>8 (72.7%)</u>                    | <u>0.039</u>        | <u>5.333</u>  | <u>(1.025 - 27.758)</u>                |
| <u>System quality</u>                   | <u>9 (81.8%)</u>                    | <u>0.007</u>        | <u>11.700</u> | <u>(1.845 - 74.186)</u>                |
| Service quality                         | 8 (57.1%)                           | 0.291               | 2.000         | (0.456 - 8.777)                        |
| <u>Characteristics of the attendant</u> | <u>8 (72.7%)</u>                    | <u>0.093</u>        | <u>5.333</u>  | <u>(1.025 - 27.758)</u>                |

The following hypothesis is accepted after failing to accept the alternative hypothesis as they were significant using the fisher exact test.

H1. Information quality will affect the effectiveness of cyber café

H2. System quality will affect the effectiveness of cyber café

H4. Characteristics of cyber attendant effectiveness of cyber café

Service quality was found not to be significant probably this can be explained by the fact that one had to take the PIN which any other option and were ready to pick the PIN from any cyber even if they were mistreated in a cyber.

H3. Service quality will not affect effectiveness of cyber café

#### 4.4 Correlation Analysis

Correlation analysis showed the significant positive relationship between variables hypothesized through model. The correlation value of 0.55 between system quality and efficiency of cyber cafe shows that when PIN issuing system is user friendly and provides high speed information access then it increases the likelihood of system use. System quality is also found significantly positively correlated with user satisfaction comparing to information quality and service quality. The strong relationship between system quality and efficiency of cyber café reveals the fact that when PIN issuing system provides a personalized information presentation then ultimately it increases the level of cyber attendant satisfaction. The lowest correlation is in relation to service quality and both service information quality and efficiency of the cyber café. This is so because the applicant does not have a choice when applying for the PIN hence he cannot go to KRA offices and have to get the service from the cyber

**Table 13: Correlation Analysis**

|                          | Information quality | System quality | Service quality | Efficiency of cyber cafe |
|--------------------------|---------------------|----------------|-----------------|--------------------------|
| Information quality      | 1                   |                |                 |                          |
| System quality           | 0.50                | 1              |                 |                          |
| Service quality          | 0.43                | 0.45           | 1               |                          |
| Efficiency of cyber cafe | 0.55                | 0.50           | 0.43            | 1                        |

#### 4.5 Regression Analysis

According to D&M IS Success Model, collectively System quality, Information quality and Service quality affect (Intention to) Use and User Satisfaction. Regression analysis shows that all three predicting variables System quality, Information quality and Service quality have strong influence on efficiency of cyber café in issuance of PIN. System quality,

Information quality and Service quality explains 41.34%, while 58.66% is unexplained variation. The coefficient of correlation for System quality, Information quality, Service quality and characteristics of attendant remained as 65.81, 24.42, 14.77, and 18.98 respectively.

**Table 14: Regression Analysis**

| Independent Variables        | Adjusted R Square | $\beta$ | <i>tStat</i> | <i>P-value</i> |
|------------------------------|-------------------|---------|--------------|----------------|
| System quality               | 0.4134            | 0.6581  | 5.2518       | 0.0000         |
| Information quality          |                   | 0.2442  | 2.4385       | 0.0164         |
| Service quality              |                   | 0.1477  | 1.2540       | 0.2126         |
| Characteristics of attendant |                   | 0.1898  | 1.4543       | 0.1231         |

Hence the resultant regression model

$$Y = a_0 + a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 + e$$

Where Y = Effectiveness of the cyber

$X_1 = (0.6521)$  Information quality (section 3 of the questionnaire)

$X_2 = (0.2442)$  System quality (section 4 of the questionnaire)

$X_3 = (0.1477)$  Service quality (section 5 of the questionnaire)

$X_4 = (0.1898)$  Characteristics of the attendant (section 1 of the questionnaire)

$e =$  Error term

## **CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS**

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

The aim of this study was to measure the efficiency of cyber café and the operators in the issuance of personal identification numbers of Kenya Revenue Authority. It used DeLone and McLean Model of Information Systems Success which has Information quality, System quality and Service quality as the main variables. The study also found out that cyber café charged between 200 and 100 Kenya shilling to offer this service which on the other side KRA believes to be free. This is a good indicator of a deficiency either the public did not know that they are not supposed to pay any extra charges or even if they knew they aren't supposed to pay any extra charges the public did not understand how to obtain the PIN on their own leaving them at the mercy of cyber café attendants. This information gap leads to rise of brokers who were expected to be avoided by the establishment of the electronic PIN issuing system.

#### **5.1.1 Information Quality**

This part was answered by cyber café attendants who had experience on the process and who helped others users to acquire pin. The research found out those cyber café attendants would start issuing PIN almost immediately they were recruited, average time serving at the cyber was 17.26 months compared to 17.02 months as the time issuing PIN. Only 21% of the attendants were trained by Kenya Revenue Authority officials and only 52% of all attendants knew about the availability of the helpdesk. There was no user guide that showed a step by step guideline of how to apply for PIN, even the Kenya Revenue Authority website did not have.

Further the new PIN certificate generated by the system had a lot of details that is not displayed by the old PIN certificate thus the users felt like they were exposing so much of their information to outsiders. This information included Some of the information provided include date of birth, email, building LR number information that users felt it was unnecessary since it was non included in the old PIN cards. It is important that the input and the output of the two process to be similar. The respondents normally enquired about the requirements when obtaining PIN and were normally given the old requirements that it is free all you need is your national identification cards. This is followed by disappointment when the customer is required other things like email account and some money for the same purpose. The respondents 67% viewed that the most errors were due to lack of all required information at the beginning of the process and one had to stop through the process to get the information.

### **5.1.2 System Quality**

System quality have been an issue especially with compatibility, 28% of the respondents said that the system rejected some browsers, either the very new or the old ones. This also included some email accounts especially at hotmail.com and also the ones not popular in Africa for example that had a .net domain; as such the portal would not accept dates from these programmes.

The site had dead links 31% and the urls, and sometimes gave an alert of security breach. These were some of the errors that users complained of that often later lead to error messages even when the right information was fed leading to low acceptance of the system.

The users reported error messages even when correct data was fed. For example if a user forgot the password the system requested for the PIN and an email address. If the wrong

email address is put the error message appears informing you of the wrong password, at this point the message doesn't give the next course of action at the very least the helpdesk contact.

There is no allowance for mistake recovery such that any error leads to abort of the whole process and 31% of the respondents felt that this was a major contributor to the system instability. Subsequent attempts to acquire PIN will be denied on that PIN have already been issued to the customer whose national identity card have been submitted. One has to report to KRA offices for collection of such mistakes or use help check a process that sometimes may take more than a month. Many applicants perceive this as a huge risk due to the inconveniences associated with it and thus the applicant would rather part with a reasonable amount of between 200 and 100 shillings

### **5.1.3 Service Quality**

Overall it was convenient to use the ITMS to obtain PIN mainly because there it saved time and the cost of travelling to the nearest Kenya Revenue Authority office. In addition users had no choice since there was no other option but to apply for the service online. As long as no error occurred the customers were satisfied. In the event of an error occurrence the PIN acquisition would take more than a month and often involved visiting KRA offices back and forth to the cyber. Though the system saved time and financial resources, it was agreed that the website is not easy or simple to use and also was not easy to learn the website

## **5.2 Conclusions**

From the above discussions and findings it can be concluded that KRA has failed in creation of awareness and education to the general public on how PIN issuing system works so that members of the public could serve themselves instead of engaging the cyber café attendants.

The researcher also concludes that the system lacks in terms of its ability to serve the first time customers and hence Kenya Revenue Authority. Even the learned people feared 68% approaching the system on their own only 32% of the eventual attendants did self learning of the system through trial and error.

It is also important that the input and the output of the two process to be similar. The respondents normally enquired about the requirements when obtaining PIN and were normally given the old requirements that it is free all you need is your national identification cards. This is followed by disappointment when the customer is required other things like email account and some money for the same purpose.

Further KRA have failed to educate the public on the expectations that they should have when they go to cyber to request for PIN service. There is no information in the local mass media both print and electronic including vernacular which would be crucial with education of the public on the expectations when on is receiving PIN. If this would happen, the public would protest the addition fees charged to them and report these cyber café's to KRA for charging as a service that would otherwise be free

In conclusion, it is understood that information quality, system quality and service quality are important precedents. At least everyone who issues PIN recorded a failure whether trained or not; this shows that failures could be attributed to not only to the staff competence but also something out of their control

### **5.3 Recommendations**

The main recommendations are in regard to provision of information to the public on how the system works and what they should expect, provision of a step by step user manual and improvement of the portal user interface.

The portal should have a checklist at the first page that would inform the applicant of all the requirements of the process to the end. This would ensure that there would be no breaks once an applicant starts the process. Further the system should have some of the keywords translated into Swahili to ensure that the information reaches the intended audience and cut on dependency on cyber café attendants. Harmonize the two systems or inform the public through media of the expected documents.

Kenya Revenue Authority Improve public education and information delivery through the local media, leaflets and posters that would seek to improve public knowledge. It would particularly target high school leavers and those people who are likely to apply for PIN. This would ensure they have the information as they go to the cyber café to apply for PIN

Since not all cyber cafés issue PIN as per recommendations of Kenya Revenue Authority then it should carry out audit checks on the reasons for non compliance and what they can do to increase their acceptance to issue PIN. Further Kenya Revenue Authority should be conducting random audit checks to appraise the quality of service given to taxpayers.

Since cyber cafés have an option to issue or not to issue PIN, KRA should derive a way to recognize cyberspace that prosper in issuing PIN according to specifications with low error rate, high numbers of PIN issuance etc culmination of this would be awards like the best cyber in issuing the best improved cyber in PIN issuing etc. Further KRA should have a list

of accredited/ certified cyber café in every town who conform to the service level agreements which the KRA would use to refer those who seek the service. This would ensure that the public is well informed on where the service is provided according to their requirements, how the service expected to be delivered. This would be done on local media as form of public awareness campaign.

In this regard KRA should have a demonstration point in their offices where PIN should be issued as it should be issued in the cyber café. This would help in making the public understand of the expected service level agreements. Further this would serve as a training point for the cyber café attendants who are employed before the next scheduled training as they are expected to serve customers who request for P.I.N

The portal should be modified to run on most applications and state the minimum requirements computer on the screen before the beginning of the process. When error messages appear portal is supposed to request for additional verification material to enable retrieval of the initial email. Failure to that the message should include a help desk contact or email. Otherwise one has to visit KRA offices. There have been complains that if one lost the PIN number there's no way it could be retrieved via the system.

Kenya Revenue Authority should ensure there are minimum qualifications for an attendant to serve as a clerk fo issuing PIN probably a high school certificate.

## **5.4 Limitations**

The study faced some limitations which included the cyber café reluctance to give information as they thought that Kenya Revenue Authority were carrying out an audit. This

was overcome by assuring them that this research was for academic purposes and that data that would lead to identification of the cyber was not collected.

There were increased brokers who even if they advertised that they offer PIN they did not and would lead a person to a cyber café as if they were together. Brokers at the end earned a commission they were not and were not willing to divulge any information so as to protect their business.

There were high turnover of customers and thus the researcher was forced to interview the attendants very early in the morning or late at night.

## **5.5 Recommendations for Further Research**

This research covered the PIN issuing portal by the Kenya Revenue Authority. Kenya Revenue Authority have implemented other portals on their online based management systems thus other researches can focus on these other portals and assess their effectiveness

Further now that Kenya Revenue Authority have discontinued the offering of these services a research on the perception of the public in utilization of these portals would be appropriate

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## APPENDICES

### Appendix one: Questionnaire

I am a student of University of Nairobi collecting information on the challenges of Kenya Revenue Authority PIN issuing system. Kindly help me by answering the following questions. The information collected will be used for academic purposes only and the individual responses will be kept confidential.

#### General Information

##### Section 1: Background and demographic data

1. Name of cyber. \_\_\_\_\_
2. How long have you been an employee here? \_\_\_\_\_
3. How many computers do you have \_\_\_\_\_
4. What is the highest level of education have you achieved  
Primary \_\_\_\_\_ Secondary \_\_\_\_\_ University \_\_\_\_\_ Others \_\_\_\_\_
5. How old are you.  
18 – 23  
23 – 28  
28 – 33  
33 - 38
6. Do you issue PIN in this cyber Yes ☐ NO ☐ (if yes move to question 8)
7. If no why \_\_\_\_\_

Lack of accreditation by KRA \_\_\_\_\_

Lack of training \_\_\_\_\_

Lack of customers' \_\_\_\_\_

Not understanding the KRA website \_\_\_\_\_

Others \_\_\_\_\_

## Section 2: Effectiveness and expectations of Pin Issuance system

8. How long have you been assisting on issuance of PIN

\_\_\_\_\_ years \_\_\_\_\_ months

9. About how many PIN customers do you serve per month \_\_\_\_\_

10. Of these customers how many times are you not successful on the first trial \_\_\_\_\_

11. To what extent do you feel satisfied with the PIN issuing system

Completely satisfied \_\_\_\_strongly satisfied \_\_\_\_satisfied \_\_\_\_ indifferent \_\_\_\_ dissatisfied\_\_\_\_

12. How was your first experience with the PIN issuing system

Completely satisfied \_\_\_\_strongly satisfied \_\_\_\_satisfied \_\_\_\_ indifferent \_\_\_\_  
dissatisfied\_\_\_\_

13. Have things improved over time    yes    ☐    no    ☐

If \_\_\_\_\_ yes  
how? \_\_\_\_\_

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\_\_\_ Is there a dedicated helpdesk at Kenya Revenue Authority to attended to queries raised by users

Yes ☐ No ☐

14. Have you had any training on the pin issuance system

Yes ☐ No ☐

If yes by who

Colleagues ☐

Kenya Revenue Authority official ☐

Others ☐ (name them) \_\_\_\_\_

15. How often is training done on PIN issuing System to cyber staff

Weekly ☐ after 2weeks ☐ monthly ☐ every 3 months ☐

Others \_\_\_\_\_

16. Are there times when the PIN issuing system is down

Yes \_\_\_\_\_ No \_\_\_\_\_

a. If yes, how often does it go down

Rarely ☐ Not very often ☐ often ☐ very often ☐

b. system breakdown can be attributed to

Peak times, ☐ network problems ☐ user errors ☐

Others \_\_\_\_\_

17. How easy is it for one to use the system?

Very easy ☐ easy ☐ have to be trained (hard) ☐

18. Do you feel that one can train himself or external help is needed for the first time

One can train himself ☐ External help is needed for the first time ☐

19. What are other major challenges facing PIN issuance system

|                                                   | Very<br>frequently | frequently | Sometimes | Rarely | Very<br>rarely |
|---------------------------------------------------|--------------------|------------|-----------|--------|----------------|
| Slow system                                       |                    |            |           |        |                |
| Lack of training                                  |                    |            |           |        |                |
| Lack of a help desk                               |                    |            |           |        |                |
| System errors even<br>when I feed correct<br>data |                    |            |           |        |                |
| In ability to access<br>past records              |                    |            |           |        |                |
|                                                   |                    |            |           |        |                |

For the following set of questions tick the one that accurately reflect your experience

**Section 3: Information quality (tick one)**

|    |                                                                             | Yes | No |
|----|-----------------------------------------------------------------------------|-----|----|
| 1. | It is easy to find the information that I need                              |     |    |
| 2. | The information provided by the website is easy to understand               |     |    |
| 3. | The information is effective in helping me complete the tasks and scenarios |     |    |
| 4. | The organization of information on the website pages is clear               |     |    |
| 5. | The content of the website meets my expectations                            |     |    |
| 6. | Information I get from the system is clear                                  |     |    |
| 7. | The system provides me with sufficient information                          |     |    |
| 8. | The system provides me with up-to-date information                          |     |    |
| 9. | The system provides reports that seem to be just about exactly what I need  |     |    |

**Section 4: System quality(tick one)**

|    |                                                                                                              | Yes | No |
|----|--------------------------------------------------------------------------------------------------------------|-----|----|
| 1. | Whenever I make a mistake using the website                                                                  |     |    |
| 2. | I recover easily and quickly                                                                                 |     |    |
| 3. | The interface of this website is pleasant                                                                    |     |    |
| 4. | I like using the interface of this website                                                                   |     |    |
| 5. | The software is stable and doesn't crash regularly                                                           |     |    |
| 6. | the websites reacts quickly and I don't have to wait too long to go to a new page or to download information |     |    |

|    |                                                                         |  |  |
|----|-------------------------------------------------------------------------|--|--|
| 7. | It is easy to move from one page to another Overall,                    |  |  |
| 8. | The website contains sufficient hyperlinks to navigate                  |  |  |
| 9. | This website has all the functions and capabilities I expect it to have |  |  |

**Section 5: Service quality(tick one)**

|    |                                                          | Yes | No |
|----|----------------------------------------------------------|-----|----|
| 1. | I believe I became productive quickly using this website |     |    |
| 2. | It was easy to learn to use this website                 |     |    |
| 3. | I feel comfortable using this website                    |     |    |
| 4. | Using the system saves time                              |     |    |
| 5. | It was simple to use this website                        |     |    |

**Overall satisfaction**

|  |                                                                                | Yes | No |
|--|--------------------------------------------------------------------------------|-----|----|
|  | Do you feel the system meets the information processing needs of the business? |     |    |

## Appendix Two: List of Cyber Café in Nyeri town

|     | Cyber                         | Location                                         |
|-----|-------------------------------|--------------------------------------------------|
| 1.  | Skylink Cyber Cafe            | Located close to Raybells Restaurant             |
| 2.  | Computer Sparks Cyber         | Located close to can enterprises                 |
| 3.  | Family Computer Services      | Located close to moinyeri complex primary school |
| 4.  | Fount Computers               | Located close to Opposite Sungura Park           |
| 5.  | galaxy systems kenya          | Located close to mtkenya bottlers                |
| 6.  | Incaps Systems & Service      | Located close to Kenya Revenue Authority         |
| 7.  | JajoTelecentre                | Located close to near upper equity bank          |
| 8.  | Jehovajireh Computer Services | Located close to Opp St Marys School             |
| 9.  | Joe's Cyber Cafe              | Located close to nipol building                  |
| 10. | King's Computer Consultant    | Located close to lower bus park                  |
| 11. | Mugraphic Information Systems | Located close to samrat supermarket              |
| 12. | Nyeri Sterling                | Located close to samrat supermarket              |
| 13. | Patdolly Cyber Cafe           | Located close to Endarasha Boys High School      |
| 14. | Pewa Communications Ltd.      | Located close to Muthoni Salon                   |
| 15. | Plansonline Ltd               | Located close to Samrat supermarket              |
| 16. | Rural Computer Service        | Located close to Wonderland General Shop         |
| 17. | S.K Cyber Cafe                | Located close to Safraricom Customer             |
| 18. | Virtual World Systems         | Located close to KimathiGrd                      |
| 19. | Visions Computers Nyeri       | Located close to Opposite Nyeri Teachers Sacco   |
| 20. | A-plus Technologies           | Located close to opposite nyeri primary school   |
| 21. | Beavers Cyber Cafe            | Located close to The Pavilion Building           |

|     |                             |                                            |
|-----|-----------------------------|--------------------------------------------|
| 22. | Compubytes Electronics      | Located close to Mt.Kenya Snow Line        |
| 23. | Dorphix Cyber               | Located close to Near K.R.A                |
| 24. | Ebbay Cyber Cafe            | Located close to opposite paresia building |
| 25. | Fab Networks                | Gakere RoadNyeri                           |
| 26. | Gamers cyber world          | Located close to Mathai supermarkets       |
| 27. | Image Computers             | Located close to Kobil Petrol Station      |
| 28. | Jackivy Communication       | Located close to 2nk Stage                 |
| 29. | JAYDEE SYSTEMS              | Located close to Samrat supermarket        |
| 30. | Levancom                    | Located close to Co-operative Bank         |
| 31. | Mohawk Cables               | Located close to Equity Bank               |
| 32. | Nelsah internet cyber       | Located close to Samrat supermarket        |
| 33. | New Link Cyber              | Located close to GichichiBldg              |
| 34. | Nyeri Cyber                 | Located close to Safaricomcentre           |
| 35. | Sly Ville Computer Services | Located close to baclays bank              |
| 36. | TechnolandCybercafe         | Located close to Greenhills Hotel          |
| 37. | Telecentre Cyber            | Located close to opposite equity bank      |