

**THE INFLUENCE OF ELECTRONIC TAX MANAGEMENT
STRATEGY AND COMPLIANCE WITH TAX RETURN
REGULATIONS BY TAX PAYERS AT KENYA REVENUE
AUTHORITY**

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DECLARATION

I, the undersigned hereby affirm that this research project is my original work and has not been previously submitted in part or full to any other institution of learning for the award of any certificate.

Signed 

Date 2/12/2021.....

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This research project has been submitted for presentation with my approval as the University supervisor.

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ABBREVIATIONS AND ACRONYMS

DTD	Domestic Taxes Department
ETR	Electronic Tax Register
FDI	Foreign Direct Investment
KRA	Kenya revenue Authority
GDP	Gross Domestic Product
ICPAK	Institute of Certified Public Accountants of Kenya

DEDICATION

I dedicate this research project to my family for their unwavering support and encouragement all through this research project.

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ABSTRACT

The difficulties tax authorities experience in collecting income have been blamed for the present discrepancy between expected revenues and actual collections. Electronic tax administration is a crucial component of the Kenya Revenue Authority's (KRA) revenue collection plan, which is a public service. KRA has observed an increase in tax income with the implementation of iTax. Despite this, the treasury has failed to reach KRA's income goals. The purpose of the research was to determine the impact of an electronic tax management approach on Kenya Revenue Authority tax payers' compliance with tax return laws. In this study, ideas like the unified theory of technology acceptance and usage and dynamic capacities theory guided the research. This study used a case study methodology. In order to conduct this study, secondary data were used. After iTax installation, revenue collection increased statistically significant for the periods following iTax's introduction, according to this event analysis. Researchers found that before and after implementation of iTax, the rate of increase in tax revenue collection was higher than predicted, and the projected increase in tax revenue collection was higher before than after implementation of iTax. These results suggest that KRA tax rates rose more rapidly before than after the launch of iTax. The study findings further displayed that KRA has been generally meeting and surpassing its targets more after the implementation of iTax as compared to before the implementation of iTax. After the deployment of iTax, the research found that KRA's tax revenue collection returns had improved as a result of the platform's installation. In this way, iTax demonstrates that KRA's goals were met and exceeded in the early stages of its deployment. Policy recommendations are made to the government officials and policy formulators in the Treasury and the board of the Kenya Revenue Authority, to automate all revenue collection channels to boost tax revenue collection. Since KRA has commenced collecting revenue for the devolved governments, it should automate the revenue collection so as to optimize the tax revenue collection. Additional recommendations are generated to the government officials and policy formulators in the Treasury and the board of the Kenya Revenue Authority to utilize other strategies alongside automating tax

payment services. Recommendations are also generated to the KRA management, consultants, and economists to estimate and base their projected tax revenue estimates and targets based on the automation of tax payment services. They should particularly be bullish about tax revenue collection when tax payment services have been automated. In addition, the KRA management should gauge automation of tax payment services levels to determine the level of tax revenue collection enforcement. Thus, during times of high levels of automation of tax payment services, they should increase the intensity of enforcement because more tax revenue can be obtained.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Strategy, according to Thompson (2007), is an organization's long-term, goal-directed action that takes time to accomplish. A strategy serves as a vehicle that assists in decision making across all the the entire organization. It is an important tool that leads to specific activities that enable a firm improve their services and give direction (Mugambi, 2013). Itax management is a web based automated system that integrates KRA's domestic tax administration processes. Compliance as a state of accordance between an actor's behavior or products on the one side, and predefined explicit rules, procedures, conventions, standards, guidelines, principles, legislation or other norms on the other(Teece, 2009).Strategy assists an organization to have long term behaviour and direction. In implementing strategy, it is important for organizations to have proper resource allocation for the units to avoid delay and discontinuity (Dincer et al, 2006; Scholes & Whittington, 2008).

Based on dynamic capacities theory and the Unified Theory of Acceptance and Use of Technology (UTAUT), this research was conducted. Capability theory deals with an organization's capacity to create and reconfigure internal and external capabilities in response to dynamic changes in the environment (Teece, 2009). Using the UTAUT model, tax authorities can better understand the behavioral elements of human engagement with technology in order to better collect money. In addition to bringing tax

services closer to the taxpayers, effective use of technology will also give an incentive to increase compliance via decreased costs and a broader tax base.

Tax officials have cited difficulties in collecting taxes for the discrepancy between forecast revenues and actual collections in this research.

KRA, a public service agency, has a plan for electronic tax administration that strives to fulfill its primary goal of collecting income for the Kenyan government.

Tax returns were no longer filed by hand after the Kenya Revenue Authority (KRA) implemented an electronic tax administration system known as iTax in 2014. This system was implemented to boost tax revenue collection, make tax filing and administration easier, and minimize compliance expenses while also minimizing the tax gap via the elimination of noncompliance instances. Since the implementation of iTax, the Kenya Revenue Authority (KRA) has observed an increase in tax revenue. Over the last decade, this has climbed by an average of 15% annually. Ksh 1.4 trillion was collected by the Kenya Revenue Authority as of April 2019, according to the agency's report. Despite this, the treasury has failed to reach KRA's income objectives. New technologies and inefficient payment methods add to revenue loss for tax collecting plan implementers. Taxpayers have had to wait a long time to take advantage of modern tax technology, despite the fact that computerized tax systems have been in existence for many years.

1.1.1 Electronic Tax Management Strategy

The KRA's domestic tax administration activities are integrated into a web-based automated system known as electronic tax management. For KRA's Domestic Taxes Department, it provides a simple, rapid and secure method of electronic taxpayer registration, e-filing, e-payment, and back office functions (Kenya Revenue Authority, 2016). It is an integrated tax system that aims to make it easier for taxpayers to comply as well as to make tax administration easier and less expensive.

Electronic tax management contains a number of main components or modules that revolve around the individual taxpayer, who is identifiable by a unique PIN (PIN). Taxpayer registration, assessment processing, account management, payment processing, collection and enforcement, and reporting and statistics are all components of this system (KRA, 2016).

Increased revenue collection is the desired outcome of electronic tax administration since it speeds up service delivery, improves accountability and integrity, and reduces tax avoidance and evasion via electronic data matching and improved third-party information (KRA, 2015). An online platform known as a PIN (Personal Identification Number) connects taxpayers to the revenue authorities and enables them to access and alter their tax information from anywhere in the globe, regardless of whether they are a corporation or a person (Malonza, 2016). Using electronic tax and payment systems is advocated in a World Bank report on conducting business (2014). Tax authorities should expect to save money and gather more data if they apply these technologies, according to an

organization's study (World Bank, 2017). Additionally, Phillip and Poirier (2011) argue that online tax administration reduces the number of mistakes that might arise from manual methods by making it easier to file returns.

1.1.2 Concept of Compliance

To be in compliance means that an actor's actions or goods are in conformity with previously established and explicitly stated rules and procedures as well as general norms and principles included in law or other legal documents (Teece, 2009). On the other hand, the Organization for Economic Cooperation and Development (2015) divides compliance into two key categories: administrative compliance (complying with the administrative rules of lodging and paying on time, which some would call procedural compliance or regulatory compliance) and technical compliance.

For Feinstein (1998), there are a variety of ways to look at the issue of compliance: it may be seen as a matter of public finances or law enforcement or an ethical issue. Equity, efficiency, and incidence are all included in the concept of compliance. Compliance management is consequently a broad plan that includes a consistent set of compliance methods that strive to bring the business into alignment with applicable standards, at least to an acceptable degree. In order to accomplish holistic compliance, such a strategy may solve three concerns: a long-term scope and the capability to cover different laws, standards frameworks, or internal processes at the same time instead of fragmented compliance activities.

According to Trandafir (2016), compliance is influenced by characteristics such as age, gender, education, income, profession or position, peers' or other taxpayers' influence, ethics, legal penalty, and complexity of income sources. The company's strategic compliance is a core business strategy in and of itself. There is a greater degree of openness and maturity in management as a result of this. Management and team members demonstrate compliance by adhering to policies and procedures. .

1.1.3 Kenya Revenue Authority

Act of Parliament in 1995 created the Kenya Revenue Authority (KRA) as an autonomous agency. In the past, it was part of the Treasury Department. Kenya's president appoints a Commissioner General to lead the agency. The authority is responsible for collecting Kenya's tax money on behalf of the country's legislature. In recent years, the Kenya Revenue Authority (KRA) has implemented tax changes to ensure that its duty is carried out effectively in the face of high treasury goals. Revenue Administration Reform and Modernization Program (RARMP) began at KRA in 2004 with the goal of integrating the tax administration into one. As a consequence of this, the first internet tax management system (ITMS) was launched in 2008. However, even though ITMS was an online system, the tax administration operations were not entirely automated, and as a result it was inefficient. With the help of major taxpayers, a trial of iTax was launched in 2013 to test the system's capabilities and reliability before a full-scale rollout in 2014 (ICPAK, 2019).

As a consequence of both institutional and individual attitudes about taxes, Kenya has a low rate of tax compliance. Small and medium-sized businesses (SMEs) in Nairobi's Industrial Area have historically had poor levels of tax compliance. Significant tax reform strategies aimed at improving overall tax compliance have continued to be designed and developed, especially over the last ten years, with VAT being the complied tax system (KRA, 2015). It is estimated that tax compliance was at 65 percent and 66,9 percent for fiscal years 2010 and 2013, respectively.

1.2 Research Problem

Companies in the 21st century are using strategies as instruments of competitiveness and as a measure of how competitive a business is in its sector. For most countries across the globe, tax compliance is a problem since it makes it difficult to mobilize resources and to generate new sources of income. US\$240 billion is lost each year to different types of tax evasion and avoidance worldwide. The vast bulk of the losses come from poor countries; (Fowler, 2019). Kenya has seen a lot of changes to its tax laws, and it may be difficult to identify and differentiate all of the discretionary tax policies that have been implemented (Beling, 2014). By decreasing expenses connected with compliance and limiting tax leaks, they hope to boost revenue collection. As a result, they are also intended to minimize interaction between the tax administrator and the taxpayer in order to eliminate corruption.

Tax collection must be stepped up by the Kenya Revenue Authority in order to satisfy the parliament-approved budget every financial year. The taxman has developed a tax system

to make it easier for taxpayers to register and to submit returns from any location. Due to iTax's effectiveness and openness in supporting multi-government expenditures, the system is viable, prolific, and long-term (KRA, 2012). The iTax system, launched by the Kenya Revenue Authority many years ago, was designed to make tax returns easier to file and to increase the number of people who pay taxes. Reports that the Kenya Revenue Authority (KRA) has failed its revenue collection objectives and that significant tax players are evading tax are obvious indications that the installation of the iTax system may not have served its intended purpose. There has to be an investigation into why the iTax system has failed to achieve its primary goal.

A number of research have been conducted in the domain of computerized tax management. Internationally, Sanford (2015) claims that iTax is a more efficient method of collecting income. Corruption-related revenue deficits might be reduced by using computerized tax systems, according to other researchers such as Imam and Jacobs (2014). Chen (2010) conducted a research on the influence of quality on the satisfaction of Taiwanese taxpayers with their online tax system. The research indicated that knowledge and system quality were the most important elements in influencing online tax system user satisfaction. However, a research by Azmi et al. (2016) found that small and medium-sized firms in Malaysia had adopted e-filing tax systems. The research found that a combination of regulatory requirements and system complexity and compatibility were the key drivers of the adoption of such systems.

Among small and medium firms in Africa, Atawodi and Ojeka (2012) performed a research focusing on tax compliance and found that a high tax rate as well as composite recording methods were the main reasons leading to lack of compliance by most small and medium enterprises. Kenya Revenue Authority's domestic taxes department in Nairobi County's turnover tax compliance was studied by Mukabi(2014). Taxpayer compliance was shown to be heavily influenced by a variety of factors, including taxpayer knowledge, compliance costs, system complexity, and taxpayer impressions of the tax system. In Kisumu County, Kenya, a study by King'oina(2016) looked at the variables that influence the compliance of construction enterprises with value-added tax. The study found that a person's ability to comply with tax laws was significantly influenced by their level of tax literacy.

From the foregoing most of the studies have focused on tax compliance induced by electronic tax management strategy. This creates a gap in knowledge that the current study intends to fill by focusing on domestic tax department at Kenya Revenue Authority. The purpose of this study was to answer the research question: What is the impact of an electronic tax management strategy on tax payer compliance with tax return laws set by the Kenya Revenue Authority?

1.3 Research Objective

Objective of this research was to assess whether or not electronic tax management method has a significant impact on enforcing Kenya Revenue Authority's tax return requirements.

1.4 Value of the Study

As a reference point for academics who desire to participate in research, the study produced empirical data that may be utilized by scholars and researchers to add to the body of knowledge. As a result, this research was able to assist with theory testing. It improved our understanding of dynamic capacity theory and the Unified Theory of Acceptance and Use of Technology (UTAUT).

In evaluating the influence of electronic tax administration systems on revenue collection in Kenya's western region, revenue administrators may find this information to be beneficial to their work. Thus, KRA's administrators will be able to compare the revenue patterns in this area before and after iTax is implemented. As a consequence, more informed choices may be made.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter summarized prior research on customer service recovery and service delivery conducted by researchers and writers. It entails theories on which this study is founded and previous empirical studies.

2.2 Theoretical Review

Several theories offer insights and provide clarity into the rationale underlying the electronic tax management strategy and tax compliance at the domestic tax department, Kenya Revenue Authority. They include dynamic capabilities theory and unified theory of acceptance and use of technology.

2.2.1 Dynamic Capabilities Theory

Teece et al. (1997) describe dynamic capabilities as the company's capacity to develop, integrate, and reconfigure both internal and external business skills in order to respond to the circumstances of a dynamic environment. It is the ability to attain competitive advantage through increased flexibility and pace in handling the dynamic market environment (Teece& Pisano, 1994). The dynamic capabilities and the resource-based perspective have a strong connection (Peteraf, 2006; Barney, 1991). This theory is basically interested with basic issues for instance competencies and organizational performance. It seeks to explain the relation(s) between a firm's exploration of its capabilities and performance. The dynamic capabilities view augments the popular view

of the firm's external environment being increasingly hypercompetitive and turbulent (Anderson & Tushman, 1990).

According to the dynamic capabilities view, the manner in which specific competencies are developed by organizations to respond to business environment changes is highly linked to the business processes of the firm, market opportunities and positions. Processes describe the manner in which transactions are undertaken in organizations with respect to coordinating, learning and reconfiguring positions that define specific utilization of technology, complementary assets, intellectual property, customer base and level of interaction with suppliers. These capabilities offer competitive advantage to the firms since firm specific assets for instance values, organizational experiences and culture are not tradable in the external market (Gizawi, 2014). Growth strategies can be treated as a resource. However Day (1994) notes that dynamic capabilities need to be introduced to make a resource responsive to both internal and external developments. This theory is applicable to this study because growth strategies are viewed as dealing with mechanics for reorganizing firm resources in response to environmental dynamics

The theory has the the following weakness. According to Zollo and Winter (2002), they criticized the theory of argubg that requires the presence of rapidly changing environments for dynamic capabilities to exist and collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved efficiency. From a variety of theoretical standpoints, Teece (2009) claims that

the dynamic capacities approach aims to provide a unified framework that incorporates current conceptual and empirical knowledge.

2.2.2 Unified Theory of Acceptance and Use of Technology

Venkatesh, Morris, Davis and Davis developed the Unified Theory of Acceptance and Use of Technology (2003). Users' intents to utilize an information system and their subsequent behavior are explained by the UTAUT. It is believed to be the most rigorous method in evaluating and predicting how the end user will perceive a technology (Venkatesh, Thong & Xu, 2012). This model is based on four major factors of usage and intention (expected performance, social influence, underlying conditions and expected effort). In the current study this theory will be used to evaluate user acceptance of information systems based on electronic tax management strategy.

The importance of this theory in the present context is that itax has been a significant factor in the development and extension of the revenue collecting area, and so it is a suitable moment to examine KRA's itax approach. The theory has also been seen as limited in its view of the operating environment of organizations. This explanation of the economic cycle, like others, ignores other variables that contribute to market swings. There are many other elements that contribute to changes in the environment, and innovation is only one of them (Aykut, 2011).

2.3 Electronic Tax management strategy and Compliance with Tax Regulations

There must be dependable and available internet connectivity, the financial sector players must cooperate, and the public has to be orientated towards information technology in order for electronic filing systems to succeed, according to Dowe (2008). The development of e-filing and e-payment systems must be part of a country's overall design, development and implementation plan. This plan requires the participation of all of the company's most important stakeholders.

Burns (2015) discusses the many possibilities for growth and organic tactics that an entrepreneur might choose based on the existing conditions of the organization. These include market penetration, product creation, market expansion, and diversification. In Uganda, Akello (2014) claimed that the Uganda Revenue Authority has to struggle with inconsistent power supply and internet downtime/the URA has created contingency plans to handle these difficulties to ensure that the online system is operational around the clock. Kampala's URA headquarters will house the central server so that power or network disruptions won't affect it. Due to a lack of familiarity with certain tax terminology, the electronic filing procedure continues to baffle many taxpayers. In Sheikh (2015), he highlighted that each new system has various teething problems. Both manual and computerized tax management systems are troublesome if they do not recognize and complement one other.

According to Wenzel (2004), characteristics such as gender, age, education level, morality and personal perception of danger impact behavior. There will be a decrease in

taxpayer compliance if people feel "the system" is unjust or have personal experiences of "unfair" treatment. It is common for a taxpayer to choose non-compliance if he or she feels that he or she is unlikely to be caught. This explains why some forms of income are underreported and why people are reluctant to utilize the online system. Salaries and earnings are readily available to tax authorities since they are often reported by both taxpayers and employers.

Research by Mubua (2014) found that ICTs may influence tax compliance in small businesses. Revenue collection is critical to many nations' economic health, according to Tanzania. Governments are able to fund its administrative and development activities when they gather adequate tax income. The goal of the study was to show that e-transparent services may help SMEs overcome the problem of non-compliance. The research found that tax knowledge, company competence, workers' honesty, rare visits by tax authorities, and training are all factors that promote voluntary tax compliance. Using suitable ICT tools to encourage taxpayers to file their tax returns is advocated by the researcher to the Tanzanian Revenue Authority.

In Australia, Braithwaite (2009) conducted a study that explored the differences in views about tax policies, such as the goods and services tax. The public's views on tax policy and changes are typically seen from a self-interest viewpoint. When it comes to tax reform, the analysis of his research suggests the process is driven by party politics rather than a thoughtful discussion about the best ways to achieve both particular and broad objectives. There may not be the same level of public interest in tax policy and reforms as

there is in other areas such as the environment and healthcare, but this does not mean that tax policy and reforms are evaluated in a different way from policies and changes in other areas. An individual taxpayer's opinion of any change decides whether or not he or she is in favor of such a reform.

Electronic filing in Malaysia has a negative impact on the perception of risk in Anna and Yusniza (2009). In the present world, e-government is growing more and more important because of its efficacy and application in numerous areas of the economy, according to the study. Most individuals escape revenue enhancements since it is difficult for revenue enhancement authorities to collect and impose revenues in any location or time, Sanford, Godwin, and Slemrod (2015) stated. Taxation and tax compliance in Latin America and the Caribbean (LAC) and beyond were examined in this research. Economic science of crime methods pioneered in revenue enhancement abundance were used in their strategy. According to the results, societal norms have a significant influence on compliance behavior, which helps explain why individuals avoid paying taxes.

2.4 Summary of Literature and Gaps in Knowledge

Literature on independent and dependent variables has been examined in this chapter. Prior research in the field of electronic tax management approach was integrated in this. It will be possible to discuss the theories included in the research, such as the dynamic capacities theory and the unified theory of technology adoption and use.

The results cannot be applicable to the USA or other parts of the globe because of the very diverse environments. Other than the Kenya Revenue Authority's electronic tax management approach and tax compliance, the local research focused on other elements of tax administration. As a result, our research aims to bridge a gap in our understanding.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The study's methodology is laid out in great depth in this chapter. Each technique includes an explanation of why a particular approach was chosen. Methodology was influenced by the study purpose described in chapter one. Data collection methods and technologies are also discussed in this chapter. Finally, the chapter provided a summary of the data analysis approach and tools that were used over the course of the research. There is also a rationale for the data analysis approach used.

3.2 Research Design

Hussey & Hussen (1997) define research design as the whole process of conducting a study from its theoretical foundation through its collection and analysis. Using a case study technique, this research was conducted. An in-depth investigation of a unit, such as a firm or division, that focuses on the elements that contribute to its success or failure is known as a case study. The focus of a case study technique is on the in-depth investigation of a small set of circumstances or occurrences, rather than a larger view of the research as a whole. Observation of social units was critical to its success. A case study was chosen for a number of reasons. As a result, a case study technique was used since just one company (Kenya's tax authority) was engaged, as well as the requirement for an in-depth and complete investigation.

3.3 Data Collection

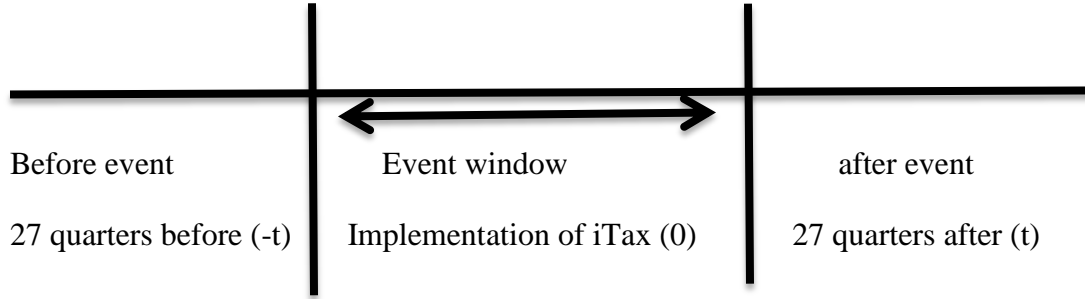
Secondary data was used in the study.

Information on tax revenue collections and tax objectives was obtained from the Central Bank of Kenya's monthly and quarterly economic evaluations.

For the research, data was acquired from twenty seven quarters before to the event date, twenty seven quarters prior to iTax implementation, and thirty quarters prior to the event period.

3.4 Data Analysis

The data was analyzed quantitatively using an event research technique. A major event occurred in this case when iTax was implemented in the first quarter of the 2014/15 financial year. The event window was divided into 27 quarters before the event quarter and 27 quarters after the event quarter (+27, -27) quarters, respectively. The researcher analysed the data using Microsoft's Excel (2013) where line graphs depicting the trend of the movement of the revenue tax collection were generated, it also aided in generating tax revenue collection returns, tax target returns, expected returns, and abnormal returns. The significance of the implementation of iTax was determined by using T-tests, which was done by utilizing STATA analytical software tool for the study since it provides a wide range of statistical analysis capabilities and is quite methodical. STATA helped in generating the statistical values to test significance.



Where,

-t= before the implementation

0= the implementation date

t = after the implementation

Identifying the quarter iTax implementation events

The event of iTax implementation. The study's events quarter is the first quarter of the 2014/15 financial period.

Estimating the event window was as follows;

Twenty seven quarters before and twenty seven quarters after the iTax implementation were included in the event window. The estimated event window was 27 quarters before to the event and 27 quarters after the event.

The study used tax revenue collected and the corresponding tax targets before iTax implementation and after iTax implementation.

Calculating the actual return

The actual return for tax revenue collection (P_{jt}) was calculated using;

$$R_{jt} = \frac{P_{jt} - P_{jt-1}}{P_{jt-1}}$$

(i)

Where

$R_{j,t}$ = return of tax collection on date t

$P_{j,t}$ = the tax revenue collection represented by (j) on date t

$P_{j,t-1}$ = the tax revenue collection (j) on date prior to t

To calculate the tax revenue collection expected returns the equation was as follows;

$$E(R) = \alpha_i + \beta_i TR_t$$

Where;

$E(R)$ = Expected revenue returns

TR_t = Target revenue at time t

The values of the alpha and beta were obtained using the OLS regression which utilized the following formula.

$$\beta = \frac{\sum R_t R_{mt} - (t * \bar{R}_t * \bar{R}_{mt})}{R_{mt}^2 - (t * \bar{R}_{mt})}$$

$$\alpha = \bar{R}_t - (\beta * \bar{R}_{mt})$$

The alpha and beta values were consequently utilized to generate the Expected Returns.

Calculating the average abnormal returns and the cumulative abnormal returns.

In step five, abnormal returns were computed by averaging each quarter's tax revenue collection to acquire the average abnormal return.

$$AAR_i = \frac{\sum_{t=1}^{t=n} AR_i}{n}$$

(iii)

Where

AAR_i = represents the average abnormal tax revenue collection return for tax revenue collection on quarter i

AR_i = represents abnormal returns tax revenue collection 1 to n on quarter i

n = represents number of revenue collection quarters

For each of the event windows, the average abnormal return (AAR) was determined. AAR value for each quarter was then added to the previous quarter's AAR to derive the quarter's cumulative abnormal returns (CARs).

$$CAR_t = \sum_{t-k}^t AR_i \quad (iv)$$

Where

K= number of events quarters before quarter t

Testing if the abnormal return is statistically different from zero

This CAR, statistical techniques was used to test for significance. According to Mackinlay (1997) t –test is the best approach associated with the p-value to test if the abnormal returns are significant from 0. The study used Canavos and Miller (1999) approach to calculate for the t-test.

$$\frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}} \quad (v)$$

Where

\bar{x} = the sample mean on day i 's CAR

μ = the population mean (0)

S= standard deviation

n= number of stock returns

CAR is on quarter (i) was used as a (the sample mean on day (i)).To find the corresponding p- value, it was calculated using Ms excel or looked up in a statistical table.

3.4.1 Significance Test

An investigation on the impact of iTax implementation on tax revenue collection returns is taking place in order to compare the data acquired and processed with reality. The study will test for significance using the p-value, and Innovate p-value will be done at a 95% confidence level. In addition, the study will use the coefficient of determination R and R^2 for correlation. The two sample t-tests will also be used to asses the significance of the impact of iTax implementation of tax revenue collection on tax revenue collection and abnormal returns.

CHAPTER FOUR

DATA ANALYSIS, RESULTS, INTERPRATATIONS, AND DISCUSSION

4.1 Introduction

The findings and discussion of the analysis are presented in this chapter. It was the purpose of the research to investigate the impact of an electronic tax management system on compliance with tax return laws by Kenyan tax payers. To achieve this objective, the study assessed the impact of the implementation of KRA's automated tax payment service, iTax, on the first quarter of the 2014/15 financial period, on the tax revenue collected. As a secondary source, the Central Bank of Kenya's monthly and quarterly economic reports for tax income received and their related tax objectives were used to conduct the study. The KRA's automated tax payment service, iTax implementation, on the first quarter of the 2014/15 financial period, was the subject of this event study investigation. Tax revenue collected by KRA was studied for 27 quarters days before and after the KRA's automated tax payment service, iTax, implementation. Microsoft Excel (2013) and STATA Version 13 were used to do the data analysis (2013).

4.2 Reaction of Tax Revenue Collection to iTax Implementation

This research examined the impact of KRA's automated tax payment service, iTax implementation, on the tax revenue collected. An investigation was conducted on the tax revenue collected, 27 quaters before and 27 quarters after the first quarter of the 2014/15 financial year, when the KRA's automated tax payment service, iTax was implemented.

Additionally, in this section, the tax revenue returns abnormality and cumulative abnormality is discussed.

For calculating the Expected Return, the research regressed revenue tax collection returns against the target tax collection over an estimated 30 quarter period preceeding the event period. The equation below provided the alpha and Beta co-efficients determined. Additionally, the standard error was determined in order to conduct the t-test for the abnormal returns.

$$E(R) = \alpha_i + \beta_i TR_t$$

Where;

$E(R)$ = Expected revenue returns

TR_t = Target revenue at time t

The values of the alpha and beta were obtained using the OLS regression which utilized the following formula.

$$\beta = \frac{\sum R_t R_{mt} - (t * \bar{R}_t * \bar{R}_{mt})}{R_{mt}^2 - (t * \bar{R}_{mt})}$$

$$\alpha = \bar{R}_t - (\beta * \bar{R}_{mt})$$

4.2.1 Tax Revenue Collection and Tax Targets

Quarterly revenue performance for KRA was used to define the event window, which included the 27 quarters before and after the first quarter of the 2014/15 fiscal year, when the KRA deployed its automated tax payment program, iTax.. Quarterly tax targets for the same event window were also utilized. This is presented in Figure 4.1.

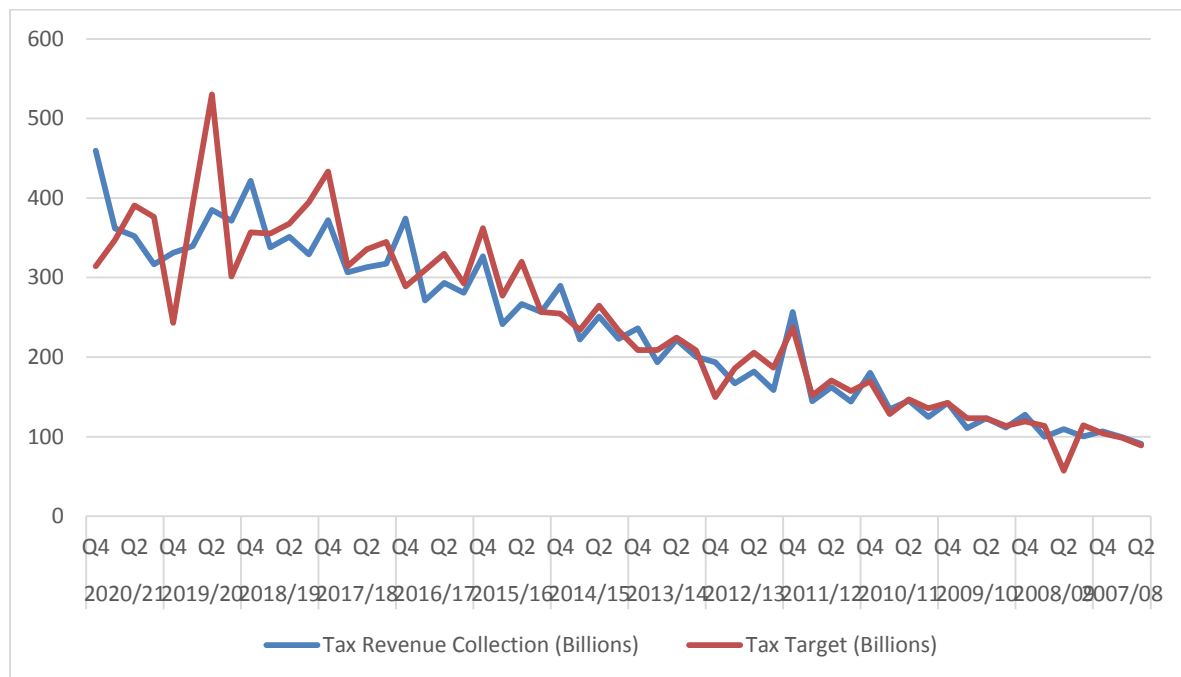


Figure 4.1: Tax Revenue Collection/Targets

Source: Research Findings (2021)

According to the data in Figure 4.1, quarterly revenue collection was consistent for the event window prior to the adoption of iTax (financial years 2007/08 to 2013/14) and revenue collection increased gradually. The slope of the curve illustrating that time period is gentle. With that, revenue collection for the event window grew dramatically following the launch of iTax (Financial year 2014/15 through Financial year 2020/21).

The slope of the curve illustrating that time period is steep. Furthermore, the time after the adoption of iTax is marked by dramatic variations in revenue collection compared to the event window before to iTax implementation, which is characterized by relatively constant revenue collection. This suggests that the installation of iTax resulted in an increase in revenue collection during the months following its deployment.

Figure 4.1 further shows that tax money is collected in coordination with tax aims.

Little variation in the disparity between tax revenue received and tax targeted exists prior to the deployment of iTax. However, following the installation of iTax, the variability rises. Additionally, tax objectives are being met more often in the post-iTax era. In the second quarter of the 2007/08 financial year, the lowest tax revenue collection was 91.1 billion. In the second quarter of the 2008/09 financial year, the lowest tax revenue collection goal was 57.2 billion. In the fourth quarter of the 2020/21 fiscal year, the greatest tax revenue collection was 459.6 billion. In the second quarter of the 2019/20 fiscal year, the highest tax revenue collection goal was set at 530 billion.

Table 4.1: Revenue Performance

Period	Average Collection	Revenue Collection	Percentage Increase
Post iTax	323.75		114.95%
Pre iTax	150.62		

Source: Research Findings (2021)

Table 4.1 shows that the average tax revenue collection performance was 150.6 billion before the adoption of iTax, whereas average tax revenue collection performance was 323 billion after the implementation of iTax. This indicated a 114.95% increase in the tax revenue collection performance from before the adoption of iTax to after the implementation of iTax.

4.2.2 Tax Revenue Collection Returns, Tax Target Returns, and Expected Returns

iTax installation had a significant impact on quarterly revenue returns and quarterly tax target returns variations.. Expected returns were also utilized to show how the actual tax revenue collection deviates from the expected tax revenue. For the event window spanning 27 quarters before and 27 quarters after the KRA's automated tax payment program, iTax, was deployed in the first quarter of 2014/15 financial year, the trend in revenue collection was charted before and after iTax was implemented. Figure 4.2 shows the results of the investigation.

The returns of the tax revenue collection, tax revenue targets, and expected returns are erratic during the entire event period window. The first quarter of the 2012/13 financial year had the lowest tax revenue collection results of -0.38342. For comparison's sake, the highest quarterly tax revenue collection results for 2011/12 were 0.780319. Second quarter 2008/09 tax revenue target returns were at a record low of -0.49912. In the third quarter of the 2008/09 financial year, the highest tax revenue target returns were 0.982517. It was the second quarter of the 2008/09 financial year that had the lowest

predicted return. In the third quarter of the 2008/09 financial year, the highest projected return was 0.74553.

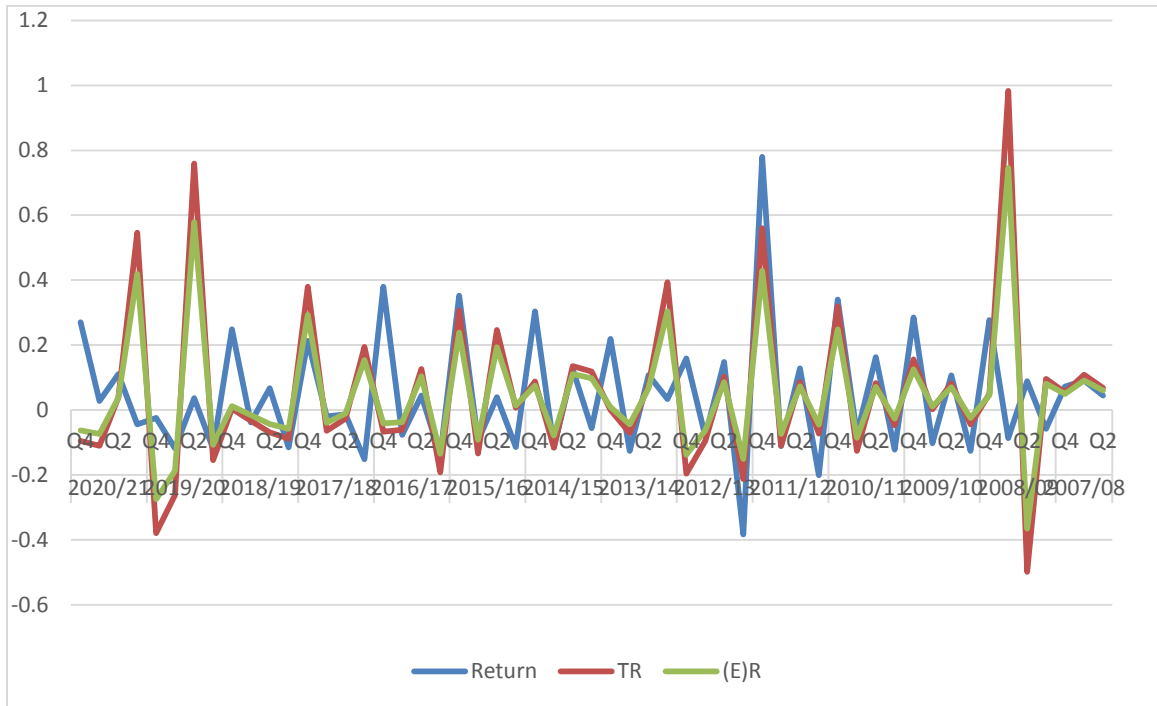


Figure 4.2: Tax Revenue Return/Target Return/Expected Returns
 Source: Research Findings (2021)

Tax revenue collection returns were on average 0.058224888 before iTax was implemented and were on average 0.03836496 after iTax was implemented. This illustrates that before the adoption of iTax, the rate of tax revenue collection was higher than after the deployment of iTax. The average expected return was 0.05736 before the implementation of iTax while the average tax revenue collection return was 0.03603 after the implementation of iTax. This illustrates that before the adoption of iTax, the predicted rate of tax revenue collection growth was higher than it was after the implementation of

iTax. According to this, the tax objectives were higher before the deployment of iTax than they were after the adoption of iTax.

4.2.3 Abnormal of Tax Revenue Collection Returns following the Implementation of iTax

The event research approach was specifically used to prove the presence of aberrant revenue reactions after the installation of iTax. The impact of iTax on quarterly abnormal tax collection returns has been calculated. For the 27 quarters before and after the first quarter of the 2014/15 financial year, when the KRA's automated tax payment program, iTax, was established, quarterly abnormal returns were utilized to map the pattern of abnormal revenue reaction before and after the installation of iTax. Figure 4.3 shows the results.

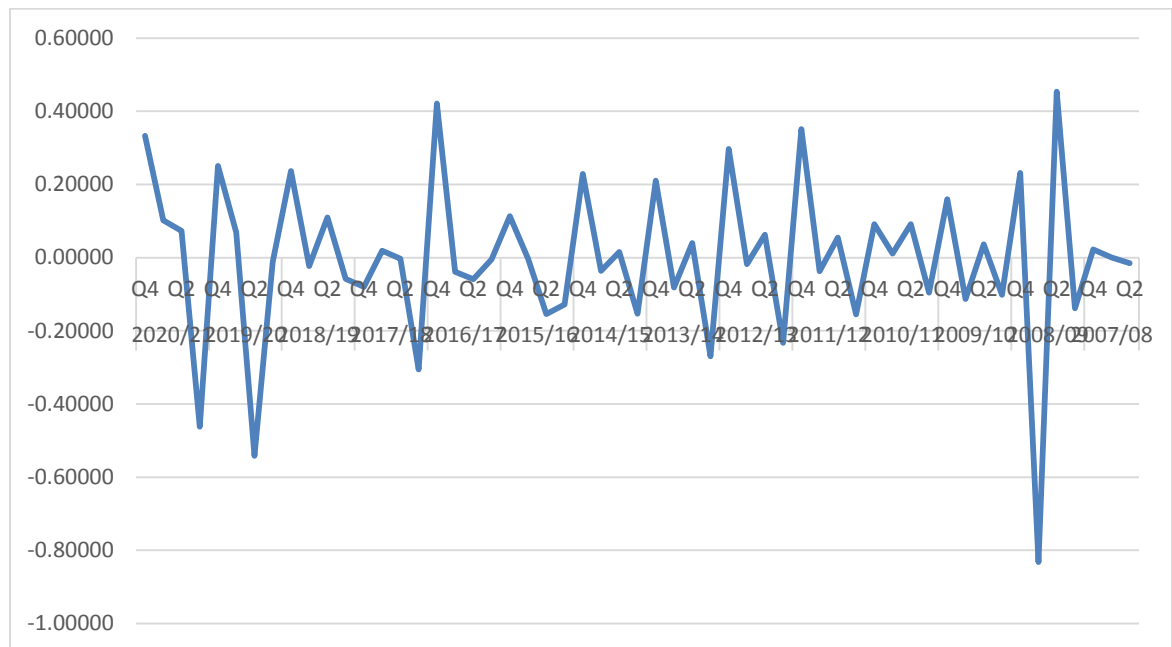


Figure 4.3: Arbnormal Revenue Reaction

Source: Research Findings (2021)

The arbnormal revenue reaction was erratic during the entire event period window. In the third quarter of fiscal year 2008/09, the lowest arbnormal tax revenue collection return was -0.83245. On the other hand, in the second quarter of the 2008/09 financial year, the greatest arbnormal tax revenue collecting return was 0.45402.

Before the adoption of iTax, the average arbnormal tax revenue collection return was 0.00087; after the deployment of iTax, the average arbnormal tax revenue collection return was 0.00233. This demonstrates that when the rate of tax revenue collection is compared to the tax objectives, the rate of tax revenue collection is larger after the implementation of iTax than it was before to the introduction of iTax.

Table 4.1 following shows the summary of the abnormal tax revenue collection returns as well the significance level.

Table 4.2: Abnormality of Tax Revenue Collection Returns following the Implementation of iTax

	Average Abnormal returns	STDEV	t-test	Significance
Tax Revenue Collection	-0.0012	0.221932	-0.52608	0.601042

Source: Research Findings (2021)

As a direct outcome of the first quarter of the 2014/15 fiscal year's installation of the iTax platform. The study results, as shown in Table 4.2, indicate that the KRA's tax collection

yielded a negative anomalous return. The anomalous return, on the other hand, was not statistically significant, as demonstrated by the study's p-value (0.601042), which was bigger than the study's critical value ($\alpha=0.05$). Thus, as a consequence of the introduction of the iTax platform, KRA's tax collection did not considerably exceed or fall short of the tax goals. Figure 4.9 shows the progression of abnormalities after the President's first attempt to control the spread of the virus on March 15, 2020.

4.2.4 The Cumulative Abnormal Returns

According to Figure 4.4, the cumulative abnormal returns of tax collections by KRA before and after the implementation of the iTax platform on the first quarter of the 2014/15 financial period is presented.

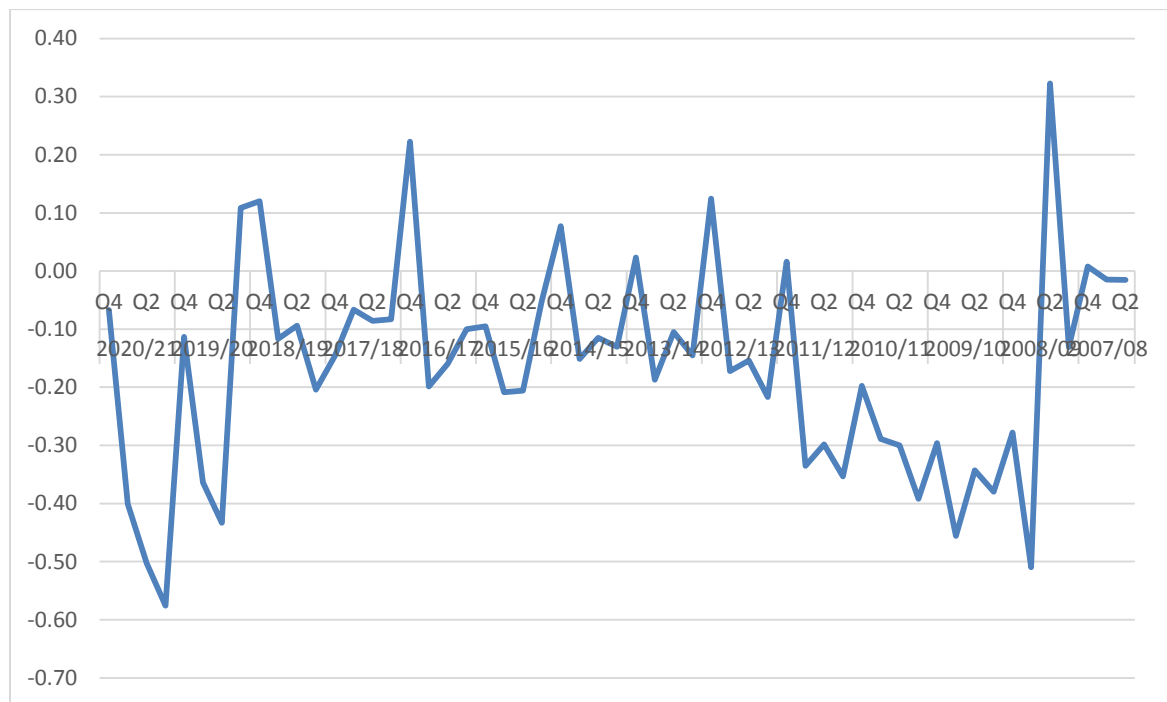


Figure 4.4: Cumulative Abnormal Revenue Reaction

Source: Research Findings (2021)

The analysis indicated that there was a positive Cumulative Average Revenue Reaction immediately after the implementation of the iTax platform on the first quarter of the 2014/15. This showcases that the implementation of iTax initially led to KRA meeting and surpassing their targets set in the event window. However, Cumulative Average Revenue Reaction was cyclical after that revolving around being positive and negative. However, the Cumulative Average Revenue Reaction became negative after the 2018/19 financial period. In summary, the implementation of the iTax platform has had a cumulative positive influence on tax revenue collection returns of KRA having a cumulative abnormal return of 0.06293 after implementation of iTax.

4.2.5 Two-Sample T-Test

According to this research, it was determined whether the difference in tax revenue collection methods and the abnormal tax collection reaction before and after implementation of iTax were statistically different from hypothesized differences. Five percent significance level was used in the two-tailed test used.

Table 4.3: Tax Revenue Collection Two-Sample T-Test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]
PreiTax	27	323.7519	10.66426	55.41312	301.8312 345.6726
PostiTax	27	150.6222	8.655979	44.97778	132.8296 168.4148
Combined	54	237.187	13.69888	100.6658	209.7106 264.6635
Diff		173.1296	13.73508		145.5682 200.6911

```

diff = mean(PreiTax) - mean(PostiTax)          t = 12.6049
Ho: diff = 0                                degrees of freedom = 52

Ha: diff < 0                                Ha: diff != 0                                Ha: diff > 0
Pr(T < t) = 1.0000                          Pr(|T| > |t|) = 0.0000                          Pr(T > t) = 0.0000

```

Source: Research Findings (2021)

No significant change in the methods of tax revenue collection before and after the implementation of iTax is a null hypothesis; the alternative hypothesis states that there was a significant difference before and after the implementation of the system. $Pr(T > t) = 0.0000$, which is less than 0.05, hence the null hypothesis is rejected in the research. This results in the null hypothesis being discarded. As a result, the methods used to collect tax income have changed significantly since the implementation of iTax. Thus, implementation of KRA's automated tax payment service, iTax, resulted to a significant change in tax revenue collection.

Table 4.4: Abnormal Tax Revenue Reaction Two-Sample T-Test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]
PreiTax	27	0.002331	0.040702	0.211493	-0.08133 0.085995
PostiTax	27	0.000867	0.045808	0.238025	-0.09329 0.095026
Combined	54	0.001599	0.030349	0.223017	-0.05927 0.062471
Diff		0.001464	0.061278		-0.1215 0.124428

```

diff = mean(PreiTax) - mean(PostiTax)          t = 0.0239
Ho: diff = 0                                degrees of freedom = 52

Ha: diff < 0                                Ha: diff != 0                                Ha: diff > 0
Pr(T < t) = 0.5095                          Pr(|T| > |t|) = 0.9810                          Pr(T > t) = 0.4905

```

Source: Research Findings (2021)

The alternative hypothesis is that there is a significant difference in the means of abnormal tax revenue reaction before and after implementation of iTax, contrary to the null hypothesis that there is no significant difference in the means of abnormal tax revenue reaction before or after implementation of iTax. For a two-tailed test with a significance level of $\Pr(T > t) = 0.9810$, the null hypothesis was not rejected since the significance level is more than $\alpha(0.05)$. Thus, there is no substantial change in the means of abnormal tax revenue response before and after the implementation of iTax. Thus, implementation of KRA's automated tax payment service, iTax, has not resulted to a significant change in tax revenue collection meeting collection targets.

4.3 Discussion of Research Findings

The research examined the influence of electronic tax management strategy on compliance with tax return regulations by the tax payers at Kenya Revenue Authority. To achieve this objective, the study assessed the impact of the implementation of KRA's automated tax payment service, iTax, on the first quarter of the 2014/15 financial period, on the tax revenue collected. Tax revenue collected by KRA was studied for 27 quarters days before and after the KRA's automated tax payment service, iTax, implementation. The study discussed the tax revenue collection returns abnormality and the cumulative abnormality. It was determined that Tax revenue collected by KRA was studied for 27 quarters days before and after the KRA's automated tax payment service, iTax, implementation.

There was a rise in revenue collection after adoption of iTax, according to research results. This rise was noteworthy on a statistical basis. Study results show that before iTax, the rate of tax revenue collection was higher than after the adoption of iTax and the predicted rate was higher before iTax was implemented than after iTax was implemented, according to findings. KRA tax objectives increased at a faster pace before to iTax than they did after the launch of iTax.

The study findings further displayed that KRA has been generally meeting and surpassing its targets more after the implementation of iTax as compared to before the implementation of iTax. As a consequence of the installation of the iTax platform, however, KRA's tax collection neither notably met nor failed to meet the stated tax objectives unusually.

In the end, the study's results showed that KRA's tax revenue collection returns had improved as a result of using the iTax platform. In this way, iTax demonstrates that KRA's goals were met and exceeded in the early stages of the installation of the system.

Internal and external capabilities may be included, built, and re-configured in response to a constantly changing environment according to the dynamic capability hypothesis (Teece, 2009). As a result, tax authorities are better equipped to increase revenue collection by integrating, building, and reconfiguring their technical capabilities. Using the UTAUT model, tax authorities can better understand the behavioral elements of human engagement with technology in order to increase revenue collection. Technology

may thus be used effectively to both improve accessibility to tax services and create incentives for more compliance via lower costs and a broader tax base. According to these hypotheses, the research found that iTax implementation greatly increased revenue collection during the periods following the adoption of iTax.

iTax has resulted in an increase in tax collection for the Kenya Revenue Authority (KRA). A 15% annual growth rate has been seen during the last decade. As of the end of April 2019, Kenya's revenue collection was at a total of ksh 1.4 trillion. Despite this, the treasury has set income goals for KRA that have not been met (KRA, 2019). It is consistent with KRA's (2019) allegation that iTax implementation considerably increased revenue collection for the months after iTax deployment, although KRA did not significantly meet or not meet the tax objectives abnormally as a consequence of iTax implementation.

As a way to reduce revenue deficits caused by corruption, Imam and Jacobs (2014) recommended the use of computerized tax systems Imam and Jacob's (2014) statement that KRA did not substantially meet or not meet the tax objectives abnormally as a consequence of the installation of the iTax platform is supported by the findings of this research. Taiwanese taxpayers' happiness with their online tax system was studied by Chen (2010), who looked at how the quality of the system affected their perceptions. The research indicated that information and system quality were the most important elements in influencing user satisfaction with online tax services. Chen's(2010) research found

that iTax installation greatly increased revenue collection for the periods after iTax implementation, which is in line with the findings of the current study.

In Malaysia, Azmi et al. (2016) did a research on small and medium-sized firms' usage of e-filing tax systems. The research found that system complexity and compatibility were the primary factors driving adoption of these systems. After the deployment of iTax, revenue collection increased dramatically, according to this research, which concurs with the findings of Azmi et al. (2016).

Research by Mubua (2014) found that ICTs may influence tax compliance in small businesses. Revenue collection is critical to many nations' economic health, according to Tanzania. Governments are able to fund its administrative and development activities when they gather adequate tax income. The goal of the study was to show that e-transparent services may help SMEs overcome the problem of non-compliance. The research found that tax knowledge, company competence, workers' honesty, rare visits by tax authorities, and training are all factors that promote voluntary tax compliance. It is consistent with Mukabi's (2014) research demonstrating that iTax installation considerably increased revenue collection for the periods following iTax implementation.

There must be dependable and available internet connectivity, the financial sector players must cooperate, and the public has to be oriented toward information technology in order for electronic filing systems to succeed, according to Dowe (2008). A country's e-filing and e-payments strategy must be part of its overall design, development and

implementation plan. This plan must be implemented with the participation of all of the company's major stakeholders. Dowe's allegation that iTax adoption resulted to a large increase in revenue collection after iTax was implemented is supported by this study's findings.

In Uganda, Akello (2014) claimed that the Uganda Revenue Authority has to struggle with inconsistent power supply and internet downtime/the URA has created contingency plans to handle these difficulties to ensure that the online system is operational around the clock. Kampala's URA headquarters will house the central server so that power or network disruptions won't affect it. Due to a lack of familiarity with certain tax terminology, the electronic filing procedure continues to baffle many taxpayers. In Sheikh (2015), he highlighted that each new system has various teething problems. Both manual and computerized tax management systems are troublesome if they do not recognize and complement one other.

According to a study by Blumenthal and Slemrod (2014), ICTs may influence tax compliance in small and medium-sized businesses in Tanzania. E-transparent services might be used to solve the issue of noncompliance among small and medium-sized enterprises (SMEs). Tanzania's Revenue Authority should employ applicable ICT technologies to encourage people to voluntarily file tax returns, according to the study. It is consistent with Blumenthal and Slemrod's (2014) findings that the deployment of iTax resulted in a large increase in revenue collection.

In Malaysia, Anna and Yusniza (2009) performed a study on the influence of electronic filing on perceived risk. The study was based on the concept that e-government is becoming more important in today's society due to its efficacy and application in several economic sectors. iTax adoption resulted to an increase in revenue collection for periods following implementation, according to the research, which is in line with Anna and Yusniza's (2009) claim that.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Results, conclusions and suggestions on influence of electronic tax management strategy on compliance with tax return regulations by the tax payers at Kenya Revenue Authority are summarized in this section. The study's weaknesses and suggested future research pathways are also discussed.

5.2 Summary of Findings

Tax revenue collections and tax targets set by KRA were studied in an effort to determine how electronic tax management strategy affected compliance with tax return regulations by the tax payers at Kenya Revenue Authority. As a secondary source, the Central Bank of Kenya's monthly and quarterly economic reports for tax income received and their related tax objectives were used to conduct the study. The implementation of KRA's automated tax payment service, iTax, on the first quarter of the 2014/15 financial period, was the subject of this event study investigation. Before and after the implementation of iTax, the research analyzed the revenue collection responses for 27 quarters before and after. Microsoft Excel (2013) was used to do the data analysis. T-test for significance used STATA to examine the impact of automated tax payment services on revenue collection performance.

There was a rise in revenue collection after adoption of iTax, according to research results. This rise was noteworthy on a statistical basis. Study results show that before iTax, the rate of tax revenue collection was higher than after the adoption of iTax and the predicted rate was higher before iTax was implemented than after iTax was implemented, according to findings. KRA tax objectives increased at a faster pace before to iTax than they did after the launch of iTax.

The study findings further displayed that KRA has been generally meeting and surpassing its targets more after the implementation of iTax as compared to before the implementation of iTax. However, the abnormal return was not statistically significant, thus, the tax collection by KRA neither significantly met or not met the tax targets abnormally as a result of the implementation of the iTax platform.

Finally, the study's results suggested that the adoption of the iTax platform had a cumulative favorable effect on KRA's tax revenue collection returns after the platform's deployment. This demonstrates that the first rollout of iTax resulted in KRA reaching and exceeding its goals.

5.3 Conclusions

The study's results are summarized in this chapter. According to the study's overall goal, the conclusion is written. According to the findings of the research, tax revenue authorities' use of an automated tax payment service increases revenue collection considerably in the years after implementation. The study also concluded that the tax

collection by the revenue authorities neither significantly met or not met the tax targets abnormally as a result of the implementation of the automated tax payment service.

5.4 Recommendations

Researchers in the field of strategy will benefit from this study's findings about electronic tax management and tax return compliance. The study's findings will serve as a guide for future academics looking into tax return compliance and electronic tax management approach. For future academics and researchers interested in the topic of electronic tax management strategy and compliance with tax return requirements, this study will be a valuable resource.

There are policy recommendations to government officials and policy makers in the Treasury and the board of the Kenya Revenue Authority, since it has been established that implementation of automated tax payment service by tax revenue authorities significantly increases revenue collection for the periods following the implementation of automated tax payment service. Since KRA has commenced collecting revenue for the devolved governments, it should automate the revenue collection so as to optimize the tax revenue collection. Since the study findings have also established that the tax collection by the revenue authorities neither significantly met or not met the tax targets abnormally as a result of the implementation of the automated tax payment service, recommendations are generated to the government officials and policy formulators in the Treasury and the board of the Kenya Revenue Authority to utilize other strategies alongside automating tax payment services.

Tax revenue authorities' implementation of an automated payment service significantly increases revenue collection for the periods following the implementation of automated payment service, and this results in recommendations for KRA to implement a more efficient tax collection system, as a result of the findings of the current study. They should particularly be bullish about tax revenue collection when tax payment services have been automated. In addition, the KRA management should gauge automation of tax payment services levels to determine the level of tax revenue collection enforcement. Thus, during times of high levels of automation of tax payment services, they should increase the intensity of enforcement because more tax revenue can be obtained.

5.5 Limitation of the Study

To further explore ideas and empirical results that had already been presented, the current study used a formal approach by using the deductive research technique, which was guided by relevant academic literature and theories. In order to understand the study question, theories and existing empirical material must be used. However, previous research on the electronic tax management strategies influence on compliance with tax return regulations are sparse.

Research was limited to the collection of taxes by the national government because of time and cost constraints, but it doesn't show what is happening now when other government entities are taken into account. There would also be greater ambiguity if the same study was done in different countries. This research relied only on secondary data

sources. Therefore, the researcher could not guarantee the correctness of the data. In most cases, this is a secondary data issue. In addition, the data was not easily available and researcher had to go to great lengths to attain the data.

Due to time restrictions, this research focused on a 54-quarter span, 27 quarters before and after the the implementation of iTax. Even if the research could determine the automation of tax payment services long-term impact, it would take much longer than this. Additionally, data had to be uploaded into Microsoft Excel and STATA in order to receive synchronized information that can then be utilized for analysis and drawing conclusions. A large amount of time was needed to assemble and synchronize the data over time.

5.6 Suggestions for Further Research

Study results may not be applicable to devolved government units, thus more research is needed to see whether the study's conclusions would hold if they were applied to these government units as well. Additionally, due to time restrictions, the research concentrated on the national government tax collection context. To see whether the conclusions of the present study can be applied to other Kenyan government units, more research is needed. The findings of the research need to be reproduced in other nations to see whether the study results hold up.

Researchers studied a 54-quarter period starting 27 quarters before the implementation of iTax and 27 quarters after. The research team has a limited window of time to evaluate the long-term effects of tax payment automation. In the future, greater attention should be

paid to both short-term and long-term consequences. As a result, there were no additional factors or events that may have impacted the abnormal reaction of manufacturing and associated enterprises' share prices over the time period under consideration. In order to determine whether any other factors or events might have affected the study's conclusions, more research is required.

Secondary data were employed in this study; future research should rely on primary data such as detailed questionnaires and organized interviews provided to tax authorities staff or sampled tax payers. The current study findings may then be supported or disproved. The event study statistical approach was used in the research, however future studies may utilize additional methods such; multiple linear regression by using dummy variables, correlation analysis, component analysis, discriminant analysis, cluster analysis, and granger causality.

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APPENDIX

Appendix I: The Secondary Data Capture Form

Financial Year	Quarter	Tax Revenue Collection (Billions)	Tax Target (Billions)
2020/21	Q4		
	Q3		
	Q2		
	Q1		
2019/20	Q4		
	Q3		
	Q2		
	Q1		
2018/19	Q4		
	Q3		
	Q2		
	Q1		
2017/18	Q4		
	Q3		
	Q2		
	Q1		
2016/17	Q4		
	Q3		
	Q2		
	Q1		
2015/16	Q4		
	Q3		
	Q2		
	Q1		
2014/15	Q4		
	Q3		
	Q2		
	Q1		
2013/14	Q4		
	Q3		
	Q2		
	Q1		
2012/13	Q4		
	Q3		
	Q2		

	Q1		
2011/12	Q4		
	Q3		
	Q2		
	Q1		
2010/11	Q4		
	Q3		
	Q2		
	Q1		
2009/10	Q4		
	Q3		
	Q2		
	Q1		
2008/09	Q4		
	Q3		
	Q2		
	Q1		
2007/08	Q4		
	Q3		
	Q2		
	Q1		
2006/07	Q4		
	Q3		
	Q2		
	Q1		
2005/06	Q4		
	Q3		
	Q2		
	Q1		
2004/05	Q4		
	Q3		
	Q2		
	Q1		
2003/04	Q4		
	Q3		
	Q2		
	Q1		
2002/03	Q4		
	Q3		
	Q2		

	Q1		
2001/02	Q4		
	Q3		
	Q2		
	Q1		
2000/01	Q4		
	Q3		
	Q2		
	Q1		
1999/00	Q4		
	Q3		

Appendix II: Research Data

Financial Year	Quarter	Tax Revenue Collection (Billions)	Return	Tax Target (Billions)	TR	(E)R	AR	CAR	AR t-test
2020/21	Q4	459.6	0.270315	314.1	-0.09585	-0.06301	0.33332	-0.07	-0.52608
	Q3	361.8	0.028133	347.4	-0.11037	-0.07389	0.10203	-0.40	-3.13115
	Q2	351.9	0.110795	390.5	0.038564	0.03777	0.07302	-0.50	-3.92853
	Q1	316.8	-0.04377	376	0.546689	0.41875	-0.46252	-0.58	-4.49922
2019/20	Q4	331.3	-0.02444	243.1	-0.3789	-0.27523	0.25079	-0.11	-0.88441
	Q3	339.6	-0.11838	391.4	-0.26193	-0.18753	0.06915	-0.36	-2.84441
	Q2	385.2	0.036878	530.3	0.759456	0.57828	-0.54141	-0.43	-3.38482
	Q1	371.5	-0.11904	301.4	-0.15503	-0.10738	-0.01166	0.11	0.84649
2018/19	Q4	421.7	0.248372	356.7	0.003658	0.01160	0.23677	0.12	0.93764
	Q3	337.8	-0.0387	355.4	-0.03319	-0.01602	-0.02268	-0.12	-0.91281
	Q2	351.4	0.067112	367.6	-0.06913	-0.04297	0.11008	-0.09	-0.73556
	Q1	329.3	-0.1155	394.9	-0.08883	-0.05774	-0.05775	-0.20	-1.59592
2017/18	Q4	372.3	0.213494	433.4	0.379376	0.29331	-0.07981	-0.15	-1.14454
	Q3	306.8	-0.01981	314.2	-0.06377	-0.03895	0.01914	-0.07	-0.52076
	Q2	313	-0.01386	335.6	-0.02668	-0.01115	-0.00272	-0.09	-0.67036
	Q1	317.4	-0.15134	344.8	0.193906	0.15425	-0.30558	-0.08	-0.64913
2016/17	Q4	374	0.379565	288.8	-0.06718	-0.04151	0.42108	0.22	1.73914
	Q3	271.1	-0.07632	309.6	-0.06125	-0.03706	-0.03926	-0.20	-1.55175
	Q2	293.5	0.044856	329.8	0.126751	0.10390	-0.05904	-0.16	-1.24494
	Q1	280.9	-0.14019	292.7	-0.19211	-0.13518	-0.00501	-0.10	-0.78352
2015/16	Q4	326.7	0.352235	362.3	0.306999	0.23904	0.11319	-0.10	-0.74434
	Q3	241.6	-0.09411	277.2	-0.13348	-0.09122	-0.00289	-0.21	-1.62900

	Q2	266.7	0.039361	319.9	0.246687	0.19382	-0.15446	-0.21	-1.60638
	Q1	256.6	-0.11395	256.6	0.007381	0.01439	-0.12834	-0.05	-0.39921
2014/15	Q4	289.6	0.30333	254.72	0.088082	0.07490	0.22843	0.08	0.60386
	Q3	222.2	-0.11474	234.1	-0.11627	-0.07832	-0.03642	-0.15	-1.18140
	Q2	251	0.125561	264.9	0.134961	0.11005	0.01551	-0.11	-0.89672
	Q1	223	-0.05588	233.4	0.118566	0.09776	-0.15364	-0.13	-1.01793
2013/14	Q4	236.2	0.219411	208.66	-0.00019	0.00872	0.21069	0.02	0.18286
	Q3	193.7	-0.1263	208.7	-0.07079	-0.04422	-0.08208	-0.19	-1.46381
	Q2	221.7	0.107393	224.6	0.077735	0.06714	0.04025	-0.11	-0.82233
	Q1	200.2	0.033557	208.4	0.393048	0.30356	-0.27000	-0.15	-1.13689
2012/13	Q4	193.7	0.158493	149.6	-0.19613	-0.13819	0.29669	0.12	0.97329
	Q3	167.2	-0.08081	186.1	-0.09528	-0.06258	-0.01823	-0.17	-1.34544
	Q2	181.9	0.148359	205.7	0.102358	0.08561	0.06275	-0.15	-1.20295
	Q1	158.4	-0.38342	186.6	-0.21266	-0.15059	-0.23283	-0.22	-1.69339
2011/12	Q4	256.9	0.780319	237	0.560237	0.42891	0.35141	0.02	0.12629
	Q3	144.3	-0.11091	151.9	-0.11066	-0.07411	-0.03680	-0.34	-2.62009
	Q2	162.3	0.127867	170.8	0.085823	0.07321	0.05466	-0.30	-2.33249
	Q1	143.9	-0.201	157.3	-0.07252	-0.04552	-0.15548	-0.35	-2.75966
2010/11	Q4	180.1	0.34003	169.6	0.319844	0.24867	0.09136	-0.20	-1.54449
	Q3	134.4	-0.07438	128.5	-0.12585	-0.08550	0.01112	-0.29	-2.25849
	Q2	145.2	0.16253	147	0.082474	0.07070	0.09183	-0.30	-2.34539
	Q1	124.9	-0.12228	135.8	-0.04702	-0.02639	-0.09588	-0.39	-3.06310
2009/10	Q4	142.3	0.285456	142.5	0.155718	0.12561	0.15984	-0.30	-2.31372
	Q3	110.7	-0.10219	123.3	0.002439	0.01069	-0.11288	-0.46	-3.56295
	Q2	123.3	0.106822	123	0.081794	0.07019	0.03663	-0.34	-2.68075
	Q1	111.4	-0.12627	113.7	-0.04454	-0.02453	-0.10174	-0.38	-2.96706

2008/09	Q4	127.5	0.277555	119	0.049383	0.04589	0.23167	-0.28	-2.17191
	Q3	99.8	-0.08692	113.4	0.982517	0.74553	-0.83245	-0.51	-3.98250
	Q2	109.3	0.088645	57.2	-0.49912	-0.36537	0.45402	0.32	2.52342
	Q1	100.4	-0.05816	114.2	0.095969	0.08082	-0.13898	-0.13	-1.02491
2007/08	Q4	106.6	0.072435	104.2	0.054656	0.04984	0.02259	0.01	0.06125
	Q3	99.4	0.091109	98.8	0.108866	0.09049	0.00062	-0.01	-0.11533
	Q2	91.1	0.044725	89.1	0.068345	0.06010	-0.01538	0.01538	-0.12020
	Q1	87.2	-0.17658	83.4	-0.43342				
2006/07	Q4	105.9	0.456671	147.2	0.275563				
	Q3	72.7	-0.0409	115.4	0.470064				
	Q2	75.8	0.116348	78.5	0.055108				
	Q1	67.9	-0.08614	74.4	0.027624				
2005/06	Q4	74.3	0.1888	72.4	0.03281				
	Q3	62.5	-0.04288	70.1	0.119808				
	Q2	65.3	0.123924	62.6	-0.02492				
	Q1	58.1	-0.14559	64.2	-0.01685				
2004/05	Q4	68	0.166381	65.3	0.084718				
	Q3	58.3	-0.09472	60.2	-0.08092				
	Q2	64.4	0.233716	65.5	0.137153				
	Q1	52.2	-0.33995	57.6	-0.29325				
2003/04	Q4	79.085	0.359807	82	0.273438				
	Q3	58.159	-0.02549	64	0.032258				
	Q2	59.68	0.15068	62	0.127273				
	Q1	51.865	-0.13073	55	-0.15385				

2002/03	Q4	59.665	0.092826	65	0.140351				
	Q3	54.597	0.078225	57	0.096154				
	Q2	50.636	0.104336	52	0.101695				
	Q1	45.852	-0.23689	47	-0.24238				
2001/02	Q4	60.086	0.280933	62	0.297917				
	Q3	46.908	0.008059	48	-0.03421				
	Q2	46.533	0.051807	50	0.057447				
	Q1	44.241	-0.17931	47	-0.16071				
2000/01	Q4	53.907	0.274186	56	0.217391				
	Q3	42.307	-0.17301	46	-0.09413				
	Q2	51.158	0.080628	50.78	0.050911				
	Q1	47.341	-0.02257	48.32	-0.11046				
1999/00	Q4	48.434	-0.19818	54.32	-0.14091				
	Q3	60.405		63.23					
Intercept	0.008861								
Slope	0.749776								
R-Square	0.556931								
Standard Error	0.127952								

